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January 19, 2024

VIA ELECTRONIC MAIL
Hon. Sherri L. Golden, Secretary
Board of Public Utilities
44 South Clinton Avenue, 1st Floor
P.O. Box 350
Trenton, NJ 08625-0350
board.secretary@bpu.nj.gov

Re: In the Matter of the Petition of New Jersey-American Water Company, Inc. for Approval of Increased Tariff Rates and Charges for Water and Wastewater Service, Change in Depreciation Rates, and Other Tariff Modifications
BPU Docket No. WR2401_____

Dear Secretary Golden:

On behalf of New Jersey-American Water Company, Inc. (the "Company" or "NJAWC"), we submit for filing pursuant to *N.J.A.C.* 15:1-12.1, *et seq*. the Public Copy of the above-referenced Petition. In accordance with the New Jersey Board of Public Utilities ("BPU") orders issued on March 19, 2020 and May 20, 2020 in BPU Docket No. EO20030254, hard copies are not being submitted at this time, but can be provided at a later time, if needed.

The parties designated to receive notices and other communications in connection with this matter are as follows:

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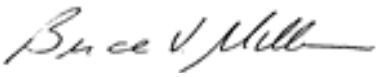
Please note that certain information associated with the Petition is confidential (the "Confidential Information"). Contemporaneously with the filing of this Petition, the Company is submitting the Confidential Information, along with the Affidavit of Christopher M. Arfaa, Director, Corporate Counsel of American Water Works Service Company, Inc., in support of its request for

confidentiality. via a separate e-mail marked “CONFIDENTIAL” addressed to: board.secretary@bpu.nj.gov.

Respectfully,



Bruce V. Miller

BVM:dlc
Enc.

cc: Service list (via email)
Brian O. Lipman, Director, Division of Rate Counsel (Federal Express)
Pamela Owen, Assistant Chief, Deputy Attorney General (Federal Express)

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF NEW JERSEY-AMERICAN WATER COMPANY, INC. FOR APPROVAL OF INCREASED TARIFF RATES AND CHARGES FOR WATER AND WASTEWATER SERVICE, CHANGE IN DEPRECIATION RATES, AND OTHER TARIFF MODIFICATIONS	:	BPU DOCKET NO.: WR2401____

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BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF	**:**	
NEW JERSEY-AMERICAN WATER	**:**	**CASE SUMMARY**
COMPANY, INC. FOR APPROVAL OF	**:**	
INCREASED TARIFF RATES AND	**:**	**BPU DOCKET NO.**
CHARGES FOR WATER AND	**:**	
WASTEWATER SERVICE, CHANGE IN	**:**	
DEPRECIATION RATES, AND OTHER	**:**	
TARIFF MODIFICATIONS	**:**	

New Jersey-American Water has provided high quality, reliable water and wastewater services to its customers for over 130 years. As recently as 2023, the Company was rated the highest in Customer Satisfaction of all investor-owned large water utilities in the Northeast.[1] In order to continue to provide this high level of service to its customers, the Company must continue to make the capital investments required to serve the long-term interests of our customers.

NJAWC's proposed rate increase is driven primarily by the capital investment required to maintain and improve the Company's infrastructure. Since the effective date of rates in the Company's last base rate case, NJAWC has invested, or will invest, approximately $1.3 billion in capital expenditures through the end of 2024. Nearly 68% of the Company's proposed revenue increase is driven by investment in New Jersey's infrastructure.

The investments the Company makes include improving the resiliency of its distribution system and treatment plants, treatment changes to maintain regulatory compliance, technology investments that will integrate with existing systems to enhance service to customers, and management of source of supply and system demands. NJAWC has made and will continue to

[1] Press Release, J.D. Power, Water Utilities Counteract Negative Effects of Inflation with Strong Customer Communication Strategies, J.D. Power Finds (May 3, 2023), https://www.jdpower.com/business/press-releases/2023-us-water-utility-residential-customer-satisfaction-study.

make these capital investments to continue to provide safe and reliable water and wastewater service to its customers. NJAWC's infrastructure investment provides vital benefits to the health and welfare of our customers and the state – vital service that continued in the face of the floodwaters spawned by Hurricane Ida and power outages from Tropical Storm Isaias. Moreover, since every $1 million the Company spends in capital is expected to create or sustain approximately 16 jobs in New Jersey, the Company will have created or sustained over 20,000 jobs since its last rate case.

NJAWC has managed and continues to manage its operations responsibly and effectively to uphold its continued commitment to provide safe and reliable water and wastewater services to its customers at reasonable rates. Moreover, the Company's operations and maintenance ("O&M") expense over the last decade has increased at a rate significantly less than the rate of inflation. Because each dollar saved in O&M expenses permits approximately $8 dollars to be invested in plant at no impact to rates, the Company's cost containment efforts provided significant benefits to customers beyond mere cost savings.

The Company is requesting an increase in base rates because its existing rates will not afford NJAWC the opportunity to earn a reasonable return on its investments or to recover its reasonable operating costs in the period during which rates are effective.[2] The rates proposed in this filing would yield additional total operating revenues of $161.7 million, representing an increase of 16.89% over existing annual revenues. The impact of the proposed increase on the bill

[2] On December 20, 2023, in Docket No. WM23030145, the Board approved the completion of the merger of New Jersey-American Water and Environmental Disposal Corp. ("EDC"), with NJAWC as the surviving entity. Effective December 31, 2023, the companies were merged; therefore, the Petition, Exhibits and Schedules for the requested revenue requirement include the former EDC wastewater service area.

of an average residential customers using 5,640 gallons of water per month would be $11.30. The average monthly residential wastewater bill would increase about $6.16 per month.[3]

[3] The actual increases applicable to specific customers will vary according to the pertinent rate schedule and the level of each customer's usage.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF NEW JERSEY-AMERICAN WATER COMPANY, INC. FOR APPROVAL OF INCREASED TARIFF RATES AND CHARGES FOR WATER AND WASTEWATER SERVICE, CHANGE IN DEPRECIATION RATES, AND OTHER TARIFF MODIFICATIONS	**:**	**PETITION**
	:	**BPU DOCKET NO.: WR**

TO: THE HONORABLE COMMISSIONERS OF THE BOARD OF PUBLIC UTILITIES

New Jersey-American Water Company, Inc. (the "Company," "NJAWC" or "Petitioner"), a public utility corporation of the State of New Jersey, with its principal office at 1 Water Street, Camden, New Jersey 08102, hereby petitions this Honorable Board (the "Board" or "BPU") for authority pursuant to N.J.S.A. 48:2-18, N.J.S.A. 48:2-21, N.J.S.A. 48:2-21.1, N.J.A.C. 14:1-5.7 and N.J.A.C. 14:1-5.12 to increase its base tariff rates and charges for water and wastewater service, to change its depreciation rates, and to implement certain other tariff revisions. In support thereof, Petitioner states as follows:

I. BACKGROUND

1. NJAWC is engaged in the production, treatment and distribution of water and collection of wastewater within its defined service territory within the State of New Jersey. Said service territory includes portions of the following counties: Atlantic, Bergen, Burlington, Camden, Cape May, Essex, Gloucester, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Salem, Somerset, Union, and Warren. As of December 31, 2023, Petitioner provides service to approximately 668,000 water and fire service customers and 64,200 wastewater service customers.

2. On December 20, 2023, in Docket No. WM23030145, the Board approved the completion of the merger of New Jersey-American Water and Environmental Disposal Corp. ("EDC"), with NJAWC as the surviving entity. Effective December 31, 2023, the companies were merged; therefore, this Petition, as well as its Exhibits and Schedules supporting the requested revenue requirement, include the former EDC wastewater service area.

3. The rate schedules and other tariff provisions that NJAWC proposes to modify by virtue of this filing are those currently effective rate schedules and tariff provisions now on file with the Board, designated "Tariff for Water and Wastewater Service, B.P.U. No. 8 – Water and Wastewater," and EDC's "Tariff for Sewer Service, B.P.U. No. 1 – Sewer" (together, the "Existing Tariff").

4. The Existing Tariff was issued pursuant to multiple Board Orders, including those issued in NJAWC past base rate cases in Docket Nos. WR10040260, effective January 1, 2011, WR15010035, effective September 21, 2015, WR16111065, effective April 1, 2017, WR18111241, effective March 26, 2018, WR17090985, effective October 29, 2018, WM18080904, effective January 1, 2019, WR17111183, effective July 1, 2019, WR19121516, effective October 28, 2020, and WR22010019, effective August 24, 2022, and EDC past rate cases in Docket Nos. WM1600969, effective June 15, 2017, and WR07090715, effective February 11, 2009.

5. The proposed rate schedules and other tariff provisions that Petitioner seeks to make effective as a result of this filing are those contained in the tariff sheets, which are blacklined against the Existing Tariff to reflect proposed changes (the "Proposed Tariff"), a copy of which is attached as Exhibit P-1. It is requested that the Proposed Tariff be made effective February 21, 2024, a date which is no less than thirty (30) days from the date of this filing.

II. BASE RATES

6. The Company's proposed revenue requirement, equal to the cost of providing water, fire and wastewater service to NJAWC's customers, is approximately $1.095 billion.

7. The proposed increase will produce additional revenues of $161.7 million per year or 16.89% over existing annual revenues.

8. The impact of this Petition on the bill of an average customer using 5,640 gallons of water per month would be an increase of $11.30. The average monthly residential wastewater bill would increase about $6.16 per month. The actual increases applicable to specific customers will vary according to the applicable rate schedule and the level of each customer's usage.

9. Petitioner's test year ends June 30, 2024. Petitioner is proposing to reflect changes in capital expenditures through December 31, 2024, and changes in certain revenues and expenses through March 31, 2025.

10. Petitioner's filing in this case is based on five months of actual and seven months of estimated data. During the proceeding, the Company will update its Direct Testimony, Exhibits and Schedules, as appropriate, to reflect actual results. It is anticipated that by the conclusion of this case, the entire test year ending June 30, 2024 will reflect actual results.

11. As required by N.J.A.C. 14:1-5.12(a)(11), the Company has applied a consolidated tax adjustment. After the execution of an Agreement of Non-Disclosure ("NDA"), a proposed version of which is attached as Exhibit P-1A, a consolidated tax savings schedule will be provided to the NDA signatory parties.

III. THE NEED FOR THE REQUESTED RATE RELIEF

12. The primary driver of the proposed rate increase is the capital investment to maintain and improve the Company's infrastructure to continue providing safe, reliable and

adequate service to its customers. Nearly 68% of the Company's proposed revenue increase is driven by investment in the Company's infrastructure. In total, the Company will have invested approximately $1.3 billion in capital improvements since the effective date of rates in the Company's last rate case (Docket No. WR22010019) (the "2022 Rate Case"). Specifically, the Company has invested or plans to invest over $561 million during the test year, and an additional $300 million by December 31, 2024. Those investments total $861 million, including $423 million of distribution system improvement charge ("DSIC") and wastewater system improvement charge ("WSIC") eligible investments.

13. In making these investments, NJAWC works to control capital expenditure costs through competitive bidding, streamlined selection of services and materials and utilization of large volume purchasing power.

14. Petitioner has made these capital improvements to allow it to continue to provide safe, reliable and proper service in a manner that serves the long-term interests of our customers.

15. Many of these projects, which are described in the Company's Direct Testimony, Exhibits and Schedules, are necessary to comply with environmental or water quality regulations, address aging facilities, and increase system resiliency and reliability. Additional capital improvement projects address mitigation of emerging compounds such as perfluorooctanoic acid ("PFOA"), 1,4-dioxane, and hexavalent chromium, the reduction of non-revenue water, and climate variability. In each instance, these projects support the Company's continued provision of safe, adequate and reliable service to customers.

16. It is not possible to continue to make investments at this level without a fair opportunity to earn a reasonable return on the Company's capital invested in the system.

17. The Company also seeks to recover $263.7 million in O&M expenses. The Company's O&M expenses over the past decade have increased at a rate less than the rate of inflation.

IV. REVENUE DECOUPLING MECHANISM

18. The Company is proposing a Revenue Decoupling Mechanism ("RDM") for water service. The RDM is an alternative rate design mechanism whose purpose is to harmonize revenue actually collected with the revenue requirement and associated fixed costs approved by the Board in this case.

19. As discussed in the Direct Testimony of Company witness Charles B. Rea, approximately 67% of the Company's water service revenues will be collected through volumetric rates under the Company's proposed rate structure in this case, which means that revenues will vary up or down depending on how much water our customers use. At the same time, approximately 95% of the Company's costs are fixed costs, which do not vary depending on how much water our customers use. If water sales are less than the levels used to set the Company's water service rates in this proceeding, the Company's revenues will be less than the authorized level in this proceeding, and as a result, the Company's ability to recover the costs that the Board determines to be prudent will be diminished. Likewise, if revenues exceed the authorized level in this proceeding due to higher than anticipated water sales, customers may pay more than the rate levels authorized in this proceeding.

20. The RDM will better reflect the levels of revenue requirement and fixed costs authorized in this case, as the difference between those amounts and actual revenues will be charged or credited back to customers in the subsequent year.

V. REGULATORY ACCOUNTING DEFERRAL TREATMENT

21. The Company is requesting to continue regulatory accounting deferral treatment for pension and OPEB expenses, consistent with the treatment authorized for these expenses in the Company's last rate case (Docket No. WR22010019). The Company is also requesting regulatory accounting deferral treatment for production costs, excluding purchased water expense and purchased wastewater expense.

22. As discussed in the Direct Testimony of Company witness Michael McKeever, the sensitivity of these expenses to changes in asset returns, market fluctuations, inflation, and other factors outside of the Company's control creates the potential for large variability in the future. This proposed treatment ensures that the Company and its customers remain protected from large variations in expense levels.

VI. REVENUE NORMALIZATION AND DECLINING USAGE

23. The declining consumption trend among water companies is well supported and has a material and ongoing impact on the Company's ability to recover the revenues authorized in setting rates. As discussed in the Direct Testimony of Company witness Charles B. Rea, after normalization of the impacts of weather and COVID-19, the statistical analysis of residential and commercial water usage indicates a downward trend for both classes. Therefore, the Company proposes to normalize revenues in this case to account for the downward trends.

VII. COMPENSATION EXPENSE RECOVERY

24. Petitioner is seeking recovery of its employee expenses, including its market-based total compensation. Employee compensation is a necessary cost of providing utility service and should be assessed through the same lens as other necessary operating costs. The Company's total compensation philosophy aligns the interests of our customers, employees and investors. The plan

emphasizes operational goals, including customer service, environmental compliance, and a safe work environment, as well as certain financial goals.

25. As discussed in the Direct Testimonies of Messrs. Thomas Shroba and Robert Mustich, the Company's market-based total compensation package, including performance pay, is necessary for the Company to attract, retain, and motivate the talent needed to run the Company successfully and efficiently. Performance pay also benefits both the Company and customers by providing incentives to employees to continue delivering excellent service to customers. The operational components of the Company's performance compensation plans measure performance that can most directly influence customer satisfaction, health and safety, and environmental excellence. Customers derive direct and demonstrable benefits from the Company's focus on these key measures in the plan.

26. As part of this case, the Company is submitting a study of the Company's market-based total compensation conducted by a third-party consultant, Willis Towers Watson, and supported by Company witness Robert Mustich (the "Compensation Study"). The Compensation Study assessed the Company's total compensation philosophy, including its short-term and long-term performance pay programs; comparing them to peer utilities and industry generally. The Compensation Study is confidential, trade secret and/or proprietary and will be provided to parties after execution of an NDA.

27. The Compensation Study results show that when performance pay is included in the total compensation program, NJAWC employees are generally within the range of market median indicating that the Company's compensation practices are reasonable. The Compensation Study also concluded that the Company's long-term and short-term performance pay programs are reasonable.

28. In addition, the Company's overall total direct compensation is in line with the market, and thus, is a reasonable and prudently incurred cost of service that is appropriate for inclusion in rates.

VIII. RATE DESIGN PROPOSALS

29. Petitioner is presenting in this case a cost of service study which was prepared by Company witness Heath Brooks.

30. The Company proposes to roll in the current DSIC surcharge into the monthly fixed service charge. The Company proposes to increase the fixed service charge for 5/8 inch meters to $23.80 per month.

31. The Company is proposing changes to its water service rate design, including the following:

- The Company is proposing to align monthly meter charges and volumetric charges for Rate Schedules A-15 and A-17 with Rate Schedule A-1.
- The Company is proposing to align the monthly meter charges for Rate Schedule A-16 with Rate Schedule A-1.
- The Company is proposing to add meter charges for Rate Schedule A-18 5/8-inch meters and 3/4-inch meters with 5/8-inch meter charges starting at $5.00 and escalating with meter size based on proportionate A-1 meter charge escalation with meter size.
- The Company is proposing to align the volumetric rate for Rate Schedule A-18 with Rate Schedule A-1.
- The Company is proposing to reduce differences in public fire rates.

32. The Company is proposing to make changes to the wastewater service rate design, including the following:

- The Company is proposing to modify the rate design (type of billing determinants used) for Rate Schedules 3-A, 11-A, and 17-A by implementing usage rates that are applicable to billing determinants based on winter quarter consumption. This modification will eliminate rates applicable to annual metered usage.
- The Company is proposing to modify the rate design (type of billing determinants used) for Rate Schedule 13-A by eliminating multiple flat rates that are applicable to different dwelling types and businesses and implementing a fixed service charge and a usage rate that is applicable to billing determinants based on winter quarter consumption.
- The Company is proposing to modify the rate design (type of billing determinants used) for Rate Schedule 21-A by implementing a monthly fixed service charge and a usage rate that is applicable to billing determinants based on winter quarter consumption for metered customers. Unmetered customers will continue to pay a monthly flat rate.
- The Company is proposing to align the fixed service charge and usage charge under Rate Schedules 2-A, 3-A, and 12-A.
- The Company is proposing to align the fixed service charge under Rate Schedules 13-A and 17-A.
- The Company is proposing to align the usage rates under Rate Schedules 6-A, 10-A, and 21-A.

- The Company is proposing that the following rate schedules be subject to the PSTAC to recover revenue associated with wastewater treatment currently being recovered through base rates: Rate Schedules 12-A, 16-A, 17-A, and 20-A.

IX. AFFORDABILITY

33. Water and wastewater services are essential, and the Company acknowledges the need for such services to be affordable. To that end, the Company has conducted an affordability study regarding the impact on customer bills as a result of the proposed rates in this case (the "Affordability Study").

34. As discussed in the Direct Testimony of Company witness Charles Rea, the Affordability Study concludes that the Company's water service is currently affordable for most residential customers. The Affordability Study also indicates that the Company's water service will remain affordable under proposed rates. The Company is proposing a new Universal Affordability Discount Tarriff, which will replace its current service discount program. The Company's Help to Others ("H2O") Program will remain available to qualifying customers.

X. DEPRECIATION RATES

35. The Company has submitted a complete Depreciation Study in this case.

36. The Company proposes to utilize the depreciation rates proposed by its depreciation witness, Larry E. Kennedy, Senior Vice President of Concentric Energy Advisors, Inc. ("Concentric").

XI. TARIFF PROPOSALS

37. The Company proposes a number of Tariff changes discussed in the Direct Testimony of Jamie Hawn. The changes proposed by Ms. Hawn are designed to conform the Tariff to the relief requested in this case.

XII. TESTIMONY AND EXHIBITS INCORPORATED HEREIN

38. The Company submits herewith, and incorporates as a part hereof, all documents and exhibits required to accompany such a Petition pursuant to the Board's rules of practice as set forth in N.J.A.C. 14:1-5.12.

39. Attached hereto and incorporated herein are the Direct Testimony (Exhibits) and Schedules submitted on behalf of the following witnesses:

a. Mark McDonough, President, NJAWC, whose testimony includes an overview of the Company and the primary issues driving the Company's filing (Exhibit P-3);

b. Thomas Shroba, Vice President of Operations, NJAWC, whose testimony includes an overview of the Company's operations, its commitment to water quality, environmental compliance, safety, improving water efficiency, as well as the Company's proposed staffing levels and compensation philosophy (Exhibit P-4);

c. Donald C. Shields, Vice President, Engineering for the Eastern Division, American Water Works Service Company "Service Company"), whose testimony addresses the Company's capital investment planning process, the need to recover capital expenditures incurred since the Company's last rate case, the plan for the engineered coating of steel structures, and some of the risks and challenges for water and wastewater utilities associated with increased identification and regulation of contaminants and with increased climate variability (Exhibit P-5);

d. Jamie D. Hawn, Director Rates and Regulatory for New Jersey, whose testimony supports the Company's revenue requirement calculation, rate base, capital structure, acquisitions, depreciation and amortization, and proposed tariff modifications (Exhibit P-6);

e. Michael B. McKeever, Senior Director of Rates and Regulatory for NJAWC, whose testimony includes the Company's compensation and benefits, Service Company expenses, other operations and maintenance ("O&M"), general and income taxes, and deferral requests (Exhibit P-7);

f. Heath J. Brooks, Principle Regulatory Analyst for Service Company whose testimony supports and describes NJAWC's cost of service study, the proposed rate design for both water and wastewater service and the determination of Post-Test Year revenues at present and proposed rates (Exhibit P-8)

g. Charles B. Rea, Director, Rates and Regulatory for Service Company, whose testimony addresses affordability analyses for the Company's water and wastewater service, the Company's proposal to offer a universal affordability tariff, the Company's analysis of residential, commercial, and public authority customers' water consumption and long-term trends in water usage, and the proposed Revenue Decoupling Mechanism (Exhibit P-9);

h. Ann Bulkley, Principal of The Brattle Group, whose testimony discusses the reasonableness of the Company's cost of equity and its capital structure (Exhibit P-10);

i. Patrick L. Baryenbruch, President of Baryenbruch & Company, LLC, whose testimony discusses the reasonableness of the Service Company costs (Exhibit P-11);

j. Robert V. Mustich, Managing Director and East Region Rewards Business Leader for Willis Towers Watson, whose testimony (1) addresses the reasonableness of the Company's compensation program, and (2) benchmarks the Company's compensation expense against national and regional peer groups (Exhibit P-12);

k. Harold M. Walker, Manager, Financial Studies for Gannett Fleming Valuation and Rate Consultants, LLC, whose testimony presents the Company's cash working capital and the lead/lag study (Exhibit P-13); and

l. Larry E. Kennedy, Senior Vice President of Concentric Energy Advisors., Inc. whose testimony and reports set forth the Company's depreciation studies for water and wastewater. (Exhibit P-14)

40. Attached hereto and incorporated herein is Exhibit P-2, which includes Schedule Nos. RR and 1 through 18 in support of this Petition.

XIII. PROPOSED PROCEDURAL SCHEDULE

41. The Company respectfully proposes the adoption of the following procedural schedule for the conduct of this proceeding:

February 28, 2024	Service of first round discovery
March 21, 2024	Responses to first round discovery due
April 8, 2024	Public Hearings
April 11, 2024	Service of second round discovery

April 23, 2024	Company files 9+3 update
April 26, 2024	Second round discovery responses due
May 9, 2024	Service of 9+3 update discovery
May 20, 2024	Responses to discovery on 9+3 update due
Week of May 13, 2024	Discovery/Settlement Conferences
Week of May 20, 2024	Discovery/Settlement Conferences
June 20, 2024	Rate Counsel and Intervenor Direct Testimony Due
June 27, 2024	Serve discovery on Rate Counsel and Intervenor Direct Testimony
July 11, 2024	Responses to discovery on Rate Counsel and Intervenor testimony due
July 17, 2024	Company files 12+0 update
July 25, 2024	Company, Rate Counsel and Intervenors file Rebuttal Testimony
August 1, 2024	Serve discovery on Rebuttal Testimony
August 8, 2024	Responses to rebuttal discovery due
August 15, 2024	Surrebuttal Testimony
August 26, 2024	Evidentiary Hearings begin (subject to ALJ's availability)

XIV. MISCELLANEOUS

42. Petitioner is serving notice and a copy of this Petition, together with a copy of the exhibits and schedules annexed hereto, on the Division of Rate Counsel and the Department of Law and Public Safety via electronic mail, to be followed by paper courtesy copies. Notice of this filing and the effect thereof will be served by mail upon the clerk of the Board of Chosen Freeholders and County Executive Officers of those counties in the Company's service territory, as well as upon the clerks of the respective municipalities within the Company's service territory. Such notice will be given at least 20 days prior to the date set for the initial public hearing and

shall include and specify the time and place of said hearing. The counties and municipalities upon whom service of said notice will be made are shown in NJAWC's tariff.

43. Customers will be notified of this filing, and the effect thereof, together with the time and place of hearing by publication at least 20 days prior to the date set for hearing in newspapers published and circulated within the Company's service territory. A copy of the form of notice is attached as Exhibit P-1B.

44. Proof of Service of the Notices referred to herein will be served upon the parties and filed with the Board and Office of Administrative Law.

45. The reasons for the proposed increase in rates requested by the Company are as follows:

a. To recognize in rates its investments to continue to provide safe, adequate and reliable service to existing and new customers of Petitioner, which have been put into service since the Company's last base rate case, as well as the opportunity to earn its requested return on equity on those investments. These investments are not currently included in rate base and Petitioner currently bears carrying charges and depreciation expense associated with these facilities.

b. To recover increased costs, not previously recovered in rates.

c. To provide the Company with an opportunity to earn a reasonable return on its net investment.

d. To establish rates which will be sufficient to enable the Company, under efficient and economical operation, to maintain and support its financial integrity and to raise such funds as may be necessary for the proper discharge of its public duties.

e. To provide earnings sufficient to attract investors and provide sufficient cash flow to fund the Company's operations.

f. To enable the Company to continue to provide safe, adequate and proper service to its customers.

46. Petitioner respectfully submits that the rates, tariff modifications and other relief requested by it are in all respects just and reasonable.

WHEREFORE, the Company respectfully requests that the Board find, determine and rule as follows:

a. that the proposed rates submitted with this Petition are just and reasonable and should be made effective;

b. that the proposed tariff revisions requested herein and herewith are necessary and reasonable; and

c. that the Company may have such other further relief as requested herein and as the Board may deem reasonable and proper under the circumstances presented to it in this case.

Respectfully submitted,

CULLEN AND DYKMAN

Attorneys for New Jersey-American Water Company, Inc.

By: 

Bruce V. Miller

DATED: January 19, 2024

Communications addressed to the Petitioner in this case are to be sent to:

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VERIFICATION

Jamie Hawn, of full age, being duly sworn, according to law, deposes and says:

1. I am the Director, Rates and Regulatory, of New Jersey-American Water Company, Inc., and am authorized to make this Verification on behalf of this company.

2. I have read the contents of the foregoing Petition and hereby verify that the statements therein contained are true and accurate to the best of my knowledge and belief.

_____
Jamie Hawn
Director, Rates and Regulatory

Sworn to and subscribed before
me this 19th day of January, 2024

_____
Notary Public

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TARIFF FOR WATER AND WASTEWATER SERVICE

By: Mark K. McDonough, President
1 Water Street, Camden, New Jersey 08102

NEW JERSEY-AMERICAN WATER COMPANY, INC. Fourth Revised Sheet: No. 1
B.P.U. No. 8 – Water and Wastewater Superseding Third Revised Sheet: No. 1

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TABLE OF CONTENTS

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Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

Deleted: Effective: November 1, 2020 ¶

Deleted: Issued: October 30, 2020¶
¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water and Wastewater

Seventh Revised Sheet: No. 2
Superseding Sixth Revised Sheet: No. 2

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AN INTRODUCTION TO CUSTOMERS

The approved tariff located in the Company's office at 1 Water Street, Camden, NJ, and on its website at https://www.amwater.com/njaw/customer-service-billing/your-water-and-wastewater-rates, is available for your review. The Company is obligated to keep its tariff current, including any changes approved by the Board of Public Utilities. The Company is required to maintain it in exactly the same format as the Company's tariff on file at the Board of Public Utilities, 44 South Clinton Avenue, 1st Floor, Trenton, NJ.

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Through the Company's My Account portal, customers can complete some of the most common functions associated with their accounts and schedule some appointments. The Company's Customer Service personnel can also be reached at 1-800-272-1325 for assistance. If, after you review this tariff and discuss it with appropriate Company employees, you still have questions regarding clarification or interpretations, please contact the Board of Public Utilities, Division of Water at 1-609-633-9800 or the Board's Division of Customer Assistance at www.nj.gov/bpu/ or 1-800-624-0241.

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You have the right to review this tariff at the Company's offices or at the Board's office in Trenton. Your inquiries will be handled by the Board's Staff in an expeditious manner in order to protect your rights as well as those of the water and/or wastewater Company. Please feel free to exercise this right by telephone or by visiting the Board's offices at any time between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday, or by writing a letter. The letter should contain the writer's name, address and phone number, including the area code. If the writer is a customer of record, the account number should be included.

The Company also has available in its office a leaflet entitled "The Utility Customer's Bill of Rights." This is a summary document; it does not include all customer rights or utility obligations.

New Jersey-American Water hereby adopts the rules and regulations promulgated by the Board of Public Utilities of the State of New Jersey, some of which are referenced herein, and all of which are herein adopted and incorporated by reference. New Jersey-American Water provides water and wastewater service to various municipalities, all in the State of New Jersey.

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The Board of Public Utilities is responsible for the final interpretation and enforcement of a utility's tariff provisions and rates. The utility is bound by New Jersey's statutes and the Board's regulations. If a conflict should exist in the tariff that is detrimental to the customer, the Board's regulations supersede the tariff provision absent specific approval to the contrary by the NJ Board of Public Utilities. A utility company may provide for more liberal treatment than that provided for in the Board's regulations.

Tariff B.P.U. No. 8 - Water and Wastewater is divided into a water section and a wastewater section, preceded by standard terms and conditions which are universally applicable, standard terms and conditions applicable to water service only, and standard terms and conditions applicable to wastewater service only. Tables of contents for each section precede a series of sequentially numbered and lettered tariff rate schedules. The tables of contents denote the appropriate rate schedule applicability for all classes of service and are an integral part of this tariff.

Deleted: Effective: September 1, 2022¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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DEFINITIONS - WATER

The following are definitions of specific terms that are used in this document:

1- "Board" or "BPU" shall mean the New Jersey Board of Public Utilities.

2- "Company" or "New Jersey-American Water" shall mean New Jersey-American Water Company, Inc. or, as applicable, any predecessor entity.

3- "Connecting line" is the portion of pipe that starts at the curb stop and conveys domestic water and/or fire service to the customer. The customer and/or premises owner owns, and is responsible for the operation and maintenance of the connecting line.

4- "Curb stop" is the fitting attached to the service line on the roadside utility right-of-way of the property, and is used primarily for turning on and shutting off water at the curb in emergencies, for purposes of repair or to discontinue service to a customer.

5- "Customer" means a person that is an end-user, a customer of record or both, as defined in N.J.A.C. 14:3-1.1. "Customer of Record" means the person that applies for utility service and is identified in the account records of a public utility as the person responsible for payment of the public utility bill. A customer may or may not be an end-user. "End User" means a person who receives, uses, or consumes water or wastewater service. An end user may or may not be a customer of record.

6- "DEP" shall mean the New Jersey Department of Environmental Protection.

7- "End User" means a person who receives, uses, or consumes water or receives wastewater or fire protection service. An end user may or may not be a customer or a premises owner.

8- "Extension" is an addition to the existing system of mains, intended to service more than one customer, either at the time of installation or in the future.

9- "Interruptible Service" means service which may be interrupted in the sole discretion of the Company on not less than three (3) hours' notice to the customer by telephone or otherwise.

10- "Main" is a pipe or conduit for conveying water or wastewater. A "water main" will exclusively convey water and a "wastewater main" will exclusively convey wastewater.

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11- "Meter" is a device to measure the quantity of water, wastewater and/or the rate of flow delivered to or from a customer.

12- "Meter pit" is a structure that houses a small meter or meters less than or equal to 2-inches. Unless agreed to by the Company and the customer, it is installed, furnished and maintained by the Company.

13- "Meter vault" is a structure that houses a meter or meters larger than 2-inches. Unless explicitly agreed to by the Company and the customer in writing, it is located and designed by the Company, and constructed, installed, furnished and maintained by the Customer at the sole expense to the customer. The Company will ensure that the vault is kept clear of any of its equipment that is no longer in service, to the extent possible.

14- "Person" means an individual, firm, joint venture, partnership, co-partnership, corporation, association, State, county, municipality, public agency or authority, bi-state or interstate agency or authority, public utility, regulated entity, cable television company, cooperation association, or joint stock association, trust, limited liability company, governmental entity, or other legal entity, and includes any trustee, receiver, assignee, or personal representative thereof. (N.J.A.C. 14:3-1.1)

15- "Premises" is defined as follows:

a) A building under one-roof, owned or leased by one customer and occupied as one place of business or residence.
b) A combination of buildings, owned or leased by one customer in one common enclosure, occupied by one family or business.

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¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

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DEFINITIONS – WATER (Continued)

c) A combination of buildings, such as a garden type apartment, owned or leased by one customer, in one common enclosure, none of the individual buildings of which is adapted to separate ownership.

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d) The one side of a double house having a solid vertical partition wall, so that it may be adapted to separate ownership.
e) A building owned or leased by one person, of more than one apartment and using in common one hall and one entrance.
f) A building owned or leased by one person, having a number of apartments or offices, and using a common one hall and one or more means of entrance.
g) A public building or a single plot such as a park or a playground.
h) A building or combination of buildings owned by one customer or entity located on contiguous property not intersected or intervened by another customer or entity.

16- "Premises owner" is the party who possesses the exclusive right to hold, use, benefit from, enjoy, convey, transfer, and otherwise dispose of the property. A premises owner may or may not be the customer of record or end-user, as defined in N.J.A.C. 14:3-1.1.

17- "PWAC" or "Purchased water adjustment clause" is a provision that authorizes a utility to adjust its rates to compensate for an increase or decrease in the cost of water purchased from a water purveyor. (N.J.A.C. 14:9-7.2)

18- "PWAC Year" shall mean the twelve-month period beginning each April 1 and ending March 31 of the following calendar year.

19- "Residential customer" means a customer who receives service from a regulated entity for use in a residence. (N.J.A.C. 14:3-1.1)

20- "Sales for Resale Customer" means a municipal water system, a Municipal Utilities Authority, a County Utilities Authority, a Water Supply Authority, district or commission or a water utility regulated by the Board.

21- "Service line" is the portion of pipe that starts from a main and ends at the curb stop. The service line is owned, operated and maintained by the Company. (N.J.A.C. 14:3-8)

22- "Tap" is the fitting inserted in the main to which the service line is attached. It is used to facilitate the tapping of the main and for shutting off water in case of repairs to the service line.

23- "Tariff," as referred to herein, is the entire "Tariff for Water and Wastewater Service" as the same may be amended or revised from time to time in accordance with N.J.A.C. 14:3-1.3, Tariffs.

24- "Water connection" includes all service line, taps and curb stops necessary to supply customers with water at their premises from the Company's water mains.

25- "Water service" is the act of providing water to a customer.

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
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NEW JERSEY-AMERICAN WATER COMPANY, INC. Fifth Revised Sheet: No. 5
B.P.U. No. 8 – Water and Wastewater Superseding Fourth Revised Sheet: No. 5

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DEFINITIONS - WASTEWATER

The following are definitions of specific terms that used hereafter in the tariff. Additional definitions are set forth in the Definitions section of the tariff for water and wastewater service.

1- "New Account" as herein used shall be defined as an account opened as the result of the construction of a new building.

2- "Building Drain" shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from drainage pipes inside the walls of the building terminating five (5) feet outside the face of the building wall from whence it becomes known as the building sewer.

3- "Building Sewer" shall mean the extension from the building drain to service lateral line and/or other point of connection to the Company wastewater collection system.

4- "Biochemical Oxygen Demand", denoted hereinafter as "B.O.D.", shall mean the quantity of oxygen utilized (demanded) in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days when incubated at 20ºC.

5- "Bulk User" means a municipality which has contracted with the utility for wastewater treatment services. The utility has no responsibility for construction of the mains connecting the Bulk User to the utility nor in the collection of payments of customers of the bulk user. Bulk User customers are not in the service territory of the utility.

6- "Suspended Solids" shall mean solids that either float on the surface of or are carried in suspension in water, wastewater or industrial wastes, and which are removable by laboratory filtering.

7- "pH" shall mean the logarithm to the base ten of the reciprocal of the weight of hydrogen ions in moles per liter of solution.

8- "Garbage" shall mean solid wastes from domestic and commercial preparation, cooking, dispensing or marketing of food or food products and from the handling, storage and sale of produce.

9- "Properly Shredded Garbage" shall mean garbage that has been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in the wastewater system with no particle greater than one-half inch (1/2") in any dimension.

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10- "PSTAC" or "Purchased wastewater treatment adjustment clause" is a provision that authorizes a utility to adjust its rates to compensate for an increase or decrease in the cost of wastewater treatment purchased from a wastewater treatment purveyor. (N.J.A.C. 14:9-7.2)

11- "PSTAC Year" shall mean the twelve-month period beginning each April 1 and ending March 31 of the following calendar year.

12- "Slug" shall mean the discharge of water, sewage, or industrial waste which in concentration of any constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes more than five (5) times the average twenty-four hour flow or concentration under normal operating conditions.

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
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By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water and Wastewater

Seventh Revised Sheet: No. 6
Superseding Sixth Revised Sheet: No. 6

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AN OVERVIEW OF CUSTOMER RIGHTS

(1) No public utility shall refuse to furnish or supply service to a qualified applicant. N.J.A.C. 14:3-3.1

(2) The utility shall not place the name of a second individual on the account of a residential customer unless specifically requested by said second individual. (N.J.A.C. 14:3-3.2(b))

(3) A customer has the right to have any complaint against the utility handled promptly by that utility. (Board Order, Docket No. CO8602155)

(4) Each utility shall, upon request, furnish its customers with such information as is reasonable in order that the customers may obtain safe, adequate and proper service. N.J.A.C. 14:3-3.3(a)) Each utility shall inform its customers, where peculiar or unusual circumstances prevail, as to the conditions under which sufficient and satisfactory service may be secured from its system. (N.J.A.C. 14:3-3.3(c)) Each utility shall supply its customers with information on the furnishing and performance of service in a manner that tends to conserve energy resources and water resources and preserve the quality of the environment. N.J.A.C. 14:3-3.3(d)

GENERAL RULES

1- The location of meters and the arrangement of the fittings and piping are subject to inspection and approval of the Company and should meet Company's requirements presented herein.

2- The Company will endeavor to provide a regular and uninterrupted supply of water through its facilities. However, if service shall be interrupted, irregular, or defective, or fail because of breakdown or emergency, the Company will not be liable for damage, inconvenience or lost income resulting there from.

3- A customer's responsibility to pay for service continues from the time service is commenced, pursuant to his/her application, until notice is received by the Company of a change of ownership or occupancy of the premises or notice is received by the Company to discontinue the applicable service. Upon receipt of such notice, the Company will arrange for a final meter reading and billing. No allowance will be made in case of non-occupancy, unless the Company is notified as stated above.

4- The Company does not undertake to render any special service or maintain any fixed pressure. In the event of an accident or for other reasons, the Company may shut off the water in its mains and pipes and may restrict the use of water whenever the public welfare may require it. All customers requiring an uninterrupted supply or a uniform pressure of water for any purpose, such as steam boilers, are cautioned to provide their own means of providing such special uninterrupted service. When the supply is to be interrupted or curtailed, the Company will endeavor to give notice.

5- The Company does not undertake to supply any uniform quality of water for special purposes, such as laboratories, manufacturing or processing plants, swimming pools, bleaching or dyeing plants, or laundries. Customers requiring water of special quality, or water free from discoloration or turbidity, are required to provide their own means of treating water, or provide such other protection as may be deemed necessary for the purpose required.

6- From time to time, the Company may provide public notices, specific notices, correspondence or other notifications ("Notices") regarding the presence of conditions affecting the quality and/or quantity of water service provided by the Company. (Examples of such Notices include, but are not limited to, boil water alerts, notice of hydrant and main flushing, and notice of water quality testing results.) These Notices may contain information about actions members of the public may wish to, are recommended to, or should take in response to the conditions identified in the Notice. In the event the Company issues a Notice, the Company will not be liable for any expenses or costs incurred by a customer or end-user for any action taken in response to any condition identified in the Notice.

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Neither by inspection approval nor failure to approve, nor in any other way, does the Company give any guarantee, or assume any responsibility, expressed or implied, as to the adequacy, safety or characteristics of any structures, equipment, pipes, appliances or devices owned, installed or maintained by the customer or leased by the customer from third parties.¶
The Company will not be liable for any loss, injury, casualty, or damage resulting from the supply or use of water service, or from the presence or operation of the Company's structures, equipment, pipes, appliances or devices on the customer's premises.¶
No unauthorized person is permitted to turn the water on or off at any street valve, corporation stop, curb stop, or other street connection, or disconnect or remove any meter without the consent of the Company.¶
No agent or employee of the Company shall have authority to bind it, by any promise, agreement, or representation not provided in this tariff, or in any way inconsistent ther
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Deleted: Issued: October 30, 2020¶
¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water and Wastewater

Original Sheet: No. 6.1

GENERAL RULES (Continued)

7- Neither by inspection approval nor failure to approve, nor in any other way, does the Company give any guarantee, or assume any responsibility, expressed or implied, as to the adequacy, safety or characteristics of any structures, equipment, pipes, appliances or devices owned, installed or maintained by the customer or leased by the customer from third parties.

8- The Company will not be liable for any loss, injury, casualty, or damage resulting from the supply or use of water service, or from the presence or operation of the Company's structures, equipment, pipes, appliances or devices on the customer's premises.

9- No unauthorized person is permitted to turn the water on or off at any street valve, corporation stop, curb stop, or other street connection, or disconnect or remove any meter without the consent of the Company.

10- No agent or employee of the Company shall have authority to bind it, by any promise, agreement, or representation not provided in this tariff, or in any way inconsistent therewith

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

Deleted: Sixth Revised Sheet: No. 7¶
Superseding Fifth Revised

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GENERAL RULES (Continued)

11- Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

12- The quantity of water recorded by the meter shall be taken to be the amount delivered to the customer, except where the meter has been found to be registering fast by more than one and one-half percent (1.5%) or has ceased to register.

13- All service provided by the Company except public fire protection shall be metered. Thus, no unmetered water service connections are permitted except as otherwise set forth herein or approved by the Company.

14- The Company shall own and provide without charge for each customer supplied on a measured basis, a meter and such appurtenances related to the meter as are customarily furnished by the Company, such as encoders, radio transmitters, meter pits (but not meter vaults), or other devices designed to facilitate the collection of accurate and efficient meter reads.

15- The Company requires that all meters be housed inside meter pits (for meters that are less than or equal to 2-inches) or meter vaults (for meters that are larger than 2-inches). Where more than one service type exists (domestic, private fire protection or irrigation) all meters shall be housed inside a meter vault if any one meter is greater than two inches. The Customer is responsible for the installation and maintenance of meter vaults. All meter pits and meter vaults will be located outside of the Customer's structure in a location acceptable to the express approval of the Water Company. Notwithstanding the foregoing, the Company may grant an exception to this rule on a case by case basis at the Company's discretion.

16- The Company maintains and repairs meters except in case of misuse or damage by the customer or the customer's invitees, agents, representatives or contractors, in which case the Company shall charge the customer for repairing and replacing the meter, said charge to be based on the costs related to the removing, repairing, replacing and/or resetting the meter. The charge will be made in accordance with Rate Schedule P-2.

17- Where more than one rate schedule is available to particular customers, the utility shall have at all times the duty to assist such customers in the selection of the rate schedule most favorable for their individual requirements and to make every reasonable effort to ensure that such customers are served under the most advantageous schedule.

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18- Upon the request of a customer, the Company shall send a Spanish language version of the notice of discontinuance for nonpayment. N.J.A.C. 14:3-3A.3(e)

19- The Company reserves the right to require any customer having unusual requirements of demand, services or supply to enter into a special written contract, which contract shall provide for the mutual obligations of the customer and Company. Special contracts will be filed with the Board.

20- In case of fraud, deception, illegal use, or when it is clearly indicated that the customer is preparing to leave, the Company may demand immediate payment of accounts and terminate service without further notice.

21- The Company reserves the right to change, take from or add to this tariff and the Standard Terms and Conditions, to the extent permitted by law, or permitted by the applicable regulations of the state regulatory body having jurisdiction.

22- For all materials furnished or services rendered to any governmental agency or unit of the United States, New Jersey, or sub-unit thereof, that is not covered by any other tariff provision or rate schedule, and which pertain to hydrants, meters or situations involving emergencies, the charges will be 10% more than the total of the following applicable items:

(a) Equipment and materials: actual costs;
(b) Labor charges: actual costs (including base plus fringe); and,
(c) Other charges: actual costs (such as permits, police protection, contractor labor, restoration, etc.).

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Fifth Revised Sheet: No. 8
B.P.U. No. 8 – Water and Wastewater Superseding Fourth Revised Sheet: No. 8

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STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DEPOSITS

1. If after notice of the methods of establishing credit and being afforded an opportunity, a customer has not established satisfactory credit, the utility may require a deposit. The deposit amount shall be determined in accordance with N.J.A.C. 14:3-3.4.
2. The utility must furnish a receipt to any customer posting a deposit. The deposit will be returned with simple interest at a rate established annually by the Board of Public Utilities. Once the customer has established satisfactory credit with the utility, the deposit shall be returned to the customer with interest due. The customer has the option of receiving the deposit refund either by a check or a credit on the account. If a residential customer's deposit is not returned, the utility shall credit the customer's account with the accrued interest once every twelve months, in accordance with N.J.A.C. 14:3-3.5.
3. Where a water or wastewater utility furnishes unmetered service, for which payment is received in advance, it may not require a deposit. N.J.A.C. 14:3-3.4(j)
4. The Company shall review a residential customer's account at least once every year and a nonresidential customer's account at least once every two years to determine whether the customer has established credit satisfactory to the Company. If this review indicates that the customer has met the utility's standard requirements for establishing credit, the utility shall refund the customer's deposit. N.J.A.C. 14:3-3.5, Return of deposits, interest on deposits.
5. If the deposit has remained with the Company for at least three months, without default, it will be returned to the customer with simple interest on an annual basis at a rate established annually by the Board of Public Utilities. Deposits shall cease to bear interest upon the discontinuance of service.

FORM OF BILL FOR METERED SERVICE

6. All bills will be computed in accordance with the rates of the Company as shown in this Tariff, and as the same may be amended or revised from time to time. Rates are subject to such changes as the state regulatory body having jurisdiction may require, authorize or allow.
7. A customer has twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted, or electronic transmission date for customers on electronic billing, to pay a bill. A water and/or wastewater company may not discontinue water or wastewater service unless it has provided written notice giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. This written notice shall be sent by first class mail, apart from the bill and as a separate mailing. (N.J.A.C. 14:3-3A.3 (c)) The notice shall not be given until after the expiration of the said twenty (20) days' time to pay a bill. (N.J.A.C. 14:3-3A.3(b)) The notice shall contain sufficient information for the customer to notify the Board of Public Utilities of the nature of the dispute. The utility shall make a good faith effort to determine which of its residential customers are over 65 years of age, and shall make good faith efforts to notify such customers of discontinuance of service by telephone in addition to notice by regular mail. This effort may consist of an appropriate inquiry set forth on the notice informing customers that they may designate a third party to receive notice of discontinuance.
8. Bills rendered must contain the following information: (a) the meter readings at the beginning and end of the billing period; (b) the dates on which the meter is read; (c) the number and kind of units measured; (d) identification of applicable rate schedule or statement that the applicable rate schedule will be furnished upon request; (e) the amount of the bill; (f) a distinctive marking to indicate an estimated, averaged, or remote meter index and web address and telephone number where the customer can obtain a description of the method used; (g) an explanation or statement of any conversion from meter reading to billing units or any other calculations or factors used in determining the bill; and (h) the gross receipts and franchise tax statement. N.J.A.C. 14:3-7.2

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

FORM OF BILL FOR METERED SERVICE (Continued)

9. Estimated Billing. If for any reason a utility cannot read a customer's meter, the utility may use estimated billing in accordance with N.J.A.C. 14:3-7.2(c). Customers may request a special reading for a meter where a high bill or other reason exists to believe the meter reading used for billing purposes is in error. Rules concerning estimated bills for residential customers are as follows:

   a. The Company shall maintain a regular meter reading schedule and make a reasonable effort to read all meters.

   b. The Company, upon request, must make available to all customers a postage-paid business reply card on which the customer may mark the meter reading. Said card shall have appropriate explanation. The utility must permit the customer to telephone the meter reading to the utility. The customer reading is to be used in lieu of an estimated reading, provided the reading is received in time for billing.

   c. When the Company estimates an account for four consecutive billing periods (monthly accounts), or two consecutive billing periods (bi-monthly and quarterly accounts), the Company must initiate a program to mail a notice marked "Important Notice" to the customer on the fifth and seventh months explaining that a meter reading must be obtained and said notice must explain the penalty for failure to complete an actual meter reading. After all reasonable means to obtain a meter reading have been exhausted, the Company may discontinue service provided at least eight months have passed since the last meter reading was obtained, the Board of Public Utilities has been so notified, and the customer has been properly notified by prior mailing. If service is discontinued and subsequently restored, the utility may charge a reconnection charge equal to the reconnection charge for restoring service after discontinuance for non-payment. The reconnection charge shall become due when service is restored, whether the Company or an authorized professional physically restores service. Unauthorized reconnections shall be considered theft of service. Unauthorized reconnections by a customer no longer in arrears, shall be considered tampering with utility facilities.

   d. The Company must submit to the Board of Public Utilities a statement detailing their estimating procedures.

   e. An estimated bill must be clearly designated as such.

   f. If low estimates result in a customer receiving an actual bill that is at least twenty five percent (25%) greater than the prior estimated bill, the Company shall allow the customer to amortize the excess amount. The amortization will be in equal installments over a period of time equal to the period when no actual meter reading was taken by the customer or the Company. (7) Annually, the Company shall notify all customers of their rights to amortize as set forth in N.J.A.C. 14:3-7.2.

BUDGET BILLING

10. The Company will make available to residential customers whose accounts do not reflect past-due balances the option to pay their bills on a monthly, budgeted basis. The budget billing plan year will be a twelve (12)-month time frame and allows a customer to pay a predetermined monthly amount, based upon the customer's average usage. If a customer is a new customer with little or no prior history of utility use, the monthly budget amount shall be determined using a reasonable estimate of likely usage. The budget billing plan will be made available to eligible customers by bill insert or bill message at least twice in each twelve (12)-month period.

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STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

BUDGET BILLING (Continued)

11. The Company will "true up" the actual cost of service rendered as determined by actual meter readings and the actual monthly budgeted amount at the beginning of the budget plan year, and at least once during the budget plan year if the true-up performed during the customer's budget plan year reveals an increase or decrease of twenty-five (25) percent or more in the monthly budget amount, the Company will adjust the budget billing plan up or down, if necessary. There shall be no more than one such adjustment during the budget plan year. The Company will notify the customer of any change in the budget billing amount prior to such change.

12. A final bill for the budget plan year shall be issued in the last month of the budget plan year, and shall contain the month's monthly budget amount, plus an adjustment of any difference between said amount and the actual cost of service rendered during the budget plan year. Payment of this final balance due is required before the customer will be allowed to participate in the budget billing program for the upcoming budget billing plan year.

13. The Company shall notify the budget billing plan customers in writing of a revised monthly budget amount at least ten (10) working days before the due date the initial bill of the next budget plan year. Should the customer opt out of the budget billing plan, payment of the total charges incurred to date will be due immediately, or, in the alternative, agree to enter into a deferred payment agreement according to N.J.A.C. 14:3-7.7; or a credit will be applied to the account, whichever is applicable. The plan bill shall contain the information required by N.J.A.C. 14:3-7.2, Form of Bill for Metered Service, N.J.A.C. 14:3-7.3 Form of Bill for Unmetered Service, and N.J.A.C. 14:3-7.4, Method of Billing.

14. Should the customer breach the terms of the budget billing plan by failing to make the monthly payments as required under the plan or by having a budget billing plan payment returned due to insufficient funds, the Company reserves the right to terminate the customer's participation from the program; payment of total charges incurred to date will be due immediately, or, in the alternative, the Company and the customer will agree to enter into a deferred payment agreement according to N.J.A.C. 14:3-7.7.

FINANCIAL AID

15. The Company understands that from time to time its customers may have difficulty paying their water and/or wastewater bills issued by the Company. If at any time customers find that they cannot pay their water and/or wastewater bill by the due date, the Company requests that the customers contact the Company's Customer Service Center, prior to the due date, to work out a payment arrangement with the Company to avoid a shut-off of service, at 1-800-272-1325.

16. In addition to working out payment arrangements with customers in times of financial difficulty, the Company has also established a residential customer assistance program for its low-income customers who are having difficulty paying their water and/or wastewater bills issued by the Company. This residential customer assistance program, called the H2O Help to Others Assistance Program, is designed to provide financial assistance to qualified residential customers to pay their water and/or wastewater bills and protect them from an unnecessary discontinuance of their water and/or wastewater service. A grant from the H2O Help to Others Assistance Program may be awarded to cover a portion or all of the residential customer's outstanding bill based on the customer's ability to pay, income level and the availability of funds in the program. For more information about this program, please contact NJ Shares at 1-877-652-9426 or any subsequent program administrator whose contact information may be found on the Company's web site. Customers who qualify for the program are required to recertify income eligibility every two years.

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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water and Wastewater

Sixth Revised Sheet: No. 11
Superseding Fifth Revised Sheet: No. 11

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DEFERRED PAYMENT ARRANGEMENTS

17. A customer is entitled to at least one deferred payment plan in one year. In the case of a residential customer who receives more than one utility service from the same utility (ex: water and wastewater; gas and electric) and the amount which is in arrears is a combination of those services, the utility shall offer a separate deferred payment agreement for each service based on the outstanding balance for that service. (N.J.A.C. 14:3-7.7(b)2) The Company must renegotiate the deferred payment agreement should the customer document a significant change in financial situation. The Company must also issue a new discontinuance notice each time it intends to shut off service, including defaults on the terms of the agreement. In the case of a residential customer who receives more than one utility service from the same utility and has subsequently entered into an agreement for each separate service, default on one such payment agreement shall constitute grounds for discontinuance of only that service. N.J.A.C. 14:3-7.7(f)

DISCONTINUANCE OF SERVICE

18. A water and wastewater utility shall not discontinue service because of nonpayment of bills in cases where a charge is in dispute provided the undisputed charges are paid (N.J.A.C. 14:3-3A.2(e)5) and a request is made to the Board within five (5) days for investigation of the disputed charge. The Company must advise the customer of their right to appeal to the Board of Public Utilities. N.J.A.C. 14:3-7.6(b)

19. Basis for Discontinuance of Service. The Company shall have the right to suspend or curtail or discontinue service for any of the following reasons (N.J.A.C. 14:3-3A.1(a)):

    a. For the purpose of making permanent or temporary repairs, changes or improvement in any part of its system;

    b. For compliance in good faith with any governmental order or directive, regardless of whether such order or directive subsequently may be held to be invalid;

    c. For non-payment of a valid bill due for service furnished at a present or previous location, in accordance with N.J.A.C. 14:3-3A.2. However, non-payment for business service shall not be a reason for discontinuance of residence service except in cases of diversion of service pursuant to N.J.A.C. 14:3-7.8;

    d. For nonpayment of a deposit, in accordance with N.J.A.C. 14: 3-3A.9;

    e. For any of the following acts or omissions on the part of the customer:

        (i) Refusal of reasonable access to the customer's premises in accordance with N.J.A.C. 14:3-3.6;
        (ii) tampering with any facility of the Company;
        (iii) fraudulent representation in relation to the use of service;
        (iv) customer moving from the premises, unless the customer requests that service be continued;
        (v) providing service to others without approval of the Company;
        (vi) refusal to contract for service where such contract is required;
        (vii) connecting and operating equipment in such manner as to produce disturbing effects on the service of the Company or other customers;
        (viii) failure of the customer to comply with reasonable Standard Terms and Conditions;
        (ix) where the condition of the customer's installation presents a hazard to life or property; or
        (x) failure of a customer to repair any faulty facility of the customer.

Issued:

Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated

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Deleted: FINANCIAL AID (Continued)¶
The Company established a second residential customer assistance program for customers with a total annual income at or below 300% of the Federal Poverty guidelines called the H20 Help to Others Low Income Payment Program ("LIPP") or Discount Program. Through this program, the Company will provide a discount off of the customer's monthly bill. The actual H2O LIPP discount is set equal to the customer's applicable water Fixed Service Charge (not greater than a 1" meter charge). If the customer is also provided wastewater service by the Company, the customer is also eligible for a wastewater service discount equal to the water service discount amount, in an amount not to exceed the wastewater service charge. Residential customers who need help and qualify for the H2O LIPP should call the NJ Shares toll free number at 1-877-652-9426 or any subsequent program administrator whose contact information may be found on the Company's web site. Upon acceptance into the LIPP, residential customers who receive Social Security benefits or Medicare coverage can qualify for a credit equal to the current DSIC surcharge rate per Rate Schedule K on their monthly bill (not greater than the current 1" DSIC surcharge). Customers must recertify their eligibility for the program through NJ Shares annually.¶
¶
Upon acceptance into the LIPP, qualifying residential customers will be offered the opportunity to enroll in the Company's Conservation Program. Conservation Program offerings are free of charge to residential customers enrolled in the LIPP and can include instructions on performing a home water audit, a retrofit kit for use with certain appliances and fixtures, and a leak repair of fixtures for which the customer is responsible (value up to $300).…

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One Water Street, Camden, NJ 08102¶
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NEW JERSEY-AMERICAN WATER COMPANY, INC. Sixth Revised Sheet: No. 12
B.P.U. No. 8 – Water and Wastewater Superseding Fifth Revised Sheet: No. 12

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STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DISCOUNTINUANCE OF SERVICE (Continued)

20. Public Utilities shall not discontinue residential service except between the hours of 8:00 a.m. and 4:00 p.m. Monday through Thursday unless there is a safety-related emergency. There shall be no involuntary discontinuance of service on Fridays, Saturdays or Sundays or on the day before a New Jersey State holiday or on a New Jersey State holiday, absent such emergency. N.J.A.C. 14:3-3A.1(c)

21. Should a customer be more than 20 days delinquent in paying the monthly bill for service, or violate one or more of the standard terms and conditions of service contained in this or subsequent tariffs of the Company, the Company may discontinue service by giving 10 days' written notice of disconnection to the customer and, for wastewater service, a copy of such notice to the local Board of Health.

22. Notices herein of discontinuance of service shall be sent by first class mail, apart from the bill and as a separate mailing. (N.J.A.C. 14:3-3A.3(b)2) Customers are advised that it is illegal to operate a dwelling without adequately functioning wastewater facilities, and that the Company is required to notify local health authorities of wastewater service termination.

23. Medical Emergency. Notwithstanding the following, at the end of the period of medical emergency the customer remains liable to the Company for the charges for services rendered during the period of non-discontinuance, subject to the provisions of N.J.A.C. 14:3-7.6. (N.J.A.C. 14:3-3A.2(i)). Residential service may not be discontinued for non-payment for a period of 90 days if a medical emergency exists within the premises and which would be aggravated by the shut off so long as the customer provides the Company with reasonable proof of his or her inability to pay and a licensed medical professional's written statement as to the existence of the emergency, its nature and probable duration, and how the termination of service will aggravate the medical emergency. This period of non-discontinuance may be extended as set forth in N.J.A.C. 14:3-3A.2(j). The Company reserves the right to contest the validity of any claimed medical emergency before the BPU.

24. Utilities shall annually notify all residential customers that, upon request, notice of discontinuance of service will be sent to a designated third party as well as to the customer of record. This provision shall not apply if Company makes a good faith effort to contact all residential customers by telephone prior to discontinuance and file with the Board a statement setting forth such procedure. N.J.A.C. 14:3-3A.4)

25. The Company shall make every reasonable attempt to determine when a landlord-tenant relationship is known to exist, and if the tenants are not the customers of record but are end-users, as these terms are defined at N.J.A.C. 14:3-1.1. Discontinuance of service is prohibited unless the utility has given a 15-day written notice to the owner of the premises or to the customer of record to whom the last preceding bill was rendered. The utility shall use its best efforts to determine the names and addresses of each tenant, in order to provide such notice, for example, through mailings to landlords requesting a list of tenants. The utility shall use its best efforts to provide copies of the discontinuance notice to all tenants. In addition, the utility shall provide the tenant(s) with a twenty (20) day written notice, which shall be hand delivered, mailed, or posted in a conspicuous area of the premises and in the common areas of multiple family premises. N.J.A.C. 14:3-3A.6.(a) If a utility uses posting as the method of notice, each utility shall use its best efforts to also place a copy of the notice on each tenant's car windshield or under the door of each tenant's dwelling. In the case of tenants of single and two-family dwellings, each tenant shall also be provided with a 15-day individual notice. Each utility shall offer the tenant(s) continued service to be billed to the tenant(s) unless the utility demonstrates that such billing is not feasible. Tenants seeking continuation of service under this provision shall supply the utility with a copy of a valid lease or rental agreement. The continuation of service to a tenant shall not be conditioned upon payment by the tenant of any outstanding bills due upon the account of any other person. The utility shall not be held to the requirements of this provision if the existence of a landlord-tenant relationship could not be reasonably ascertained. N.J.A.C. 14:3-3A.6.(b)

Moved up [4]: <#>For nonpayment of a deposit, in accordance with N.J.A.C. 14: 3-3A.9;¶

Moved up [5]: <#>For any of the following acts or omissions on the part of the customer: ¶
(i) Refusal of reasonable access to the customer's premises in accordance with N.J.A.C. 14:3-3.6;¶
(ii) tampering with any facility of the Company; ¶
(iii) fraudulent representation in relation to the use of service; ¶
(iv) customer moving from the premises, unless the customer requests that service be continued; ¶
(v) providing service to others without approval of the Company; ¶
(vi) refusal to contract for service where such contract is required; ¶
(vii) connecting and operating equipment in such manner as to produce disturbing effects on the service of the Company or other customers; ¶
(viii) failure of the customer to comply with reasonable Standard Terms and Conditions; ¶
(ix) where the condition of the customer's installation presents a hazard to life or property; or ¶
(x) failure of a customer to repair any faulty facility of the customer. ¶

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One Water Street, Camden, NJ 08102¶
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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water and Wastewater

Sixth Revised Sheet: No. 13
Superseding Fifth Revised Sheet: No. 13

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DISCONTINUANCE OF SERVICE (Continued)

26. The utility or its designated contractor shall have the right of reasonable access to customer's premises, and to all property furnished by the utility, at all reasonable times for the purpose of inspection of customer's premises incident to the rendering of service, reading meters, or inspecting, testing, repairing or conducting markouts, either itself or through its contractor designated to perform said markouts, in compliance with the Underground Facility Protection Act, N.J.S.A. 48:2-73 et seq., and N.J.A.C. 14:2, also known as the "One-Call rules," of its facilities used in connection with supplying the service, for the discontinuance of service for nonpayment after proper notice, or for the removal of its property. (N.J.A.C. 14:3-3.6(a)) Service can be discontinued for refusal of reasonable access to customer's premises for necessary purposes in connection with rendering of service, including meter and remote reading device installation, reading or testing, or the maintenance or removal of the utility's property. (N.J.A.C. 14:3-3A.1(a)5.i) Reconnection fees as shown on Rate Schedule P-2 and Rate Schedule 9-A will be charged upon restoration of service.

27. It is the responsibility of a customer who wishes to voluntarily discontinue his or her service to notify the Company and request a final reading. A customer wishing to discontinue service shall give notice to the utility. Within 48 hours of said notice, the utility shall discontinue service or obtain a meter reading for the purpose of calculating a final bill. Where such notice is not received by the utility, the customer shall be liable for service until the final reading of the meter is taken. Notice to discontinue service will not relieve a customer from any minimum or guaranteed payment under any contract or rate in accordance with the Standard Terms and Conditions on Sheet Nos. 23 and 24, nor will it mitigate any of the obligations on the Company's General Metered Rate Schedules. In accordance with N.J.A.C. 14:3-3A.1(b).

28. If a customer wishes to have his service physically disconnected, then notice as set forth within this tariff is required prior to such disconnection provided, however, that nothing herein shall operate to prevent the Company from discontinuing service at any time under conditions and for reasons set forth in this tariff; and provided further, that nothing herein shall be construed to prevent the making of contracts for extension of service or other special conditions.

29. When a customer is physically disconnected (water service) or the service lateral is plugged (wastewater service) for non-payment of a bill for, or violation of the standard terms and conditions of service, the customer will be required to pay, in addition to any outstanding or delinquent amount, the Company's actual cost of reconnection or $350.00, whichever is more, before service is restored. See Rate Schedules P-2 and 9-A. Wastewater service customers who remove plugs from their service laterals, and water customers who operate the curb stop to restore service after disconnection are tampering with Company property and may be charged with theft of service.

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1 Water Street, Camden, NJ 08102
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STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

RESTORATION OF SERVICE

30. Service shall be restored within 12 hours upon proper application when: 1. all of the conditions under which service was discontinued are corrected; and 2. payment of all charges due is received at the utility or at an authorized payment center and the utility has received notice of the payment. Any other provision notwithstanding, the utility shall restore service within 12 hours if there is a complaint involving such matters before the Board and Board staff so directs the utility. N.J.A.C. 14:3-3A.9. See Rate Schedules P-2 and 9-A for restoration of service charges. Restoration of water service performed outside of normal business hours as shown on Rate Schedule P-2 will be subject to the Emergency Reconnection service charge of $100 as shown on that Rate Schedule P-2.

THEFT OF SERVICE

31. Whenever the Company reconnects service to a customer under the following conditions, a charge will be rendered for providing this service as described in Rate Schedule P-2 or 9-A.

    a. Whenever the Company has determined that a customer's service has been reconnected without the permission of the Company after service has been terminated for non-payment of bills or violation of the Company's tariff, the Company will terminate the customer's service for a second time and give written notice to the customer that if service is reconnected again without the permission of the Company, it will be necessary for the Company to excavate and physically disconnect service. A reconnection charge will be applied as set forth in Rate Schedules P-2 or 9-A of the present tariff.

    b. Customers in default in the payment of a bill may be required to furnish a deposit or increase their existing deposit in an amount sufficient to secure the payment of future bills. Service shall not be discontinued for failure to make such deposit except after proper notice to the customer. If a customer who has made a deposit fails to pay a bill, the Company may apply such deposit insofar as is necessary to liquidate the bill and may require that the deposit be restored to its original amount. N.J.A.C. 14:3-3.4(f)

32. The Company has certain rights under the law to obtain the cessation of acts constituting theft of service that have been committed in violation of N.J.S.A. 2C:20-8, as well as complete restitution for any losses or damages it has suffered as a result of said acts. Customers who tamper with Company property to illegally restore service after being shut off for nonpayment or any other reason under N.J.A.C. 14:3-3A et seq. may be subject to fees pursuant to Rate Schedule P-2 and Rate Schedule 9-A and responsible for payment of any resulting damages.

LATE PAYMENT CHARGE

33. Should a nonresidential customer fail to make payment as specified under Terms of Payment in the Rate Schedules the Company may, on the twenty-sixth (26th) day, assess a late charge at the rate of 0.35%. Service to state, county or municipal government entities will not be subject to a late payment charge. The charge will be applied to all amounts billed and unpaid finance charges applied to previous bills. The amount of the late payment charge to be applied to the Customer's account shall be calculated by multiplying the previous unpaid bill amount by the late payment charge rate. When payment is received by the Company from a Customer who has an unpaid balance which includes charges for late payment, the Customer's payment shall be applied first to the oldest aged unpaid bill amount and its applicable late charge, and then to the next oldest aged bill amount and late charge. Notwithstanding the foregoing, shut off provisions in accordance with N.J.A.C. 14:3-3A will still apply to past due accounts.

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STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

METER

34. The utility must provide for one free water meter test during any twelve (12) month period if the customer so requests it. (N.J.A.C. 14:3-4.5) A meter of a customer who has a complaint filed with the Board reflecting on the accuracy of the meter shall not be removed from service by the utility during the pendency of said complaint or during the following thirty (30) days unless otherwise authorized or directed by the Board. (N.J.A.C. 14:3-4.8(c)) When a billing dispute is known to exist, the water utility shall, prior to removing the meter, advise the customer that they may have the meter tested by the utility or may have the Board witness a testing of the meter by the utility, and that in any event the customer may have the test witnessed by a third party. (N.J.A.C. 14:3-4.5(c)) A meter test arising from a billing dispute may be appropriate in instances which include, but not limited to, unexplained increased consumption, crossed meters, consumption while an account is vacant or any other instance where the meter's accuracy might be an issue in a bill dispute. (N.J.A.C. 14:3-4.5 (d)) The customer can apply to the Board for a Board inspector to test the customer's meter. (N.J.A.C. 14:3-4.5(e)) All costs such a test shall be borne by the Company. N.J.A.C. 14:3-4.5(e)
35. If more than one meter test is made within a twelve (12) month period at the request of the customer and the meter is found to be accurate, the Company shall charge the customer for this meter test at the rate set forth in Rate Schedule P-2 for each additional test. (N.J.A.C. 14:3-4.5). If the meter is found to register fast by more than one and one-half percent (1.5%) of the water passed through the meter at full capacity, the customer will not be charged for the test. N.J.A.C. 14:3-4.6
36. Whenever a water meter is found to be registering fast by more than one and one-half percent, an adjustment of charges shall be made in accordance with the regulations which can be found at N.J.A.C. 14:3-4.6.
37. If a meter is found to be registering less than 100 percent of the service provided, an adjustment of charges may be made in accordance with the regulations which can be found at N.J.A.C. 14:3-4.6. In cases where the meter registers zero usage for an entire billing period, and the customer has knowingly taken and received water service, the customer shall be deemed to have reasonable knowledge that the meter may be defective or malfunctioning.
38. A water utility must maintain records of customers' accounts for each billing period occurring within a six year period. Such records shall contain all information necessary to permit computation of the bill. N.J.A.C. 14:3-6.1(b)
39. When the meter is not located inside the customer's building but outside in a meter pit, the customer shall not make connections or alterations inside the meter pit. All such connections are to be made outside of the meter pit on the customer's side of the meter. The meter pit or vault shall be installed at a location acceptable to, and with the express approval of, the Company. The Company may install, at the Company's discretion, radio transmitters or other remote meter reading devices on its meters and appurtenances as needed to promote efficient and accurate meter reads. Failure to comply with this requirement will be considered tampering with facilities of the Company and the customer will be subject to charges for repairs to damaged equipment and/or discontinuance of service.
40. When the customer's usage is obtained through an electronic ("encoder") read, that usage shall be deemed actual. No adjustment shall be made for a meter that is found to be registering less than 100 percent except in the case of meter tampering, non-registering meters or in circumstances in which the customer should reasonably have known that the bill did not reflect the actual usage. N.J.A.C. 14:3-4.6(d)

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Deleted: the utility shall not adjust the charges retrospectively or require the customer to repay the amount undercharged, except if: 1) the meter was tampered with; 2) the meter failed to register at all; or 3) the circumstances are such that the customer should reasonably have known that the bill did not reflect the actual usage

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Deleted: Effective: November 1, 2020 ¶

Deleted: Issued: October 30, 2020¶
¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

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STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

METER (Continued)

41. A customer having two or more meters (excluding meters for Service to Privately Owned Fire Protection Systems under applicable Rate Schedules set forth in the tariff) on the same premises will be charged at the tariff rate for the quantity of water equivalent to the sum registered on all of the meters on the premises, subject to a facilities charge equal to the sum of the facilities charges for each meter. Private Fire Protection services will be charged separately, in agreement to the present tariff.

APPLICATIONS FOR SERVICE

42. Inquiry for a water or wastewater service connection may be made by mail, telephone (888.237.1333) or via the Company's website at www.amwater.com/njaw, and the Company will provide and submit to the applicant, if necessary, any and all forms required to be filled out and signed by the owner, or their agents, for the premises to be supplied, including the identity of the customer of record before any new connection shall be installed. The application will not be processed until all forms are completed in full and any required supporting documentation is provided. Customers must agree to the terms, conditions and rates for service as set forth in this and subsequent tariffs of the Company.

43. Such inquiry shall be made in a reasonable time before such service is required for new buildings and premises not previously supplied to allow for the installation of service lines and accessories by the Company, as hereinafter defined.

44. Separate inquiry shall be made for each premises and for each type of service requested to be furnished (*i.e.* consumptive, irrigation, construction, wastewater, etc.)

45. Water and wastewater connections shall be made by the Company subject to the prior existence of a main that is adequately sized in terms of capacity and pressure required for the specific water connection within a public right of way or company easement abutting the property or premises to be served except in the case where the location of the connection is proposed to be on the long side of a divided (raised or grass) state highway, in which case the customer will be required to enter into an extension agreement. The acceptance of such inquiries for service shall in no way obligate the Company to extend its distribution or collection mains to abut the property or premises except as hereinafter provided.

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46. The connection shall be in accordance with the applicable laws including but not limited to those of the BPU, DEP and all federal, state and local agencies.

47. In areas where the billing for wastewater service is based on the volume of water supplied to the premise by the Company, the Company will provide wastewater service only where the water used on the premises is measured by a water meter, subject to the limitations described within this paragraph, below. Where wastewater service is provided and water used on the premises is not supplied by the Company, then the water so used shall be measured by a meter furnished and installed by the Company at a location approved by the Company subject to the limitations described within this paragraph, below. Said wastewater charges shall be based on the volume of water supplied to the premises and measured by the water meter, unless the Company determines that, due to such issues as adverse ground conditions or due to other such unforeseen circumstances, or as required by other tariff provisions herein, it is impracticable or imprudent to install a water meter at the customer's premises in order to base wastewater service charges on the volume of water supplied to the premises as measured by said meter. In such situations, wastewater service billing will be based upon a flat rate, or a minimum usage as established by the applicable rate schedule within this tariff. In instances where a customer's water comes from a well, the Company will make a reasonable effort to install a meter on said well for purposes of determining wastewater service based on water consumption. However, if the utility determines that it is not feasible or practical to install a water meter on the well, the wastewater service billing shall be based upon a flat rate. In addition, should conditions in or around the well cause the meter to malfunction 2 times after installation, the Company has the right to remove the meter and to bill wastewater service on a flat rate, or a minimum usage as established by the applicable rate schedule within this tariff.

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

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STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

APPLICATIONS FOR SERVICE (CONTINUED)

48. The Company is not obligated to install more than one service and meter for each property or premises. Furthermore, in those instances where more than one service is requested the Company reserves the right to recapture all costs associated with the additional service(s).

49. Physical connections, such as cross-connections, interconnections, valves, pumps, or similar devices, either permanent or temporary, connecting the pipelines or facilities of the Company with other pipelines or facilities supplied with water from other sources will not be permitted without the express written consent of the Company. Water which has once been drawn from the Company's distribution network and used for any purpose or stored in tanks, is considered an unapproved source of supply.

50. The Company may require a cross-connection protective device on a customer's service, in accordance with N.J.A.C. 7:10-10, which will be purchased and installed at the expense of the customer. The cross-connection device shall be of the type approved by the Company. Inspection and testing at intervals, in accordance to N.J.A.C. 7:10-10, will be performed at the expense of the customer.

51. No device or connection is permitted between pipes carrying water from the mains of the Company and any portion of the plumbing system of the premises, which may under any condition permit back-flow or back-siphonage unless prior written permission has been granted by the Company.

52. Customers requesting a relocation of their service line will be required to pay a fee for the new service line and elimination of the existing service line.

53. Customers requesting a relocation of a Public Fire Hydrant will be required to pay a fee for its relocation.

54. Installation of electronic meter reading devices and other equipment designed to facilitate efficient and accurate meter reads, protect the integrity of the water system and/or quality of the water supplied by the Company may be required from any customer as a condition of service at the discretion of the Company.

55. Water sales to customers or entities using trucks or tanks that require additional attention can affect the Company's daily operations. A surcharge may be applied as listed in Rate Schedule P-1 of the present tariff.

56. A deposit may be required to guarantee payment for water service used for general construction and contracting purposes in an amount equal to the cost of the meter furnished. The deposit, less the cost of repairs to the meter, if any, will be refunded after surrender of the meter and payment of all charges for water supplied through it.

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
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STANDARD TERMS AND CONDITIONS
WATER

WATER SERVICE AND CONNECTING LINES

Company Side – Service Lines

1. The Company is responsible for the installation and maintenance of the service line.
2. Only employees of the Company or persons duly authorized to do so by the Company are permitted to operate or otherwise access the curb stop.
3. No service line shall be used to supply more than one customer unless authorized in advance by the Company in writing.
4. Where two or more customers are supplied through a single service line, the customers and/or premises owner must provide a suitable location(s) for a separate meter and separate shut-off valve that will be dedicated to each customer. The piping of the building must be so arranged that each customer can be supplied through an independent meter, shut off valve and piping system as may be required by the Company, at the Company's sole discretion. The meter pit or vault shall be installed at a location acceptable to, and with the express approval of, the Company. Failure to comply with this provision may result in termination of service to all accounts serviced by a single connecting line when service to one account must be discontinued for non-payment or failure to otherwise comply with the terms and conditions of service provided for herein. Notice provisions outlined on Sheet No. 12, paragraph 25, will apply.
5. No single building or single group of buildings in one common enclosure and under one ownership shall be supplied by more than one of the same type of service line (i.e., only one domestic line and one fire line).

Customer Side – Connecting Lines

6. Connecting lines are owned, installed, maintained and repaired by the premises owner at the premises owner's sole expense. The connecting line should be maintained in a condition conducive for the Company to perform the services required to serve its customers. If the connecting pipe is not so maintained, any failure of this pipe following the operation of the curb stop by the Company will be the responsibility of the premises owner. While performing its duties, if the Company notices that the connecting pipe or other premises owner-owned and maintained appurtenances appear to be in poor condition, the Company will attempt to notify the premises owner of such, including that the owner may desire to contact a licensed plumber for a professional evaluation and/or repair of the connecting pipe and appurtenances. Failure to repair a leaking connecting line is grounds for termination of water service. N.J.A.C. 14:3-3A.1(a)5.
7. Notwithstanding any other provision of this tariff, the Company may, at its own expense, and with the permission of the customer, replace a customer's connecting line that is i) made of lead pipe, ii) made of pipe lined with lead or iii) made of ferrous-based pipe material capable of retaining lead particles.
   a. After the Company replaces the customer's connecting line, as described above, the customer will continue to own and be responsible for the connecting line, including maintenance of such line, in accordance with this tariff. The Company will offer the customer a warranty of the workmanship of its installation of the new connecting line for a period of 12 months following the date the customer signs the replacement agreement with the Company, with the Company's liability limited to the cost of repairing or replacing the customer's connecting line during that time. Except for the Company's limited liability under the 12-month workmanship warranty, the Company will not own nor assume any liability or responsibility with respect to the customer connecting line. The customer will agree to release and hold the Company harmless the Company, its contractors and subcontractors from and against all claims, liability and costs resulting from acts and omissions of Company and/or its approved contractors and/or subcontractors in installing the Customer service line pursuant to the replacement agreement.

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NEW JERSEY-AMERICAN WATER COMPANY, INC. Ninth Revised Sheet: No. 19
B.P.U. No. 8 – Water Superseding Eighth Revised Sheet: No. 19

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STANDARD TERMS AND CONDITIONS
WATER

WATER SERVICE AND CONNECTING LINES

Customer Side – Connecting Lines (continued)

8. Connecting lines should be installed, without sharp bends, at right angles to the line of the street and shall be installed in the trench not less than 3-1/2 feet in depth to avoid damage and possible interruption to service caused by freezing. Other utility service lines shall not be installed in the same trench as the connecting line. No attachment shall be made to the connecting line between the curb stop and the meter except as otherwise authorized by the Company. Unauthorized attachments are grounds for termination of service. N.J.A.C. 14:3-3A.1(a)5.ii
9. Connecting lines should not be less than ¾ inch in inside diameter.
10. A customer must install a water pressure reducing valve where required by State of New Jersey plumbing code. If a water pressure reducing valve is required to be installed, the customer must install a pressure relief valve (collectively both are referred to as the "Valves"). In all cases, the costs of installation and maintenance of the Valves shall be borne by the customer. The customer shall own and be obligated to maintain the Valves. The Company will not be liable for damage due to meter failures if the customer is located in a high pressure zone and does not have a pressure reducing valve or has a pressure reducing valve downstream from a water meter that is installed inside the premises.
11. For meters less than or equal to 2 inches the pressure reducing valve will be located on the downstream side of the meter if the meter is located outside of the customer's premises and on the upstream side of the meter, if the meter is located inside of the customer's premises. For meters greater than 2 inches the pressure reducing valve will always be located on the upstream side of the meter.
12. The customer is required to make all changes in the connecting line due to changes in grade, relocation of mains, or other causes only if such changes are mandated by a municipality, county, state or other governmental body.

WATER MAIN EXTENSIONS

13. The Company will extend water service in accordance with all applicable laws of the State of New Jersey and Board of Public Utilities regulations and orders including N.J.A.C. 14:3-8.1 et seq. Mains will be extended to the mid-point of property frontage for residential properties, and along the entire frontage for commercial properties, regardless of where the service stub is installed.

    Information on how to apply for a water main extension can be found on the Company's website at https://www.amwater.com/njaw/About-Us/Providing-Solutions/Developers/.

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CUSTOMER'S PREMISES

14. The Company may refuse to provide a water connection, or furnish water through a connection pipe already installed, when a customer's piping system is not installed in accordance with the regulations of the Company and of the municipality in which the premises are located; or when the system on the premises is not at sufficient depth to prevent freezing.
15. Customers shall not permit access to the meter and other appliances of the Company except by authorized employees of the Company or properly authorized state or local inspectors.
16. In all cases the customers should not interfere with property of the Company, but should immediately notify the Company of any problem.
17. It is the sole responsibility of each customer to ensure that all piping and appurtenances within a customer's premises comply with state, municipal and other public health regulations in force with respect hereto including state and local plumbing codes. The piping and appurtenances shall be maintained in a condition conducive for the Company to perform the services required to serve the customer.

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
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Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 20
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 20

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STANDARD TERMS AND CONDITIONS
WATER

CUSTOMER'S PREMISES (CONTINUED)

18. In any premises where devices are used which might produce a back pressure, such as steam boilers, carbonation equipment for soft drinks, booster pumps, etc., a check valve shall be installed by the customer at the meter. In the event such check valve is installed, pressure relief valves should be provided by the customer in the system.

19. In any premises where an auxiliary water source is available, the pipes carrying water from the mains of the Company are required to be marked in some distinctive manner for ready identification.

PRIVATE FIRE PROTECTION SERVICE

20. Customers desiring a separate service connection for private fire service are required to make separate application for such service on forms prescribed by the Company. Private fire service installations are made in accordance with the provisions of this tariff regarding the installation of service and connecting pipes and other facilities.

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21. Service lines designated for private fire protection are installed for customers requiring a private fire service to supply sprinkler heads, hydrants or hose connections. Any connection in which sprinkler heads and/or hose connections are supplied through a domestic service connection are considered "multi-use", are not considered as part of a private fire protection service, and shall not be deemed as part of this section. The utility shall have the right to suspend or curtail or discontinue service for any of the following acts or omissions on the part of the customer: tampering with any facility of the utility; fraudulent representation in relation to the use of service; and connecting and operating in such manner as to produce disturbing effects on the service of the utility or other customers. (N.J.A.C. 14:3-3A.1(a)5)

22. The connection shall be in accordance with the applicable laws including but not limited to those of the BPU, DEP and all federal, state and local agencies.

23. Unless specified by the Company, dedicated private fire service lines and facilities, including hydrants, are to be used exclusively for fire protection purposes and should be equipped with special meters.

24. No water should be used through private fire protection facilities except for permitted testing purposes or in case of fire. The use of private fire protection facilities for other reasons will result in termination of service following notification pursuant to N.J.A.C. 14:3-3A.1(d).

25. Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for private fire protection.

26. A "multi-use" service is not a private fire service. Please refer to Schedule P-3 for the terms and conditions regarding multi-use service.

27. Private fire protection shall not be offered or charged for service to private fire hydrants connected after a master meter on a general metered or multi-use service. A master meter on general metered or multi-use service with a hydrant will be billed pursuant to the applicable general metered rate schedule and considered as such.

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28. The Company shall not be liable for any loss, injury, casualty or damage resulting from fire or water, or other agency, resulting from the supply or use of water service or the failure thereof, which may occur on account of the installation or presence of a private fire service connection, or from the presence or operation of the Company's structures, equipment, pipes, appliances or devices on the customer's premises, or connected therewith.

29. The Company may not discontinue water service unless it has provided written notice giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. However, in case of fraud, illegal use, or when it is clearly indicated that the customer is preparing to leave, immediate payment of accounts may be required, and service may be discontinued without further notice.

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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
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Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

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1 Water Street, Camden, NJ 08102
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Docket No. WR2401 dated .

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STANDARD TERMS AND CONDITIONS
WATER

PUBLIC FIRE PROTECTION SERVICE

30. Upon application or request by a duly authorized representative of a municipality in the Company's service area, the Company will install fire hydrants for purposes of public fire protection. The locations of such hydrants are selected by agreement between officials of the municipalities and representatives of the Company after careful consideration. Municipalities or the designated customer of record (*e.g.* local fire district) shall pay the Company a charge for service to public fire hydrants within that municipality as provided in the applicable rate schedule set forth in this tariff.

MULTI-USE SERVICE

31. Multi-use service is only available to franchise customers who submit a completed application to the Company. By applying for multi-use service, the customer agrees to be responsible for all claims, costs and liability for personal injury, death and/or property damage, resulting from the customer's individual water system, unless caused by the negligence of the water utility. A "multi-use" service is not a private fire service. Please refer to Schedule P-3 for the terms and conditions regarding multi-use service.

32. All multi-use service lines shall be metered and the meter shall be located in a meter pit or vault located outside of the Customer's structure. The meter pit or vault shall be installed at a location acceptable to the express approval of the Water Company.

33. If a customer requests a change in meter size associated with a multi-service meter, the customer must re-apply for service and re-certify each item addressed below and in Rate Schedule P-3.

34. By applying for multi-use service, and operating the same, the customer agrees:

    a. The customer has complied with all of the terms and conditions set forth on Rate Schedule P-3;

    b. To include a backflow prevention device(s) as defined at N.J.A.C. 7:10-1.3, and as specified at N.J.A.C. 7:10-10.3;

    c. To be solely responsible for all costs and expenses relating to the installation, operation, maintenance, repair and replacement of the customer's water system, including the fire suppression system and backflow prevention device(s);

    d. To ensure that the customer's water system complies with the applicable requirements of the Uniform Construction Code in effect at the time of system installation, including any applicable building, plumbing and fire protection sub-codes;

    e. To ensure that the customer's water system is maintained in accordance with all applicable law so as to protect against backflow, back-siphonage and contamination of the potable water system; and

    f. To be subject to disconnection under the standard terms and conditions as apply to fire protection service or multi-use service in accordance with the Board's rules governing discontinuance of such service at N.J.A.C. 14:3-3A.4(k) and N.J.A.C. 14:9-8.3.

EMERGENCY RESPONSES DUE TO EXTRAORDINARY DEMAND AND/OR DIMINISHED SUPPLY

34. Discontinuance of service for failure to comply with use restrictions. For compliance by the utility in good faith with any governmental order or directive, notwithstanding that such order or directive subsequently may be held to be invalid, the Company may, upon reasonable notice, suspend, curtail, or discontinue service pursuant to N.J.S.A. 48:2-23, N.J.S.A. 48:2-24, and N.J.A.C. 14:3-3A for any of the following acts or omissions on the part of the customer:

    a. Connecting or operating any piping or other facility, including but not limited to, lawn sprinkling on the customer's premises in such a manner as to adversely affect the safety or adequacy of service provided to other customers present or prospective; or

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One Water Street, Camden, NJ 08102¶
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STANDARD TERMS AND CONDITIONS
WATER

EMERGENCY RESPONSES DUE TO EXTRAORDINARY DEMAND AND/OR DIMINISHED SUPPLY

Discontinuance of service for failure to comply with use restrictions (continued)

b. Continuing waste of water by customers after notice from the utility through improper or imperfect pipes, fixtures, or failure to comply with restrictions; or

c. Failure to comply with the standard terms and conditions contained in this tariff or failure to comply with any state law, or the rules, regulations, orders or restrictions of any governmental authority having jurisdiction.

35. Water service shall be restored when the conditions under which such service was discontinued, as specified above, are corrected and upon the payment of the SPECIAL RESTORATION OF SERVICE CHARGE of $100.00 for each restoration.

36. The Company will endeavor to provide a regular and uninterrupted supply of water through its facilities. However, if because of emergencies beyond the control of the Company, including governmental mandate, service is interrupted, irregular, defective or fails, the Company will not be liable for damages or inconvenience resulting there from. In the event of an extraordinary demand and/or diminished supply, or when operational issues make such actions desirable, including, among other things, protecting the integrity of the system and permit conditions, the Company may restrict the use of water whenever the public welfare may require it and, if necessary, may shut off the water in its mains and pipes. In such cases the Company shall advise its customers by placing a prominent advertisement detailing the conditions and restrictions in a newspaper of general circulation in the utility service area. The notice will state the purpose and probable duration of the restriction or discontinuance. Failure to provide regular and uninterrupted service due to breakdowns is covered under other sections of this tariff.

37. The Company may restrict water service during certain periods, where the Company advises the Board of Public Utilities, in order to protect the public water supply, or otherwise to comply with any regulations, orders or decrees issued by the Governor of New Jersey or the Department of Environmental Protection, or any successor agency or department pursuant to the Water Supply Management Act, or other statutes or regulations of the state or federal government. Such interruptions or restrictions shall be reported to the Department of Environmental Protection, if necessary, and the Board by each utility by the speediest means of communications available, promptly followed by a detailed written report, pursuant to the provisions of N.J.A.C. 14:3-3.7 et seq. Thereafter the utility shall provide weekly reports for the duration of the emergency.

38. When the supply of water to individual customers is to be discontinued or curtailed for the customer's failure to comply with emergency water restrictions imposed because of extraordinary demand or diminished supply, the Company shall advise such customer(s) by placing a door tag on the front door of the home of the individual(s) in violation of the restrictions, at least twenty-four (24) hours prior to discontinuance or curtailment, or by giving another form of notice acceptable to the Board. The Company will advise business and commercial customers, in writing, by mailing a notice to the customers' billing address. In the case of door tags, they shall be sequentially numbered and include the date, time and nature of the violation and the procedure for restoration of service. All such notices shall be accounted for by the utility.

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One Water Street, Camden, NJ 08102¶
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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Seventh Revised Sheet: No. 23
Superseding Sixth Revised Sheet: No. 23

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STANDARD TERMS AND CONDITIONS
WASTEWATER

A. WASTEWATER MAIN EXTENSIONS

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Applicability

Applicable to all wastewater service customers served by the Company.

1. The Company will extend wastewater service in accordance with all applicable laws, regulations and orders of the State of New Jersey and Board of Public Utilities including N.J.A.C. 14:3-8, et seq.
2. Mains will be extended to the mid-point of property frontage for residential properties, and along the entire frontage for commercial properties, regardless of where the service stub is installed.
3. Documentation on how standard wastewater main extensions are handled can be found on the Company's website at https://www.amwater.com/njaw/About-Us/Providing-Solutions/Developers/
4. Please also refer to Sheet No. 13, paragraph 28 of the Standard Terms and Conditions.

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B. CALCULATION OF WINTER QUARTER CONSUMPTION

Applicability

Applicable to wastewater service customers served by the Company in the Statewide Wastewater Collection Areas of Lakewood, Tewksbury Township, Service Area 1D, the former Applied Wastewater Management Service Area ("Applied"), Plumsted Township, Elk Township, the Boroughs of Haddonfield and Mount Ephraim, the former Environmental Disposal Corp. Service Area ("EDC"), and the Borough of Manville, Rate Schedules 2-A, 6-A, 10-A, 11-A, 13-A, 21-A, and 23-A, respectively.

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Volumetric Wastewater Charge

The volume of wastewater discharged is assumed to equal water meter registration. The monthly Volumetric Wastewater Charge shall be determined based upon winter quarter consumption, but in no case less than 2,000 gallons per month. Winter quarter consumption shall be determined based on an initial water meter reading taken in December of one year with the concluding meter reading taken approximately 90 days thereafter in March of the following year.

The monthly Volumetric Wastewater Charge shall be determined as follows:

Meters read in January, February and March

The Volumetric Wastewater Charge for each respective month shall be determined by multiplying the applicable monthly usage times applicable volumetric charges.

Meters read in April through December

The Volumetric Wastewater Charge for each month April through December shall be based on the Monthly Usage Constant, equal to one-third of the winter quarter consumption, but in no case less than 2,000 gallons per month, multiplied by applicable volumetric charges.

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In the case of new customers, the volume of wastewater discharged shall be determined as follows:

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1. New Customers in an Existing Dwelling or Premises for Which Actual Full Period Winter Quarter Usage History is Available.

   Determination of the monthly use constant shall be based on the last known full period winter quarter usage at that property, but in no case less than 2,000 gallons per month. This monthly use constant will be used for billing purposes until the customer receives the January bill in the following year. The January and subsequent bills will be calculated in accordance with the method described in this Tariff for determining the monthly Volumetric Wastewater Charge.

Deleted: Sewer Usage
Deleted: Effective: November 1, 2020 ¶
Deleted: Issued: October 30, 2020¶
¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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STANDARD TERMS AND CONDITIONS
WASTEWATER

B. CALCULATION OF WINTER QUARTER CONSUMPTION (CONTINUED)

2. Existing or New Customers in an Existing or New Dwelling or Premises for Which No Full Period Winter Quarter History has Been Established.

a. For service established outside of the winter quarter:
Determination of the monthly use constant shall be based on 12,000 gallons per quarter (a monthly usage constant of 4,000 gallons) until the customer receives the January bill in the following year. The January and subsequent bills will be calculated in accordance with the method described in this Tariff for determining the monthly Volumetric Wastewater Charge.

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b. For service established during the winter quarter:
Determination of the monthly use constant will be based upon the actual usage during the winter quarter with a minimum of 12,000 gallons (a monthly usage constant of 4,000 gallons). This monthly use constant will be used for billing purposes until the customer receives the January bill in the following year. The January and subsequent bills will be calculated in accordance with the method described in this Tariff for determining the monthly Volumetric Wastewater Charge.

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C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – COLLECTION SYSTEMS

Applicability

Applicable to wastewater service customers served by the Company in Bound Brook, Bridgewater, Haddonfield, the Egg Harbor City Utility, Howell Township, Lakewood Township, Mount Ephraim, Ocean City, Elk Township, and the Boroughs of Somerville and Manville.

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1. Separate and independent wastewater service lines shall be installed for each customer. All building drains and building wastewater appurtenances shall be the responsibility of the customer and shall be installed and maintained by the customer.

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2. No customer shall discharge or cause to be discharged into the Company's system any storm water, surface water, ground water, roof runoff, sub-surface drainage, foundation or basement sump drainage, uncontaminated cooling water or unpolluted industrial process water.

3. No customer shall discharge or cause to be discharged into the Company's system the following described substances, materials, waters, or wastes without the prior written approval of the Company. Such wastes can harm either the wastewater system or treatment process and/or equipment, have an adverse effect upon the receiving stream for the treated wastewater, or can otherwise endanger life, limb or property or create a nuisance. In forming the opinions as to whether or not to permit the discharge, the Company will consider the effect upon receiving wastewater system, as well as the conditions placed upon the Company by its service agreements with the local treatment Utilities Authorities that treat the wastewater the Company collects.

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4. The customer shall be responsible for maintaining and repairing the “building drain” and “building sewer.”

5. The customer shall be responsible for installing and maintaining a backwater valve in buildings that have fixtures below grade level. In the event of a gray water backup, the Company shall not be liable for any damage or inconvenience resulting from the absence/malfunctioning of this appurtenance.

6. The Company reserves the right upon completion of its findings to:

a. Reject the wastes.
b. Require pretreatment to an acceptable condition for discharge.
c. Require flow equalization.

Deleted: Effective: October 3, 2023¶
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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
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NEW JERSEY-AMERICAN WATER COMPANY, INC. Fifth Revised Sheet: No. 25
B.P.U. No. 8 – Wastewater Superseding Fourth Revised Sheet: No. 25

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STANDARD TERMS AND CONDITIONS
WASTEWATER

C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – COLLECTION SYSTEMS (CONTINUED)

7. In the event pretreatment facilities or flow equalization is required, the design and construction of such facilities shall be subject to approval of the Company and operation of said facilities shall be subject to inspection by the Company. Monitoring and/or sampling equipment shall be installed and operated by the customer as deemed necessary by the Company to ascertain proper operation of the pretreatment facilities.

8. The wastes requiring written approval are:
   a. Any liquid or vapor having a temperature in excess of 150ºF.
   b. Any waters or wastewaters containing phenols.
   c. Any waters or wastes having a pH in excess of 9.5.
   d. Any water containing unusual concentrations of inert suspended solids, such as, but not limited to, diatomaceous earth, lime and lime slurries or of dissolved solids such as but not limited to sodium chloride or sodium sulfate.
   e. Any water or wastewater containing excessive discoloration.
   f. Wastewater having unusual "B.O.D." concentration, suspended solids concentration or high chlorine demand in such quantities as to constitute a significant load on the treatment plant.
   g. Unusual volume of flow or concentrations of wastes constituting "slugs" as hereinbefore defined.
   h. Water or wastes containing substances not amenable to biological treatment processes as defined by a wastewater treatment plant owner or operator.

9. No customers shall discharge or cause to be discharged any of the following described waters or wastes to the wastewater system:
   a. Any gasoline, benzene, naptha, paints, lacquers, fuel oil or other flammable or explosive liquid, solid or gas which by reason of its nature or quality may cause fire or explosion or which, in any way, may be injurious to personnel or the wastewater system.
   b. Any water or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity either singly or by interaction with other wastes to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the wastewater treatment plant.
   c. Any waters or wastes having a pH of lower than 5.5 or having any other corrosive property capable of causing damage or hazard to the wastewater system and/or personnel of the Company.
   d. Plating mill wastewater or other industrial process water containing spent pickle liquor, concentrated plating solutions, chromium, zinc and similar toxic heavy metals, cyanides and cleaning solvents.
   e. Any radioactive material.
   f. Any water or wastes containing fats, wax, grease, tar, oils or any other substances, whether emulsified or not which may solidify or become viscous at temperatures between 32º and 150ºF or which would impair, impede, affect, interfere with, or endanger personnel or the wastewater system.
   g. Any garbage not properly shredded.
   h. Any solids of such size or characteristic capable of causing obstruction to the flow in sewers, such as, but not limited to, ashes, cinders, sand, mud, straw, metal shavings, glass, rags, feathers, tar, plastic, wood, paunch manure, hair fleshings, offal, entrails, etc.

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
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Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Thirteenth Revised Sheet: No. 26
Superseding Twelfth Revised Sheet: No. 26

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STANDARD TERMS AND CONDITIONS
WASTEWATER

C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – COLLECTION SYSTEMS (CONTINUED)

10. Any customer discharging industrial wastes shall provide and maintain a control manhole suitable to facilitate observation, sampling and measurement of the wastes. The Company (and the local treatment Utilities Authorities that treat the wastewater the Company collects) shall have the right to inspect, sample, measure and analyze wastewater as they deem necessary.

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D. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – TREATMENT SYSTEMS

Applicability

Applicable to wastewater service to customers served by the Company in Service Area 1D, the former Applied Wastewater Management Service Area ("Applied"), Plumsted Township, Tewksbury Township, Long Hill Township, the former EDC Service Area and Salem City, except as specifically provided elsewhere in this tariff.

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1. The within rates are applicable to normal wastewater, as defined by the New Jersey Department of Environmental Protection, namely 250 ppm.5 – day B.O.D. The utility company reserves the right to require pretreatment of the wastewater prior to discharge into sewers in the event that the wastewater contains harmful substances such as gasoline, PCBs, oil, explosive liquids, phenols, acids, alkalines, lint, excessive detergents or any other substance as defined by NJDEP. Each customer shall be fully responsible for proper use of the wastewater system and shall therefore not discharge any chemicals or contaminants which are toxic and which may cause damage to the wastewater system's electrical, mechanical, biological, or physical process components or may harm either the groundwater, soil or atmosphere, as listed on Schedule A on Sheet No. 27, as it may be periodically updated. Any cost involved in repairs of damage to the Company's facilities, environmental damages and penalties or fines levied against the utility caused by the introduction by the customer of unacceptable or harmful substances shall be the responsibility of the customer.

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2. In accordance with the National Standard Plumbing Code adopted by the Uniform Construction Code of the State of New Jersey, no storm drainage system of a building shall be connected directly or indirectly to the sanitary drainage system. The company adopts the above provision and prohibits the drainage of storm water into its collecting system. Each customer shall be responsible to prevent any surface water or groundwater from entering into the wastewater system and therefore shall not connect or allow to be connected to the system any sump pumps, basement or crawl space drains, roof gutters, downspouts, or floor drains, and shall properly maintain all pipes and clean-outs to assure a watertight connection. Improperly discharging effluent from a non-approved drainage or collection system shall be considered the basis for immediate termination of service pursuant to N.J.A.C.14:3-3A.1 et seg. The Company will provide notice of the termination of service to the extent reasonably possible.
3. Garbage disposal units are not permitted unless specifically authorized by the Company.
4. Each customer shall prevent damage to all system components located on the property being served, including components located within easement area; maintain the grass growth and prevent the growth of trees, shrubs, and ornamentals within the easement areas; maintain and repair pipes connecting the home to the septic tank to prevent clogging and leaking; and to notify the Company of any damage which may occur to system components.
5. Because the wastewater system can only handle a limited quantity of water, each residential customer may discharge no more than the maximum average of 350 gallons per day, or 32,000 gallons per quarter, of wastewater. In order to verify compliance with this provision, each customer must allow a representative of the Company to inspect all plumbing components upon request and to obtain all water meter readings as may be required.
6. Customers may not trespass on Company property or enter any Company facility without a representative of the Company being present.

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
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By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
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Docket No. WR2401 dated .

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STANDARD TERMS AND CONDITIONS
WASTEWATER

C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – TREATMENT SYSTEMS (CONTINUED)

7. A customer may permanently terminate service by giving notice to the Company, which shall terminate service within five (5) business days of receipt of each notification. Temporary discontinuance of wastewater service is not permitted and each customer shall pay the applicable fixed service charge and minimum monthly charge (i.e., "RATES"), per month or per quarter, as applicable, unless and until such time as a replacement customer commences service at the premise. Customers are advised that it is illegal to operate a dwelling without adequate functioning wastewater facilities, and that the Company is required to notify local health authorities of wastewater service termination.

SCHEDULE A

I. MATERIALS NOT TO BE DISPOSED THROUGH THE WASTEWATER SYSTEM

Deleted: SEWER

Grease
Wipes (baby, cleaning, flushable, wet)
Gloves (latex, rubber)
Food scraps
Plastics
Gasoline or motor fuels
Paint and paint thinners
Used motor oils
Petroleum solvents
Pesticides (solids or liquids)
Herbicides (solids or liquids)
Engine coolants (antifreeze)
Acids
Water softener backwash
Photographic development solutions

II. MAXIMUM PERMITTED DISCHARGE CONCENTRATIONS

"Biochemical Oxygen Demand", – 250mg/L

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Chemical oxygen demand – 351 mg/L
Total organic carbon – 99 mg/L
Total solids – 1,608 mg/L
Volatile solids – 295 mg/L
Total suspended solids – 75 mg/L
Volatile suspended solids – 62 mg/L
Calcium – 59 mg/L
Magnesium – 33 mg/L
Sodium – 218 mg/L
Chlorine – 218 mg/L
Oil and grease – 22 mg/L
Total dissolved solids – 872 mg/L
Total Kjeldahl nitrogen – 60.7 mg – N/L
Ammonia nitrogen – 53.3 mg – NL
Phosphorus – 6.3 mg – P/L
Turbidity – 45 NTU
Ph – 5-9
Alkaline – 479 mg CaCo3/L
Hardness – 327 mg CaCo3/L
Volatile organics by GC/MS – Non-detectable
Pesticides – Non-detectable
Herbicides – Non-detectable

Deleted: Effective: November 1, 2020 ¶

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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Eleventh Revised Sheet: No. 28
Superseding Tenth Revised Sheet: No. 28

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AREA SERVED – WATER SERVICE

This tariff shall apply to the service area of the Company, which includes all or part of the following municipalities and all other places as may be permitted by law. This tariff shall also apply to other systems under contract wherever served. Hereafter, and unless otherwise specified herein,

- **Service Area 1** refers to the water service area of New Jersey-American Water Company as it existed prior to January 1, 2007;
- **Service Area 2** refers to the water service area of the former Elizabethtown Water Company;
- **Service Area 3** refers to the water service area of the former Mount Holly Water Company;
- **Service Area 1A** refers to the water service area of the former South Jersey Water Supply Company;
- **Service Area 1B** refers to the water service area of the former Pennsgrove Water Supply Company;
- **Service Area 1C** refers to the service area of the former Shorelands Water Company;
- **Service Area 1D** refers to the service area of the former Applied Wastewater Management, Inc. ("Applied"); and
- **Service Area 1E** refers to the service area including all customers formerly served by the Borough of Haddonfield or located within the geographic boundaries of Haddonfield;
- **Service Area 1F** refers to the service area of the former Roxbury Water Company; and
- **Service Area 1G** refers to the service area of the former Egg Harbor City Water & Sewer Utility ("Egg Harbor City Utility").
- **Service Area 1H** refers to the former service area of Salem City ("Salem");

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Unless otherwise indicated, all municipalities and customers referenced below having no numeric designation next to their names were served by New Jersey-American Water Company as it existed prior to January 1, 2007. All municipalities and customers with a (2) designation next to their names were served by the former Elizabethtown Water Company prior to January 1, 2007; with a (3) designation next to their names were previously served by the former Mount Holly Water Company prior to January 1, 2007; with a (1A) designation next to their names were previously served by the former South Jersey Water Supply Company prior to November 1, 2007; with a (1B) designation next to their names were previously served by the former Pennsgrove Water Supply Company prior to November 1, 2007; with a (1C) next to their names were previously served by the former Shorelands Water Company prior to April 3, 2017; with a (1D) designation next to their names were previously served by Applied Wastewater Management, Inc. prior to September 1, 2010; and with a (1F) designation were previously served by Roxbury Water Company prior to January 1, 2019; with a (1G) designation were previously serviced by the Egg Harbor City Water & Sewer Utility prior to June 1, 2023; and with a (1H) designation, were previously serviced by Salem City prior to [date of closing]. Where a municipality was served in part by two of the former water companies listed above, service provided by New Jersey-American Water Company as it existed prior to January 1, 2007 shall be identified by a (1) designation. All municipalities for which the Company provides water service only to a portion of the municipality are reflected by a double asterisk (**) designation.

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Atlantic County

Franchise Customers

Cities		Townships
Absecon	Northfield	Egg Harbor
Egg Harbor	Pleasantville	Galloway (1)(1G)
Linwood	Somers Point	

Burlington County

Franchise Customers

Boroughs	Townships		Resale Customers
Palmyra	Burlington **	Maple Shade**	Evesham Township MUA
Riverton	Cinnaminson	Mt. Laurel *	Township of Moorestown
	Delanco	Mt. Holly (3)	*Medford Township
Cities	Delran	Pemberton **	Mt. Laurel Township MUA
Beverly	Eastampton (3)	Riverside	Township of Maple Shade
	Edgewater Park	Southampton (3)	
	Hainesport (3)	Springfield (3) **	
	Lumberton (3)	Westampton (3)	
	Mansfield (3)		

(Continued)

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1 Water Street, Camden, NJ 08102
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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE21091147, WE21091148 & WE21091146 dated August 17, 2022.

AREA SERVED - WATER SERVICE
(Continued)

Camden County

Franchise Customers		Resale Customers
Boroughs	Cities	
Audubon	Camden (11th and 12th Wards) **	Township of Haddon
Barrington		Aqua New Jersey
Bellmawr **		Borough of Berlin
Clementon **		Merchantville-Pennsauken
Gibbsboro	Townships	Water Commission
Haddon Heights	Cherry Hill **	Winslow Township MUA
Haddonfield (1E)	Gloucester **	Pine Hill Borough MUA
Hi-Nella	Haddon **	Audubon Park
Laurel Springs	Pennsauken **	Ancora Psychiatric Hospital
Lawnside	Voorhees	
Lindenwold		
Magnolia		
Mt. Ephraim		
Oaklyn		
Runnemede		
Somerdale		
Stratford		

Cape May County

Franchise Customers	Resale Customers
Cities	
Ocean City	Middle Township Water District #2
Townships	
Middle **	
Upper	

Essex County

Franchise Customers		Resale Customers
Boroughs	Townships	
North Caldwell **	Cedar Grove **	Township of Livingston
	Irvington	City of Orange
	Livingston **	Township of South Orange Village
	Maplewood	Borough of Essex Fells
	Millburn	
	South Orange Village **	
	West Orange	

Gloucester County

Franchise Customers	Resale Customers
Townships	Deptford Township MUA
East Greenwich **	East Greenwich Township
Elk Township	Mantua Township MUA
Harrison (1A)	Township of West Deptford
Logan (1) & (1B)	City of Woodbury
Mantua**	Borough of Pitman
Woolwich**	Borough of Woodbury Heights
	Borough of Glassboro
	Borough of National Park
	Aqua New Jersey
	Borough of Clayton

(Continued)

By: Cheryl Norton, President
One Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in Docket No. WR19121516 dated October 28, 2020.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Tenth Revised Sheet: No. 30
Superseding Ninth Revised Sheet: No. 30

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AREA SERVED - WATER SERVICE
(Continued)

Hunterdon County

Franchise Customers

Boroughs	Townships
Frenchtown	Raritan (2)
	Readington (2)**
	Tewskbury (2) (1D)**

Mercer County

Franchise Customers

Boroughs	Townships
Princeton (2)	Hopewell (2) **
	Lawrence (2)**
	West Windsor (2)

Resale Customers
Borough of Hopewell (2)

Middlesex County

Franchise Customers

Boroughs	Townships
Dunellen (2)	Cranbury (2)
Jamesburg	Edison (2)**
Middlesex (2)**	Monroe **
South Plainfield (2) **	Piscataway (2) **
	Plainsboro (2) **
	South Brunswick (2) **

Resale Customers
Township of Edison
Township of South Brunswick (2)
Middlesex Water Co. (2)

Monmouth County

Franchise Customers

Boroughs	Cities
Allenhurst	Asbury Park
Bradley Beach	Long Branch
Deal	
Eatontown	Townships
Fair Haven	Aberdeen **
Highlands	Colts Neck **
Interlaken	Freehold **
Little Silver	Hazlet (1C)
Monmouth Beach	Holmdel **(1C)
Neptune City	Howell **
Oceanport	Middletown
Red Bank **	Neptune (incl. Ocean Grove)
Rumson	Ocean
Sea Bright	Shrewsbury **
Shrewsbury	
Tinton Falls	Villages
Union Beach	Loch Arbour
West Long Branch	

Resale Customers
Borough of Avon
Borough of Belmar
Lake Como Borough
Borough of Matawan
Borough of Red Bank
Borough of Keansburg
Farmingdale Borough
Aberdeen Township (1C)
Keyport Borough (1C)

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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Tenth Revised Sheet: No. 31
Superseding Ninth Revised Sheet: No. 31

AREA SERVED - WATER SERVICE
(Continued)

Morris County

Franchise Customers		Resale Customers
Boroughs	Townships	
Mendham	Chatham	Township of East Hanover
Florham Park **	Chester (2) (1D)**	
Chester	Harding **	
	Long Hill (formerly Passaic)	
	Mendham **	
	Mt. Olive (1) (1D)**	
	Roxbury (1F)	

Ocean County

Franchise Customers		Resale Customers
Boroughs	Townships	
Bay Head	Berkeley**	Borough of Point Pleasant
Lavallette **	Brick**	
Mantoloking	Toms River (formerly Dover)**	
	Lakewood	
	Plumsted (3)	

Passaic County

Franchise Customers	
Boroughs	Townships
West Paterson **	Little Falls

Salem County

Franchise Customers	
Boroughs	Townships
Pennsgrove (1B)	Carneys Point (1B)
	Mannington (1H)
	Oldmans (1B)
Cities	Quinton (1H) **
Salem (1H)	

Somerset County

Franchise Customers		Resale Customers
Boroughs	Townships	
Bernardsville	Bedminster (1) & (2)	Franklin Township (2)
Bound Brook (2)	Bernards	Rocky Hill Borough
Far Hills	Branchburg (2)	
Manville (2)	Bridgewater (2)	
Millstone (2)	Franklin (2) **	
North Plainfield (2)	Green Brook (2)	
Peapack and Gladstone (2)	Hillsborough (2)	
Raritan (2)	Montgomery (2)	
Rocky Hill	Warren (1) & (2)	
Somerville (2)		
South Bound Brook (2)		
Watchung (1) & (2)		

(Continued)

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1 Water Street, Camden, NJ 08102
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By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
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Docket No. WR19121516 dated October 28, 2020.

AREA SERVED - WATER SERVICE
(Continued)

Union County

Franchise Customers		Resale Customers
Boroughs	Townships	
Fanwood (2)	Berkeley Heights	City of Elizabeth (2)
Garwood (2)	Clark (2)	Winfield Mutual Housing Corporation (2)
Kenilworth (2)	Cranford (2)	City of Rahway
Mountainside (2)	Hillside (1) & (2)	
New Providence	Scotch Plains (2)	
Roselle (2)	Springfield	
Roselle Park (2)	Union (1) & (2)	
Cities	Towns	
Summit	Westfield (2)	
Linden (2)		
Plainfield (2)		

Warren County

Franchise Customers	
Boroughs	Townships
Washington	Franklin
	Mansfield
Towns	Oxford **
Belvidere	Washington
	White

By: Cheryl Norton, President
One Water Street, Camden, NJ 08102
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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Seventh Revised Sheet: No. 33
Superseding Sixth Revised Sheet: No. 33

WATER SERVICE RATE SCHEDULES
TABLE OF CONTENTS

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By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
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Borough of Manville

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Area 3 – Mansfield Columbus section and Southampton – General…

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Area 3 – Mansfield Twp. (Homestead) –

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General Metered – Area 1E – Borough of Haddonfield A-15 34.5¶

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Deleted: Public Fire – Area 1F – General M-11 39.10¶

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Deleted: Effective: June 1, 2023 ¶

Deleted: Issued: June 12, 2023¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE21091147, WE21091148 & WE21091146 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 34.1
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 34.1

RATE SCHEDULE A-1
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered residential, commercial, industrial, and municipal service throughout Service Area 1, Service Area 1A, Service Area 1B, Service Area 1C, Service Area 1D, Service Area 1E, Service Area 2, and Service Area 3, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119.20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767.40	4,117.23

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710
Exempt	All	$0.84384	$8.4384

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in Docket No. WR2401 dated .

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Deleted: Service Area 3 Mansfield Township (Homestead), the Columbus section of the Townships of Mansfield and Southampton, Burlington County in Service Area 3, and the Borough of Manville, Somerset County (formerly served by the Borough of Manville Water Utility) located in Service Area 2, and Service Area 1D, formerly served by Applied Wastewater Management, Inc. ("Applied"), noted on Sheet Nos. 28 – 32,
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Deleted: fifteen (15)
Deleted: 727
Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
... [1]

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 34.2
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 34.2

RATE SCHEDULE A-2
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered sales for resale service throughout the entire territory served except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119.20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767.40	4,117.23

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710
Exempt	All	$0.84384	$8.4384

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: 992.50
Deleted: 857.25
Deleted: 1,588.00
Deleted: 1,371.60
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Deleted: 2,481.00
Deleted: 2,142.91
Deleted: 3,970.00
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Deleted: $7.7752
Deleted: $0.67156
Deleted: $6.7156
Deleted: (or quarterly at the option of the Company),
Deleted: fifteen (15)
Deleted: 727
Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

Reserved for future use.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 34.4
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 34.4

Reserved for Future Use

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: First

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IRRIGATION SERVICE – WATER¶
¶
APPLICABILITY¶
Applicable to use of water supplied through meters located in Service Area 1D, formerly served by Applied Wastewater Management, Inc. ("Applied"), noted on Sheet Nos. 28 – 32 for the sole purpose of irrigation. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service. The charge for the general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by the "Standard Terms and Conditions."¶
¶
¶
FIXED SERVICE CHARGE¶
¶
¶ ... [2]

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TERMS OF PAYMENT¶
Valid bills for service furnished under this schedule will be rendered monthly in arrears (or quarterly at the option of the Company), and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.¶
¶
¶
SPECIAL PROVISION¶
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863727 per 1,000 gallons. This water tax is not applicable for sales for resale service.

Deleted: Effective: February 13, 2023¶

Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Third Revised Sheet: No. 34.5
Superseding Second Revised Sheet: No. 34.5

Reserved for Future Use

Issued:

Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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GENERAL METERED SERVICE WATER¶
¶
APPLICABILITY¶
Applicable for general metered residential, commercial, industrial, municipal and sales for resale service to customers served by the Company in Service Area 1E, Haddonfield, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by the "Standard Terms and Conditions."¶
¶
FIXED SERVICE CHARGE¶
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.¶
... [3]

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Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears (or quarterly at the option of the Company), and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.¶
¶
SPECIAL PROVISION¶
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863727 per 1,000 gallons. This water tax is not applicable for sales for resale service.

Deleted: Effective: February 13, 2023¶

Deleted: Issued: November 30, 2022¶
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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 34.6
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 34.6

RATE SCHEDULE A-16
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered service throughout Service Area 1F, Roxbury, served by the Company, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119.20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16"	4,767.40

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Non-Exempt	All	$0.49150	$4.9150

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

First Revised Sheet: No. 34.7
Superseding Original Sheet: No. 34.7

RATE SCHEDULE A-17
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered residential, commercial, industrial, and municipal service throughout Service Area 1G, Egg Harbor City Utility, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119.20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16"	4,767.40

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

Issued: _____ Effective: June 2, 2025

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated _____.

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NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

First Revised Sheet: No. 34.8
Superseding Original Sheet: No. 34.8

RATE SCHEDULE A-18
IRRIGATION SERVICE

APPLICABILITY
Applicable to use of water supplied through meters to residential, commercial, industrial, and municipal customer located in Service Area 1G, the Egg Harbor City Utility, for the sole purpose of irrigation. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service. The charge for the general metered irrigation service shall consist of the total of the Fixed Service Charge and the Water Charge.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE

Size of Meter	Non-Exempt Per Month
5/8"	$5.00
3/4"	7.50
1"	12.50
1 1/2"	25.00
2"	40.10
3"	75.20
4"	125.20
6"	250.40
8"	400.60
10"	500.80
12"	625.90
16"	1,001.60

WATER CHARGE

	Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated

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Deleted: Effective: June 1, 2023 ¶
Deleted: Issued: June 12, 2023¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE21091147, WE21091148 & WE21091146 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 34.9

RATE SCHEDULE A-19
GENERAL METERED AND FLAT SERVICE

APPLICABILITY
Applicable for general metered residential and light commercial service throughout Service Area 1H, Salem, except as specifically provided elsewhere in this tariff. Those who receive metered water service will receive volume-based water service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any customer utilizing a well or other private water system at the property owner's expense. The charge for general metered service shall consist of the total of the Fixed Service Charge and the Water Charge.

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Usage Allowance	Non-Exempt Per Month
5/8"	2,500	$30.87
3/4"	5,000	61.41
1"	9,000	110.15
1 ¼"	20,000	244.99
1 ½"	20,000	244.99
2"	35,000	429.22

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter above the usage allowance included in the Fixed Service Charge.

Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Up to 1,000,000	$0.84600	$8.4600
Over 1,000,000	$1.01300	$10.1300

FLAT RATE WATER CHARGE
All unmetered water service customers in a Single Family unit as defined by the Salem City municipal code shall pay a Flat Rate Water Charge per unit as indicated below.

	RATE PER MONTH PER UNIT
Non-Exempt	$35.42

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 34.10

RATE SCHEDULE A-20
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered institutional, heavy commercial, industrial and municipal service throughout Service Area 1H, Salem, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge and the Water Charge

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Usage Allowance	Non-Exempt Per Month
5/8"	2,500	$30.98
3/4"	5,000	62.85
1"	9,000	110.30
1 ¼"	20,000	245.25
1 ½"	20,000	245.25
2"	35,000	429.26
3"	50,000	614.10
4"	100,000	1,226.25
6"	150,000	1,837.25
8"	300,000	3,571.63

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter above the usage allowance included in the Fixed Service Charge.

Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Up to 167,000	$0.84600	$8.4600
Over 167,000	$1.01300	$10.1300

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

RIDER A
ECONOMIC DEVELOPMENT PROGRAM

ELIGIBILITY:

- Minimum Annual Average Monthly Volume: 35,000 gallons per monthly billing cycle for new customers or a net increase of 35,000 gallons for existing customers meeting the additional provisions below.
- Employment of a minimum of ten (10) new full-time equivalent employees or a 50% increase in the number of new full-time jobs created, whichever is less, who will be employed in the new or expanded space.
- Customer Classes: General Metered Service Commercial and General Metered Service Industrial
  - Customer class exception: Residential uses in Commercial class (Apartments and condominiums) while considered commercial customers, are not eligible for this program.
- New customers who lease, purchase or construct new space for manufacturing, retail, research, office or warehousing.
- Existing customers who lease, purchase or construct new space for manufacturing, retail, research, office or warehousing and/or expand its existing operations.
- Any existing space that is reconverted for use for the purpose of qualifying under this program must have been vacant for a minimum of one (1) year.
- Application to New Jersey American Water shall be made on the Company's form, which must be completed and submitted by the customer and approved by New Jersey American Water, at the Company's discretion, before the customer may participate in the program.
- An annual certification is required. The certification shall be made on the form prescribed by New Jersey American Water by an officer of the customer stating that eligibility requirements have been met. Failure to submit the annual certification shall be grounds for termination of the customer's participation in the program.

BENEFITS:

- Credit on water consumption charge for up to four (4) years. Applicable fixed charges, PWAC charges, and any other applicable charges will continue to be applied at the standard rate, as set forth within this tariff.
- Amount of Credit on Water Consumption Charges:

Year	Amount of Credit
1st Year	50%
2nd Year	40%
3rd Year	25%
4th Year	10%

- Additional credit of five per cent (5%) on water consumption charges will be added to the above credits for all of the Company's customers who qualify for the Economic Development Program and who are also located in a "priority location" (Urban Enterprise Zone) as defined by the New Jersey Economic Development Authority.

NOTE:
The decision to accept the initial application, or continued participation, of a customer into the program resides with New Jersey American Water, at the Company's discretion. Also, the ability to include customers into the program is subject to available capacity as established through the New Jersey Department of Environmental Protection permitting process.

Failure of the customer to maintain the minimum monthly usage during 2 or more months in a rolling 12-month period shall be grounds to remove the customer from the Economic Development Program.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Third Revised Sheet: No. 36.1
Superseding Second Revised Sheet: No. 36.1

RATE SCHEDULE C
SALES FOR RESALE – COMMODITY-DEMAND SERVICE

APPLICABILITY
Applicable to Sales for Resale customers served by the Company who have executed a Commodity-Demand Regional Water Sales Agreement ("Agreement") with an initial term of 10 years and a minimum Nominated Demand, as defined in the Agreement, of 50,000 gallons per day. The charge for service shall consist of the total of the Fixed Service Charge, the Commodity Charge, the Demand Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the terms of the agreement.

FIXED SERVICE CHARGE
All such customers shall pay a monthly fixed service charge based on the size of each meter installed by the Company, in addition to the charge for the commodity of water used and the charge for the demand nominated or experienced, whichever is greater. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119.20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767.40	4,117.23

COMMODITY CHARGE
A charge will be rendered for all water used pursuant to the provisions of the Applicability section of this Rate Schedule C as follows:

	Rate Per 100 Gallons		Rate Per 1,000 Gallons	
Gallons Per Month	Non-Exempt	Exempt	Non-Exempt	Exempt
All	$0.07540	$0.06510	$0.7540	$0.6510

DEMAND CHARGE
A monthly charge will be rendered for all water available to the customer in accordance with the customer's Nominated Demand, as provided for in the Agreement.

Nominated Demand Charge Per Month			
Rate Per 100 Gallons of Nominated Demand		Rate Per 1,000 Gallons of Nominated Demand	
Non-Exempt	Exempt	Non-Exempt	Exempt
$8.94690	$7.72670	$89.4690	$77.2670

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Non-Exempt ... [5]
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Deleted: 863727
Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶ ... [4]

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 36.2
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 36.2

RATE SCHEDULE D
SALES FOR RESALE – OFF-PEAK SERVICE

APPLICABILITY
Applicable to Sales for Resale customers served by the Company who have executed an Off-Peak Water Sales Agreement ("Agreement") with an initial term of 10 years and a minimum Off-Peak Demand, as defined in the Agreement, of 50,000 gallons per day. The charge for service shall consist of the total of the Fixed Service Charge, the Commodity Charge, the Demand Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the terms of the agreement.

FIXED SERVICE CHARGE
All such customers shall pay a monthly fixed service charge based on the size of each meter installed by the Company, in addition to the charge for the commodity of water used and the charge for the demand selected or experienced, whichever is greater. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established for a new customer or discontinued for a customer leaving the system permanently, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service. The fixed service charge shall not be prorated for any service provided during the months of May through September of each year.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119.20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767.40	4,117.23

COMMODITY CHARGE
A charge will be rendered for all water used pursuant to the provisions of the Applicability section of this Rate Schedule D as follows:

Gallons Per Month	Rate Per 100 Gallons Non-Exempt	Rate Per 100 Gallons Exempt	Rate Per 1,000 Gallons Non-Exempt	Rate Per 1,000 Gallons Exempt
All	$0.07540	$0.06510	$0.7540	$0.6510

DEMAND CHARGE
A monthly charge will be rendered for all water available to the customer in accordance with the customer's Off-Peak Demand, as provided for in the Agreement. The Demand Rate is 91.96% of the Commodity-Demand Service Demand Rate set forth on Rate Schedule C.

Off-Peak Demand Charge Per Month			
Rate Per 100 Gallons of Off-Peak Demand		Rate Per 1,000 Gallons of Off-Peak Demand	
Non-Exempt	Exempt	Non-Exempt	Exempt
$8.2343	$7.1113	$82.3430	$71.1130

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: 863727
Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 36.3
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 36.3

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPLICABILITY
Applicable to Sales for Resale customers served by the Company in Service Area 1 who have executed Manasquan Reservoir Water Supply System Water Purchase Contracts and either: (1) whose purchases of water and rates of flow are in accordance with the provisions of Appendix A of this Rate Schedule; or, (2) who have executed a Water Resale and Treatment Agreement, in which case the terms of such Agreement, regarding purchase limitations, shall supersede the applicable Appendix A schedule herein.

CHARACTER OF SERVICE
Continuous, except as limited by the terms of the agreement.

FIXED SERVICE CHARGE
All such customers shall pay a Fixed Service Charge based on the size of each meter installed by the Company, in addition to the charge for the quantity of water used, if any, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119.20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16"	4,767.40

WATER CHARGE
A charge will be made for all water used pursuant to the provisions of the Applicability section of this Rate Schedule E as follows:

	Rate Per 100 Gallons Non-Exempt	Rate Per 1,000 Gallons Non-Exempt
Uninterruptible	$0.25080	$2.5080
Interruptible	$0.97710	$9.7710

(Continued)

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated

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Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
... [6]

NEW JERSEY-AMERICAN WATER COMPANY, INC. Second Revised Sheet: No. 36.3.1
B.P.U. No. 8 – Water Superseding First Revised Sheet: No. 36.3.1

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN
(Continued)

DEFINITIONS:

UNINTERRUPTIBLE SERVICE
Uninterruptible service is water service to be provided to customers in quantities specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement. The Annual Purchase Requirement is the minimum total volume of water per year which will be purchased take-or-pay by the customer from the Company. The Company agrees to provide to the customer the quantity specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement unconditionally, except to the extent that: (1) the limitations of Appendix A herein or Schedule A of the Water Resale and Treatment Agreement apply to restrict the quantity of water which the customer may take on a maximum monthly, maximum daily and peak hourly basis; and, (2) in those cases where the contracts have been executed, the provisions of Section 5 of the Agreement, regarding force majeure events, may apply under certain circumstances. The rate may be found on Rate Schedule E of the present tariff.

INTERRUPTIBLE SERVICE
Interruptible service means a supply of water, to the extent that the Company in its reasonable judgment determines that it has excess water available above the Annual Purchase Period Limitations specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement, which may be provided to the customer: (1) to meet extraordinary consumer demand requirements; (2) for occasional, temporary, or emergent needs; or (3) in such other circumstances as shall be agreed upon by the Company and the customer. The rate may be found on Rate Schedule E of the present tariff. In addition to the charge for the quantity of water used, if any, above the Annual Purchase Period Limitations specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1 will apply.

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

(Continued)

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863727621 per 1,000 gallons.

Deleted: Effective: September 1, 2022¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPENDIX A

Annual Purchase Period: July 1, 1990 through June 30, 1991 and each subsequent 12-month period thereafter.

Uninterruptible Service shall not exceed the limits established for each month, day and hour in each Annual Purchase Period as set forth in the following tables:

Borough of Avon-By-The-Sea
Annual Purchase Requirement: 46.0 Million Gallons Per Year (MGY)

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase Million Gallons (MG)	Maximum Daily Purchase Million Gallons (MG)	Peak Hourly Purchase Gallons Per Minute (GPM)
January	7	0.30	250
February	7	0.30	250
March	7	0.30	250
April	7	0.30	250
May	3	0.11	90
June	2	0.11	90
July	1	0.05	90
August	2	0.11	90
September	4	0.16	90
October	7	0.30	250
November	7	0.30	250
December	7	0.30	250

Borough of Belmar
Annual Purchase Requirement: 105.0 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase (MG)	Maximum Daily Purchase (MG)	Peak Hourly Purchase (GPM)
January	17	1.00	1000
February	17	1.00	1000
March	17	1.00	1000
April	17	1.00	1000
May	0	0.00	0
June	0	0.00	0
July	0	0.00	0
August	0	0.00	0
September	0	0.00	0
October	17	1.00	1000
November	17	1.00	1000
December	17	1.00	1000

(Continued)

By: Cheryl Norton, President
One Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in Docket No. WR19121516 dated October 28, 2020.

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPENDIX A
(Continued)

Borough of Matawan
Annual Purchase Requirement: 121.18 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase (MG)	Maximum Daily Purchase (MG)	Peak Hourly Purchase (GPM)
January	24	1.20	900
February	21	1.05	900
March	23	1.15	900
April	21	1.05	900
May	0	0.00	0
June	0	0.00	0
July	0	0.00	0
August	0	0.00	0
September	0	0.00	0
October	23	1.15	900
November	23	1.15	900
December	23	1.15	900

Borough of Red Bank
Annual Purchase Requirement: 200.0 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase (MG)	Maximum Daily Purchase (MG)	Peak Hourly Purchase (GPM)
January	51	2.55	2100
February	51	2.55	2100
March	51	2.55	2100
April	34	1.46	1200
May	6	0.30	300
June	6	0.30	300
July	6	0.30	300
August	6	0.30	300
September	6	0.30	300
October	34	1.46	1200
November	62	2.66	2150
December	62	2.66	2150

With mutual consent, the parties may agree to reduce delivery at one point while increasing delivery at the other point.

(Continued)

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 36.3.4

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPENDIX A
(Continued)

Lake Como Borough
Annual Purchase Requirement: 36.5 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Sales for resale Manasquan Maximum Monthly Purchase (MG)	Manasquan Maximum Daily Purchase (MG)	Manasquan Peak Hourly Purchase (GPM)
January	4.0	0.37	300
February	4.0	0.37	300
March	4.0	0.37	300
April	4.0	0.37	300
May	3.65	0.12	400
June	2.45	0.12	500
July	1.23	0.06	450
August	2.45	0.12	400
September	4.8	0.18	350
October	5.0	0.37	350
November	4.0	0.37	300
December	4.0	0.37	300

Issued: October 30, 2020

Effective: November 1, 2020

By: Cheryl Norton, President
One Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR19121516 dated October 28, 2020.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 36.4
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 36.4

RATE SCHEDULE F
OPTIONAL INDUSTRIAL WHOLESALE

APPLICABILITY

Applicable only to customers that are served by the Company and that (a) use 9,350,000 or more gallons of water per month, each and every month (b) have loading factors (the ratio of maximum demand (peak load) to the average demand (load) during a given period) not in excess of 1.2 times their monthly consumption on an average daily basis. The charge for service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All such customers shall pay a Fixed Service Charge based on the size of the meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or discontinued, all applicable fixed charged shall be prorated to the date of establishment or discontinuance of service as follows:

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119.20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767.40	4,117.23

WATER CHARGE

Rate Per 100 Gallons		Rate Per 1,000 Gallons	
Non-Exempt	Exempt	Non-Exempt*	Exempt*
$0.51200	$0.44220	$5.1200	$4.4220

MINIMUM CONSUMPTION CHARGE
A minimum consumption charge is applicable. The minimum consumption charge is equal to 9,350,000 gallons of water per month multiplied by the appropriate Water Charge herein and the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1.

TERMS OF PAYMENT
Valid bills for sale of water under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

(Continued)

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Second Revised Sheet: No. 36.4.1
B.P.U. No. 8 – Water Superseding First Revised Sheet: No. 36.4.1

RATE SCHEDULE F
OPTIONAL INDUSTRIAL WHOLESALE
(Continued)

TERMS
Bills are rendered monthly in arrears.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

If monthly consumption on an average daily basis exceeds a load factor of 1.2 times the last (rolling) twelve months average monthly consumption on an average daily basis for three consecutive months, between April 1 and September 30, a customer will be removed from this Rate Schedule and will be billed under the General Metered Service Rate Schedule A-1. A customer eliminated from this Rate Schedule will continue to be billed under General Metered Service for a minimum of twelve months and will again be eligible for this schedule if, after twelve months, its monthly consumption on an average daily basis has not exceeded, for three consecutive months, 1.2 times the last twelve-month average monthly consumption.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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¶
If a customer's actual amount used is less than the CADA, the customer will be billed at the CADA level. This minimum billing procedure will remain in effect for a period of twelve months from the date the new commitment becomes effective.

Deleted: 863727

Deleted: Effective: September 1, 2022¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 36.5
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 36.5

RATE SCHEDULE G
SALES FOR RESALE – SERVICE TO OTHER SYSTEMS

APPLICABILITY
Applicable to Sales for Resale customers receiving service from the Company as of December 8, 2008. Applicable to customers served by the Company throughout Service Area 2 that have a contract demand of 500,000 or more gallons per day pursuant to a contract entered into with the Company at the Company's sole option. The charge for metered Service to Other Systems Under Contract shall consist of the total of Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by written agreement.

WATER CHARGE

Consumption	Rate Per 1,000 Gallons	
	Non-Exempt	Exempt
All water usage	$3.9380	$3.4010

	Rate Per 100 Gallons	
	Non-Exempt	Exempt
All water usage	$0.39380	$0.34010

TERMS OF PAYMENT
Valid bills for sale of water under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

TERMS
Subject to written agreement.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No.36.6
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No.36.6

RATE SCHEDULE H
SALES FOR RESALE – PEAKING SERVICE

APPLICABILITY
Applicable to Sales for Resale customers for sales occurring during the Company's peak service period May 1 through September 30 who: (1) do not have a written agreement with the Company for the provision of water service; or (2) whose written agreement with the Company does not contain an annual purchase commitment. This Rate Schedule does not apply to customers taking service under Rate Schedule D (Off-Peak) during non-drought conditions unless otherwise provided for in that customer's agreement. During drought emergencies declared by the Governor, this Rate Schedule will be applied to all surplus water transfers ordered by the Commissioner of the Department of Environmental Protection to mitigate drought. The charge for this service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Interruptible.

FIXED SERVICE CHARGE
All such customers shall pay a fixed service charge, during any month when water is consumed pursuant to this Rate Schedule H, based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119.20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767.40	4,117.23

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.14450	$11.4450
Exempt	All	$0.98841	$9.8841

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 36.7
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 36.7

RATE SCHEDULE I
EMERGENCY OR BACKUP BULK RATE SALES

APPLICABILITY
Applicable to emergency/backup bulk sales to municipalities or other water purveyors in Service Area 1C, Shorelands, and only by yearly contract between the municipality or other water purveyor and the Company.

CHARACTER OF SERVICE
Continuous, except as limited by "Standard Terms and Conditions".

FIXED SERVICE CHARGE
All such customers shall pay a fixed service charge, during any month when water is consumed pursuant to this Rate Schedule I, based on the size of each meter installed by the Company, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K. The Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, will apply to all water used in excess of any Annual Purchase Requirement. Customers with multiple meters shall be charged for each meter at the indicated rate.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119.20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16"	4,767,40

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.67810	$6.7810

Exempt customers, as defined in N.J.S.A. 54:30A-50(c), are those public utility corporations which are subject to the payment of a tax based on gross receipts.

Non-Exempt customers are all other customers not entitled to the statutory exemptions provided pursuant to N.J.S.A. 54:30A-50(c). Uninterruptible customers are as defined in the Water Resale and Treatment Agreement.

TERMS OF PAYMENT
Valid bills for sale of water under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Effective: February 13, 2023¶
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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities e ... [7]

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 36.8
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 36.8

RATE SCHEDULE J
SALES FOR RESALE – MANASQUAN

APPLICABILITY
Applicable to bulk sales to municipalities or other water purveyors taking water from the New Jersey Water Supply Authority ("NJWSA") delivered through Service Area 1C, Shorelands, pursuant to Water Resale and Treatment contractual requirements where they pay the NJWSA directly for the raw water.

FIXED SERVICE CHARGE
All sales for resale service customers shall pay a fixed service charge based on the size of each meter installed, in addition to the charge for the quantity of water used, if any, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K. The Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, will apply to all water used in excess of any Annual Purchase Requirement. Customers with multiple meters shall be charged for each meter at the indicated rate.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119.20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16"	4,767,40

WATER CHARGES
A charge will be made for all water used pursuant to the take or pay contractual agreement as follows:

	Non-Exempt Rate Per 1,000 Gallons	Non-Exempt Rate Per 1,000 Gallons
Uninterruptible	$0.35790	$3.5790

Exempt customers, as defined in N.J.S.A. 54:30A-50(c), are those public utility corporations which are subject to the payment of a tax based on gross receipts.

Non-Exempt customers are all other customers not entitled to the statutory exemptions provided pursuant to N.J.S.A. 54:30A-50(c). Uninterruptible customers are as defined in the Water Resale and Treatment Agreement.

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Non-Exempt ... [8]
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Rate Per 1,000 Gallons
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Deleted: Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863727621 per 1,000 gallons.
Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Sixteenth Revised Sheet: No. 37
B.P.U. No. 8 – Water Superseding Fifteenth Revised Sheet: No. 37

RATE SCHEDULE K
DISTRIBUTION SYSTEM IMPROVEMENT CHARGE

Applicable to all general metered service and sales for resale customers throughout the entire territory served.

CHARACTER
Continuous, except as limited by the "Standard Terms and Conditions".

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)
In addition to all other charges for general metered service (GMS) and sales for resale customers throughout the entire territory served, the following charges will be assessed on a fixed, per meter basis for each monthly bill, commencing _____.

RATE
This charge is in addition to Rate Schedules A-1 through A-18 as noted on those rate schedules, and C, D, E, F, H, I and J.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$0.00	$0.00
3/4"	0.00	0.00
1"	0.00	0.00
1 1/2"	0.00	0.00
2"	0.00	0.00
3"	0.00	0.00
4"	0.00	0.00
6"	0.00	0.00
8"	0.00	0.00
10"	0.00	0.00
12"	0.00	0.00
16"	0.00	0.00

FILING
The DSIC is authorized pursuant to N.J.A.C. 14:9-10.1 et seq. and the procedures for filing, reviewing, approving and implementing the DSIC are set forth therein. The DSIC is based on the Company's Foundational Filing, which was reviewed and approved by the Board of Public Utilities on August 17, 2022. The approval process included public notice and four public hearings. The notice included proposed surcharge amounts, which were estimated based on projected construction schedules, costs and other factors. Pursuant to the approved Foundational Filing, the Company shall endeavor to make semi-annual DSIC filings at approximately six-month intervals. The DSIC is subject to a maximum amount and other limitations in N.J.A.C. 14:9-10.1 et seq.

TERMS OF PAYMENT
See Rate Schedules for applicable customer classes.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22030230 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 38.1
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 38.1

RATE SCHEDULE L-1
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection throughout Service Area 1, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1 – Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16" connection	1,930.24

Hydrant Charge

	Per Month
For each Hydrant	$66.00

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS

No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. The use of private fire protection facilities for other reasons will result in termination of service following notification pursuant to N.J.A.C. 14:3-3A.1(d), and water charges will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-1.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 38.2
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 38.2

RATE SCHEDULE L-2
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection where multiple customers are served from one private fire service connection in Service Area 1 in the Townships of Logan and Woolwich, Gloucester County in the area formerly served by Logan Wells Water Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES
The charge for private fire protection shall consist of the total of the sprinkler head charge based on the number of sprinkler heads, the hydrant charge based on the number of hydrants, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

	Per Month
For each Sprinkler Head	$1.53
For each Hydrant	$61.50

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered in monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-2.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 38.3
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 38.3

RATE SCHEDULE L-3
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection throughout Service Area 2, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$55.18
For each 3" connection	108.40
For each 4" connection	174.79
For each 6" connection	324.23
For each 8" connection	553.64
For each 10" connection	722.97
For each 12" connection	1,041.04
For each 16" connection	2,045.52
For each 20" connection	3,727.87

2- Hydrant Charge

	Per Month
For each Hydrant	$65.50

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM

Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS

Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS

No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-3.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

Reserved for future use.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 38.5
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 38.5

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RATE SCHEDULE L-7
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection throughout Service Area 3 and Service Area 1A, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16" connection	1,930.24

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2- Hydrant Charge

	Per Month
For each Hydrant	$52.50

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TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

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TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-7.

Deleted: Effective: February 13, 2023¶
Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 38.6
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 38.6

RATE SCHEDULE L-9
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection throughout Service Area 1B, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16" connection	1,930.24

2- Hydrant Charge

	Per Month
For each Hydrant	$45.30

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-9.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 38.7
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 38.7

RATE SCHEDULE L-10
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1C, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Sprinkler services with hose or hydrant connected to them:

Size of Connection	Per Month
For each 3" connection	$190.00
For each 4" connection	316.26
For each 6" connection	632.52
For each 8" connection	1,012.52
For each10" connection	1,569.18

Sprinkler services without hose or hydrant connected to them:

Size of Connection	Per Month
For each connection of 2" or less	$63.74
For each 3" connection	133.61
For each 4" connection	223.09
For each 6" connection	446.18
For each 8" connection	713.40
For each 10" connection	1,114.22

Hydrant Charge

	Per Month
For each Hydrant	$66.00

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

(continued)

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Issued: November 30, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

RATE SCHEDULE L-10
PRIVATE FIRE PROTECTION SERVICE
(Continued)

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-10.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Third Revised Sheet: No. 38.8
Superseding Second Revised Sheet: No. 38.8

RATE SCHEDULE L-11
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to customers throughout Service Area 1D, formerly served by Applied Wastewater Management, Inc. ("Applied"), for private fire protection service. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by "Standard Terms and Conditions".

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16" connection	1,930.24

2- Hydrant Charge

	Per Month
For each Hydrant	$40.30

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

CONDITIONS
Subject to "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-11.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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CONDITIONS¶
Subject to "Standard Terms and Conditions".
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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 38.9
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 38.9

RATE SCHEDULE L-12
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1F, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the monthly system charge and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

For each system:	Per Month
	$40.30

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-16.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-12.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Effective: February 13, 2023¶
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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

First Revised Sheet: No. 38.10
Superseding Original Sheet: No. 38.10

RATE SCHEDULE L-13
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1G, the Egg Harbor City Utility, except as specifically provided elsewhere in this tariff.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$68.70
For each 3" connection	68.70
For each 4" connection	68.70
For each 6" connection	146.56
For each 8" connection	274.80
For each 12" connection	641.20

2- Hydrant Charge

	Per Month
For each Hydrant	$15.00

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-17.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-13.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE21091147, WE21091148 & WE21091146 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 38.11

RATE SCHEDULE L-14
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1H, Salem, except as specifically provided elsewhere in this tariff.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$53.01
For each 4" connection	249.06
For each 6" connection	438.86
For each 8" connection	619.14
For each 12" connection	805.36

2- Sprinkler Charge

	Per Month
For each Sprinkler	$0.36

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-19.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-14.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Second Revised Sheet: No. 39.1
B.P.U. No. 8 – Water Superseding First Revised Sheet: No. 39.1

RATE SCHEDULE M-1
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company throughout Service Areas 1, 1C, 1E, and 2, except as specifically provided elsewhere in this tariff.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$66.00

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

Deleted: First
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Deleted: 58.90
Deleted: (or quarterly at the option of the Company),
Deleted: fifteen (15)
Deleted: Effective: September 1, 2022¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 39.2
Superseding First Revised Sheet: No. 39.2

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RATE SCHEDULE M-2
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company in Service Area 1 in the Townships of Logan and Woolwich, Gloucester County in the area formerly served by Logan Wells Water Company as well as in Ortley Beach and the Pelican Island System in Toms River Township, Ocean County, and in the Townships of Howell and Freehold, Monmouth County, in the area formerly served by Adelphia Water Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$61.50

Deleted: 54.00

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Deleted: (or quarterly at the option of the Company),
Deleted: fifteen (15)

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Deleted: Effective: September 1, 2022¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 39.3
Superseding First Revised Sheet: No. 39.3

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Reserved for future use.

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PUBLIC FIRE PROTECTION SERVICE¶
¶
APPLICABILITY¶
Applicable to municipalities for public fire protection service provided by the Company in Service Area 1 in the Townships of Howell and Freehold, Monmouth County in the area formerly served by Adelphia Water Company. ¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by the "Standard Terms and Conditions."¶
¶
RATES¶
¶
Hydrant Charge¶
Per Month ¶
For each Hydrant $54.00 ¶
¶
TERMS OF PAYMENT¶
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears (or quarterly at the option of the Company), and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.¶
¶
TERM¶
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.¶
¶
CONDITIONS¶
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Deleted: Effective: September 1, 2022¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Second Revised Sheet: No. 39.4
B.P.U. No. 8 – Water Superseding First Revised Sheet: No. 39.4

RATE SCHEDULE M-5
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company in the Townships of Bedminster and Franklin in Service Area 2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$60.50

TERMS AND PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

TERM
Continuous until water service within municipality is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

(Continued)

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in Docket No. WR2401 dated .

Deleted: First
Deleted: Original
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Deleted: The amount of the bill will reflect the hydrant charge as defined hereafter for each tariff zone located in Service Area 2 as defined in Rate Schedule M-5. ¶
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¶
(Continued)
Deleted: Effective: September 1, 2022¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 39.5
Superseding First Revised Sheet: No. 39.5

RATE SCHEDULE M-6
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to all municipalities for public fire protection service provided by the Company in Service Area 3.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge The amount of the bill will reflect the hydrant charge as defined hereafter for each tariff zone located in Service Area 3 as defined in Rate Schedule M-6.

Tariff Zone	For each Hydrant Per Month
3A	$42.50
3B	47.80
3C	52.30
3D	56.80
3G	63.50

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

TERM
Continuous until water service within municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.
The table hereafter defines the different tariff zones for Service Area 3:

Tariff Zone	Municipality
3A	• Mansfield (Columbus) Township • Springfield Township
3B	• Plumsted Township
3C	• Mansfield -Homestead • Southampton Township
3D	• Mount Holly Township
3G	• Eastampton Township • Hainesport Township • Lumberton Township • Medford Township • Westampton Township

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

Deleted: First

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PUBLIC FIRE PROTECTION SERVICE¶
(Continued)¶
¶
The table hereafter defines the different tariff zones for Service Area 2:¶
¶
Tariff Zone ... [10]

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Deleted: (or quarterly at the option of the Company),

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Deleted: Effective: September 1, 2022¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Second Revised Sheet: No. 39.6
B.P.U. No. 8 – Water Superseding First Revised Sheet: No. 39.6

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RATE SCHEDULE M-7
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company throughout Service Area 1A, except as specifically provided elsewhere in this tariff. Applicable for flat rate fire protection service in the locations where the Company has facilities suitable and adequate for the desired service upon request from the proper authorities.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$52.50

Deleted: 44.96

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Deleted: (or quarterly at the option of the Company),
Deleted: fifteen (15)

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Deleted: Effective: September 1, 2022¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 39.7
Superseding First Revised Sheet: No. 39.7

RATE SCHEDULE M-8
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company throughout Service Areas 1B and 1H, Salem, except as specifically provided elsewhere in this tariff. Applicable for flat rate fire protection service in the locations where the Company has facilities suitable and adequate for the desired service upon request from the proper authorities.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$45.30

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: fifteen (15)
Deleted: Effective: September 1, 2022¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 39.8
Superseding First Original Sheet: No. 39.8

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Reserved for future use.

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PUBLIC FIRE PROTECTION SERVICE¶
¶
APPLICABILITY¶
Applicable to municipalities for public fire protection service provided by the Company throughout Service Area 1C, except as specifically provided elsewhere in this tariff. Applicable for flat rate fire protection service in the locations where the Company has facilities suitable and adequate for the desired service upon request from the proper authorities.¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by the "Standard Terms and Conditions."¶
¶
RATES¶
¶
Hydrant Charge¶
Per Month ¶
For each Hydrant $70.50 ¶
¶
¶
TERMS OF PAYMENT¶
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears (or quarterly at the option of the Company), and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.¶
¶
TERM¶
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.¶
¶
CONDITIONS¶
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Deleted: Effective: September 1, 2022¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 39.9
Superseding First Revised Sheet: No. 39.9

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RATE SCHEDULE M-10
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to the municipality for all fire hydrants on public streets within Service Area 1D, formerly served by Applied Wastewater Management, Inc. ("Applied"), and Service Area 1F, Roxbury.

CHARACTER OF SERVICE
Continuous, except as limited by "Standard Terms and Conditions".

RATES

Hydrant Charge

	Per Month
For each Hydrant	$40.30

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TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Deleted: (or quarterly at the option of the Company),

Deleted: fifteen (15)

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to "Standard Terms and Conditions".

Deleted: Effective: September 1, 2022¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 39.10
Superseding First Revised Sheet: No. 39.10

Deleted: First
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Reserved for future use.

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PUBLIC FIRE PROTECTION SERVICE¶
¶
¶
APPLICABILITY¶
Applicable to the municipality for all fire hydrants on public streets within Service Area 1F, Roxbury.¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by "Standard Terms and Conditions".¶
¶
RATES¶
¶
Hydrant Charge¶
Per Month ¶
For each Hydrant $32.80 ¶
¶
TERMS OF PAYMENT¶
Valid bills for service furnished under this schedule will be rendered monthly in arrears (or quarterly at the option of the Company), and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.¶
¶
TERM¶
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service. ¶
¶
CONDITIONS¶
Subject to "Standard Terms and Conditions".

Deleted: Effective: September 1, 2022¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued:

Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

First Revised Sheet: No. 39.11
Superseding Original Sheet: No. 39.11

RATE SCHEDULE M-12
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to the municipality for all fire hydrants on public streets within Service Area 1G, the Egg Harbor City Utility.

CHARACTER OF SERVICE
Continuous, except as limited by "Standard Terms and Conditions".

RATES

Hydrant Charge

	Per Month
For each Hydrant	$15.00

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

CONDITIONS
Subject to "Standard Terms and Conditions".

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Deleted: Effective: June 1, 2023 ¶

Deleted: Issued: June 12, 2023¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE21091147, WE21091148 & WE21091146 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Seventh Revised Sheet: No. 40
B.P.U. No. 8 – Water Superseding Sixth Revised Sheet: No. 40

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RATE SCHEDULE O-1
PURCHASED WATER ADJUSTMENT CLAUSE (PWAC)

APPLICABILITY
Applicable to all Metered Water Customer classes served by the Company in all service areas for water service, except for Manasquan Uninterruptible Service, and those customers subject to Rate Schedules I and J, who will only be subject to the PWAC for any water used in excess of their Annual Purchase Requirement.

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The PWAC charge, as defined under the Standard Terms and Conditions of this tariff, is designed to recover the cost of purchased water associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased water costs.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

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PURCHASED WATER ADJUSTMENT CLAUSE (PWAC) CHARGE
In addition to all other charges for metered service, the following charges per one hundred gallons or per one thousand gallons for all sales will be made to recover purchased water costs not included in the Water Charge or any other Charge:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.05477	$0.5477
Exempt	All	$0.04731	$0.4731

The PWAC Charge is also applicable to any difference between the quantity of water actually purchased by the customer and any applicable take-or-pay commitment.

FILING
The Company shall endeavor to make an annual PWAC filing no later than December 1st of each year proposing a PWAC rate to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PWAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PWAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PWAC charge for purchased water;
2. Projected rates supported by projected volumes, revenues, and projected purchased water costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PWAC rate.

The benchmark bill shall be the average residential water customer bill for a twelve-month period.

(Continued)

Deleted: Effective: May 1, 2023 ¶
Deleted: Issued: April 28, 2023¶
¶
By: Mark K. McDonough, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22110693 dated April 26, 2023.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

RATE SCHEDULE O-1
PURCHASED WATER ADJUSTMENT CLAUSE (PWAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PWAC rates at the beginning of each PWAC Year succeeding any PWAC year in which any monthly purchased water costs over recovery has taken place. Any debit or credit balance in the separate deferred net revenue or separate cost of purchased water accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of purchased water balances. Interest on such water costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7.1, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7.1, et seq.

TERMS OF PAYMENT

See Rate Schedules for applicable customer classes.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Second Revised Sheet: No. 40.2
Superseding First Revised Sheet: No. 40.2

RATE SCHEDULE O-2
LEAD SERVICE LINE REPLACEMENT CHARGE

APPLICABILITY

Applicable to all water customer classes served by the Company in all service areas for water service taking service under Rate Schedules A-1 through A-16 (GMS) and C, D, E, F, G, H, I, J, and L-1 through L12 (non-GMS). The Lead Service Line Replacement Charge is designed to recover project costs associated with replacing customer-owned lead service lines.

CHARACTER
Continuous, except as limited by the "Standard Terms and Conditions".

LEAD SERVICE LINE REPLACEMENT CHARGE (LSLRC)
In addition to all other charges for GMS and non-GMS customers throughout the entire territory served, the following charges will be assessed as follows commencing January 1, 2024:

- For each surcharge period, revenue responsibility shall be assigned to GMS customers on a volumetric basis in the same proportion as total revenue requirements were assigned to GMS in the Company's most recently concluded base rate case. Then the balance of the revenue responsibility shall be assigned to non-GMS as a fixed per customer surcharge based on the aggregate customer count of non-GMS customers.

- The non-GMS customer count and GMS volumetric usage will be updated with each surcharge filing. The non-GMS customer count will be updated to reflect the count at the end of the month prior to each surcharge filing. The GMS usage will be updated to reflect the actual usage from the six-month period during which the costs were incurred.

- GMS and non-GMS LSLRC revenue requirement allocation percentages will be updated following each base rate proceeding during the LSLRC recovery period.

RATE
This charge is in addition to Rate Schedules A-1 through A-16 (GMS) and C, D, E, F, G, H, I, J, and L-1 through L12 (non-GMS). The surcharge amounts for GMS and Non-GMS customers are as follows:

GMS Rate Per 1,000 Gallons	Non-GMS Fixed Charge Per Month
$ 0.6630	$21.24

The recovery of these costs will be shown as a LSLRC surcharge on each customer's bill.

FILING
The LSLRC is authorized pursuant to N.J.S. A. 58:12A-40, et seq. (Lead Service Line Replacement Law) and the procedures for filing, approving and implementing the LSLRC are set forth therein, along with the Company's Lead Service Line Replacement Plan, which was reviewed and approved by the Board of Public Utilities in BPU Docket No. WR22010017 on October 12, 2022, and the BPU Order approving said Plan.

The approval process for implementing this surcharge includes public notice and hearing. The notice included a proposed surcharge amount based on the actual project costs associated with the replacement of customer-owned lead service lines incurred by the Company between July 1, 2020 and October 31, 2022, as well as estimated surcharge amounts for the first five years of the lead service line replacement program, which were estimated based on estimated construction schedules, costs and other factors described in the approved Lead Service Line Replacement Plan. Pursuant to the approved Lead Service Line Replacement Plan, the Company shall endeavor to make semi-annual LSLRC filings at approximately six-month intervals. In addition, to ensure that customers are surcharged the proper amount, the Company will reconcile any over- or under-collections on an annual basis as part of its surcharge filings.

TERMS OF PAYMENT
See Rate Schedules for applicable customer classes.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: November 17, 2023

Effective: January 1, 2024

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR22010017 dated October 12, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 40.3

RATE SCHEDULE O-3
UNIVERSAL AFFORDABILITY

AVAILABILITY

Available to all residential water customers served by the Company in all service areas who meet the income criteria of 200% or less than the Federal Poverty Level ("FPL"). NJ Shares determines and maintains the qualification requirements for the Company's discount programs. Customers who qualify for the program are required to recertify income eligibility every two years.

APPLICABILITY

The discount will be applied to the Fixed Service Charge and Water Charge (volumetric) portion of the bill for water service. The discount will not be applied to the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, or the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

DISCOUNT

	Household Income	**Fixed Service Charge Discount**	**Water Charge Discount**
Tier 1	0% - 50% of FPL	80%	80%
Tier 2	51% - 100% of FPL	60%	60%
Tier 3	101% - 150% of FPL	40%	40%
Tier 4	151% - 200% of FPL	20%	20%

Issued:

Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water Original Sheet: No. 40.4

RATE SCHEDULE O-4
REVENUE DECOUPLING MECHANISM

APPLICABILITY
Applicable to all water customer classes served by the Company in all service areas for water service taking service under Rate Schedules A-1 through A-16.

CHARACTER
Continuous, except as limited by the "Standard Terms and Conditions".

REVENUE DECOUPLING MECHANISM ("RDM")
For purposes of the RDM only, the terms below are defined to mean:

Effective Period shall mean the period for which the adjustments are to be billed to customers and shall be the nine-month period April 1 through December 31 after the Filing Month.

Filing Month shall mean the month in which an adjustment is determined by the Company and submitted to the Board, which shall be on or before January 31 each year.

Fiscal Year shall mean the 12-month period that ended as of the most recent December 31.

GMS Residential Customers shall mean all general metered service residential customers.

GMS Non-Residential Customers shall mean all general metered service commercial, industrial, municipal, and Sales for Resale customers.

Previous Amortization Period shall mean the nine-month reconciliation amortization period that ended as of the most recent Fiscal Year.

Upcoming Amortization Period shall mean the nine-month reconciliation amortization period commencing on April 1 following the Fiscal Year.

RATE
This charge is in addition to Rate Schedules A-1 through A-16. The calculation of the adjustments for GMS Residential and GMS Non-Residential customers are detailed below.

The GMS Residential Adjustment is calculated as follows:

$$\frac{RESREV - (VC*RESUSE) - (RC*RESCUST)}{RESFC}$$

Where:

RESREV represents the actual dollar amount of revenues billed to residential customers for the identified service classifications, excluding revenues arising from adjustments under this tariff and any other tariff, which were billed for the applicable month.

RESUSE represents the number of 100-gallon units delivered to residential customers by the Company, including the number of 100-gallon units for the applicable month.

RESCUST represents the average number of residential customers for the applicable month

VC represents the Volumetric Charge ($0.9771 per hundred gallons proposed)

RC represents the Residential Fixed Charge (based on meter size per month at proposed)

RESFC represents the number of 100-gallon units expected to be delivered to residential customers by the Company, including the number of 100-gallon units for the applicable Effective Period.

(continued)

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 40.4.1

RATE SCHEDULE O-4
REVENUE DECOUPLING MECHANISM
(Continued)

The GMS Non-Residential Adjustment is calculated as follows:

$$\frac{NONREV - (VC*NONUSE) - (NC*NONCUST)}{NONFC}$$

Where:

NONREV represents the actual dollar amount of revenues billed to GMS Non-Residential customers for the identified service classifications, excluding revenues arising from adjustments under this tariff and any other tariff, which were billed for the applicable month.

NONUSE represents the number of 100-gallon units delivered to GMS Non-Residential customers by the Company, including the number of 100-gallon units for the applicable month.

NONCUST represents the average number of GMS Non-Residential customers for the applicable month

VC represents the Volumetric Charge ($0.9771 per hundred gallons proposed)

NC represents the Non-Residential Fixed Charge (based on meter size per month at proposed)

NONFC represents the number of 100-gallon units expected to be delivered to GMS Non-Residential customers by the Company, including the number of 100-gallon units for the applicable Effective Period.

FILING

The Company shall submit to the Board on or before January 30 of each year, the RDM calculation and support for any annual adjustments to be effective under this tariff. The Board will have 60 days to review. The reconciliation amount will be surcharged from April 1 through December 31 of each calendar year. Any credit will be issued as soon as administratively possible.

TERMS OF PAYMENT
See Rate Schedules for applicable customer classes.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued:

Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Fourth Revised Sheet: No. 41
B.P.U. No. 8 – Water Superseding Third Revised Sheet: No. 41

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RATE SCHEDULE P-1
MISCELLANEOUS SERVICE

APPLICABILITY
Applicable throughout the entire area served by the Company for Miscellaneous Municipal Service, General Building Construction and Trucked Bulk Water Sales.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES
(a) Miscellaneous Municipal Service: Each customer shall pay for all water used for street sprinkling, street or sewer flushing, swimming pools or other miscellaneous uses at the General Metered Service Rates of this tariff as applicable. Water consumption will determined by metering or by such other method as may be mutually agreed upon by the customer and the Company. Fire hydrants are not to be used for this service without the express consent of the Company in each circumstance where this service is required. No person, other than municipal fire and Company personnel is permitted to operate or take water from any public fire hydrant for street sprinkling, flushing sewers, storm water drains, or any purpose unless authorized by the Company and the fire chief of the municipality in writing and upon the terms and conditions set forth by the fire chief and the Company therein.

(b) Water For Building Construction: Where water service is temporarily furnished for building construction and/or any other temporary use, it shall, wherever practical, be supplied through a meter at the General Metered Service Rates of this tariff as applicable. Should a new service be required to provide this temporary use, the customer shall pay the cost to install and remove the service. No person, other than municipal fire and Company personnel, is permitted to operate or take water from any public fire hydrant for building construction or any purpose unless authorized by the Company and the fire chief of the municipality in writing and upon the terms and conditions set forth by the fire chief and the Company therein.

(c) Bulk Water Sales for water transfers using Trucks and Tanks: Water sales to customers or entities using trucks or tanks to receive water service from the Company that require additional attention may affect the Company's daily operations. A surcharge in the amount of $50 may be applied for each such request in addition to the water charge as set forth in the applicable General Metered Service Rates of this tariff. If at any time the Company determines that a customer or entity has taken water without permission or proper compensation to the Company under this provision, the Company reserves the right to refuse to sell water to the customer or entity hereunder. Bulk Water Sales for water transfers using trucks and tanks in Service Area 1H, Salem, will be charged $19.95 per 1,000 gallons.

TERMS OF PAYMENT
All charges rendered under this Rate Schedule are in arrears for metered service and in advance for un-metered service. At the option of the Company, a deposit may be required for metered service billed in arrears, in accordance with N.J.A.C. 14:3-3.4, et seq. The Company may not require a deposit for un-metered service billed in advance in accordance with N.J.A.C. 14:3-3.4(i). Bills are due twenty (20) days from the date of the postmark on the envelope in which the bill is transmitted or electronic transmission date for customers on electronic billing.

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TERM
Continuous until water service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISIONS
Where metered service is provided through a hydrant meter, a deposit equal to the cost of the hydrant meter may be required by the Company. The meter shall be kept safe and accessible during its use. The deposit, less the cost of repairs to the meter, if any, will be returned to the applicant by the Company after surrender of the meter and payment of all charges for water supplied through it.

Deleted: Effective: September 1, 2022¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

RATE SCHEDULE P-2
MISCELLANEOUS SERVICE –
CHARGES NOT INVOLVING THE USE OF WATER

APPLICABILITY
Applicable to all classes of customers unless specified for the following classes of miscellaneous services throughout the entire area served by the Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RECONNECTIONS AND RECONNECTION CHARGE

1. Resumption of service rates due to: discontinuance of service as a result of non-payment of bills; violation of the Company's tariff rules; the voluntary request of the customer when the meter has not been removed (e.g. seasonal requests) or for customer's convenience, are set forth as follows.

Conditions	Rate
Normal working hours For the purpose of requests for reconnection services under this section, normal working hours are as follows: Monday through Friday* 8 AM to 6 PM Saturday* 8 AM to 2 PM *Except for the following holidays: New Year's Day, President's Day, Veteran's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving, and Christmas Day.	$28.00
After-hours restoration of service The Company has 12 hours from proper application by the customer to restore service, after all of the conditions under which such service was discontinued are corrected and the utility has received notice of payment. Requests for reconnection of service that must be worked all days and times outside of normal working hours as listed above, plus all holidays as listed above, are subject to the after-hours restoration of service rate.	$100.00

2. Resumption of service when a customer's service has been reconnected without the permission of the Company after service has been terminated by the Company for non-payment of bills or violation of the Company's tariff. The Company will physically disconnect the customer's service for a second time and the customer will be required to pay, in addition to any outstanding or delinquent amount, the Company's actual cost of reconnection or $350.00, whichever is more, before service is restored. The Company shall give written notice to the customer that if service is reconnected again without the permission of the Company, it will be necessary for the Company to excavate and physically disconnect service and that a reconnection charge of $500, or the actual cost incurred by the Company to excavate and physically disconnect and reconnect the service, whichever is more, will be made. The Company may also seek criminal prosecution under N.J.S.A. 2C:20-8c as well as civil damages.

(Continued)

RATE SCHEDULE P-2
MISCELLANEOUS SERVICE –
CHARGES NOT INVOLVING THE USE OF WATER
(Continued)

3. Requirement for Customer to be Present for Reconnection. Customers must be present on the premises when the Company reconnects a discontinued water service to said premises. Notwithstanding the foregoing, if the customer is not present but has given consent to the Company to reconnect the water service in his, her or its absence, the Company may reconnect the water service. In such case, the customer is solely responsible for any damage incurred by the customer and/or to the customer's premises due to an approved reconnection of service when the customer is not present at the time of said reconnection, provided that the customer will not be responsible for damage due to the sole negligence of the Company.

CROSS CONNECTION INSPECTION CHARGE
A charge of $75.00 will be imposed by the Company for an inspection of each cross-connection device installed between an unapproved source of supply and the Company's water supply, subject to the availability of Company resources. The customer must provide proof of inspection.

METER TESTING AND REPLACEMENT CHARGE

1. Customer Request for Additional Meter Testing. If a customer requests that the Company test a meter during any twelve (12) month period in which the Company has already provided one free meter test per N.J.A.C. 14:3-4.5, or if the meter first referred to has been in use less than two years, and the meter is found to be accurate, the Company may charge the customer a fee for removing the meter and a fee for testing the meter as follows:

Schedule for removing and replacing a meter

Meter Size	Rate
Meters up to and including 2" in diameter	$37.00
Meters larger than 2" in diameter	Actual cost

These charges will not exceed the replacement cost of the meter.

Schedule for testing the meter

Meter Size	Rate
All meters from ⅝ inches up to 1 inch	$50.00
All meters from 1 ½ inches up to 3 inches	$75.00
All meters from 4 inches up to 10 inches	$100.00
All meters from 12 inches and larger	$125.00

2. Removing, Repairing and Replacing Meters damaged due to negligence of the customer. The Company may impose a charge on any customer who causes damage to a meter as follows:

(a) Repair Only: Actual cost of materials used to repair the meter, and the actual cost of labor required to repair and reinstall the meter.

(b) Meter Replacement for Non-repairable Meters: Actual cost of a new meter, materials used to replace the meter, and the actual cost to install the meter, including the cost of labor required to install the meter.

(Continued)

RATE SCHEDULE P-2
MISCELLANEOUS SERVICE –
CHARGES NOT INVOLVING THE USE OF WATER
(Continued)

BAD CHECK CHARGE
If the Company receives a negotiable instrument from a customer in payment of a bill, charge, or deposit due, and such instrument is subsequently dishonored or uncollectible for any reason, the Company shall charge the customer a handling charge per instrument of $15.00.

If a bad check charge is applied to a customer account, that amount, as well as the amount of the dishonored check shall be paid with cash, certified check, money order, bank check, or other means of guaranteed payment before such account shall be deemed paid. Additionally, if a customer presents two checks that are dishonored by the bank as a result of the customer's error, the customer will be required to pay by the methods stated above for a period of twelve months from the date of the last dishonored check.

The provisions of this tariff section shall not be deemed to require a customer to submit to automatic deduction from any bank account, credit card, or by on-line banking but the Company may offer same as an option provided the customer is presented with all other available options offered by the Company.

UNAUTHORIZED USE OF COMPANY FACILITIES
There will be a minimum charge of $500.00 for unauthorized use of Company facilities plus costs for repair of any damages to Company property resulting therefrom.

TERMS OF PAYMENT
Valid bills furnished under this schedule are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

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TERM
Continuous until water service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISIONS
The Company may waive the fees and charges referenced in this Rate Schedule P-2 for a customer who is enrolled in the Company's H20 Help to Others Assistance Program or the H20 Help to Others Discount Program, provided that the customer is not deemed to have been abusing and/or taking advantage of the system, including but not limited to repeatedly requiring service reconnections more than three (3) times in any twelve (12) month period.

Deleted: Effective: November 1, 2020 ¶

Deleted: Issued: October 30, 2020¶
¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

RATE SCHEDULE P-3
MULTI-USE SERVICE LINE

APPLICABILITY

The Company will provide an option to customers, upon request and where applicable, to use a "multi-use" service line per N.J.A.C. 14:9-8.3 et seq.

"Multi-use service" means water service that is supplied through one water line extending from the water main to the structure, and which is used for both domestic water service on the premises and for fire suppression service inside a structure. A multi-use service is not private fire protection service.

Terms and Conditions not defined specifically below for Multi-Use services shall be the same as those under the STANDARD TERMS AND CONDITIONS.

RATES

Rates applicable to multi-use service are those found in the Company's General Metered Service Rate Schedules in this tariff as applicable.

TERMS OF PAYMENT

A water utility may terminate a customer's multi-use service for non-payment of a valid water bill for multi-use service, in accordance with the Board's rules governing discontinuance of such service at N.J.A.C. 14:3-3A.4(j) and N.J.A.C. 14:9-8.3.

CONDITIONS

By applying for multi-use service, the customer or builder certifies that:

1. The customer or builder has hydraulically calculated the demand for the customer's or builder's water system, based on the simultaneous domestic and fire sprinkler demand. The customer or builder shall make this calculation in accordance with the Uniform Construction Code and any other applicable state or local codes; and

2. The customer or builder will ensure that the system is installed in accordance with the Uniform Construction Code at N.J.A.C. 5:23; and

3. The customer will, prior to installation of the meter, obtain and provide the Company with a copy of a valid construction permit in accordance with the Uniform Construction Code from the enforcing agency having jurisdiction over the system.

GENERAL TERMS AND CONDITIONS

1- By applying for multi-use service, the customer agrees to be responsible for all claims, costs and liability for personal injury, death and/or property damage, resulting from the customer's individual water system, and agrees that the Company shall not be so liable unless caused by the negligence of the water utility. (N.J.A.C. 14:9-8.3(d))

2- All multi-use service lines shall be metered, and the meter shall be located in a meter pit or vault located outside of the Customer's structure. The meter pit or vault shall be installed at a location acceptable to the express, advance approval of the Water Company, and otherwise shall comply with the Company's standard terms and conditions.

3- If a customer requests a change in meter size associated with a multi-service meter, the customer must re-apply for service and re-certify each item addressed in this Rate Schedule.

(Continued)

RATE SCHEDULE P-3
MULTI-USE SERVICE LINE
(Continued)

PROVISION OF SERVICES

By applying for multi-use service, and operating the same, the customer agrees:

1. To include a backflow prevention device(s) as defined at N.J.A.C. 7:10-1.3, and as specified at N.J.A.C. 7:10-10.3;

2. To be solely responsible for all costs and expenses relating to the installation, operation, maintenance, repair and replacement of the customer's water system, including the fire suppression system and backflow prevention device(s);

3. To ensure that the customer's water system complies with the applicable requirements of the Uniform Construction Code in effect at the time of system installation, including any applicable building, plumbing and fire protection sub-codes; and

4. To ensure that the customer's water system is maintained in accordance with all applicable law so as to protect against backflow, back-siphonage and contamination of the potable water system.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Eleventh Revised Sheet: No. 44
B.P.U. No. 8 – Wastewater Superseding Tenth Revised Sheet: No. 44

Deleted: Tenth
Deleted: Ninth

AREA SERVED – WASTEWATER SERVICE

	County	Municipality	All or Portion	Development/Section	Wastewater System
**	Atlantic	City of Egg Harbor	All	N/A	Egg Harbor City
**	Atlantic	Twp. of Galloway	Portion	N/A	Egg Harbor City
**	Atlantic	Twp. of Mullica	Portion	N/A	Egg Harbor City
A)	Bergen	Twp. of Oakland	Portion	Ramapo River Reserve	Ramapo River Reserve
A)	Burlington	Twp. of Mansfield	Portion	Mapleton (Mansfield Farms)	Mapleton
B)	Burlington	Twp. of Mansfield	Portion	Homestead (Country Walk)	Homestead
D)	Burlington	Twp. of Mansfield	Portion	John Hydock Elementary School	Mapleton
D)	Burlington	Twp. of Mansfield	Portion	Northern Burlington School	Mapleton
**	Burlington	Twp. of Mansfield	Portion	Mansfield Warehousing Area	
**	Camden	Borough of Haddonfield	All	N/A	Haddonfield/CCMUA
**	Camden	Borough of Mount Ephraim	All	N/A	Mount Ephraim
A)	Cape May	Twp. of Middle	Portion	Avalon Country Club	Avalon Links
*	Cape May	Ocean City	All	N/A	Ocean City/CMCMUA
**	Gloucester	Twp. of Elk	All	N/A	Elk Township
A)	Hunterdon	Borough of Bloomsbury	Portion	Fawn Run	Fawn Run
A)	Hunterdon	Twp. of Tewksbury	Portion	Crossroads at Oldwick	Crossroads
*	Hunterdon	Twp. of Tewksbury	Portion	Pottersville	Pottersville
A)	Hunterdon	Twp. of Union	Portion	Village Square	Village Square
A)	Hunterdon	Twp. of Clinton	Portion	Brass Castle	Brass Castle
A)	Hunterdon	Twp. of Union	Portion	Lookout Pointe	Lookout Pointe
A)	Hunterdon	Twp. of Clinton	Portion	Glen Meadows & Twin Oaks	Glen Meadows
A)	Monmouth	Twp. of Upper Freehold	Portion	Four Seasons at Upper Freehold	Beacon Hill
D)	Monmouth	Twp. of Upper Freehold	Portion	Beacon Hill Clubhouse	Beacon Hill
*, **	Monmouth	Twp. of Howell	Portion	N/A	Howell/MRRSA/OCUA
A)	Morris	Twp. of Mount Olive	Portion	Country Oaks	Country Oaks
A)	Morris	Twp. of Chester	Portion	Four Seasons @ Chester	Four Seasons @ Chester
A)	Morris	Twp. of Jefferson	Portion	Peaks @ Jefferson	Jefferson Peaks
A)	Morris	Twp. of Mount Olive	Portion	Morris Chase	Morris Chase
**	Morris	Twp. of Long Hill	All	N/A	Long Hill Township
*	Ocean	Twp. of Lakewood	Portion	N/A	Lakewood/OCUA
**	Ocean	Twp. of Plumsted	Portion	Jensen's Deep Run	Jensen's
**	Salem	City of Salem	All	N/A	Salem City
**	Salem	Twp. of Mannington	All	N/A	Salem City
C)	Somerset	Twp. of Bedminster	Portion	N/A	EDC
C)	Somerset	Twp. of Bernards	Portion	N/A	EDC
**	Somerset	Borough of Bound Brook	All	N/A	Bound Brook
**	Somerset	Twp. of Bridgewater	Portion	Somerville Adjacent	Somerville
A)	Somerset	Twp. of Hillsborough	Portion	Hillsborough Chase	Hillsborough Chase
**	Somerset	Borough of Manville	All	N/A	Manville
**	Somerset	Borough of Somerville	All	N/A	Somerville
A)	Warren	Twp. of Washington	Portion	Hawk Pointe	Hawk Pointe

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KEY:

A) Community On-Site Water and/or Wastewater System (COWS) (formerly served by Applied)
B) Homestead (formerly served by Applied)
C) Wastewater system of the former Environmental Disposal Corp. ("EDC")
D) Other Contracts (formerly served by Applied)
* Wastewater systems served by the Company prior to the merger of Applied Wastewater Management, Inc. ("Applied") into the Company on September 1, 2010.
** Systems acquired by the Company after January 1, 2011.

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Deleted: Reserved
Deleted: Effective: October 3, 2023¶
¶
Deleted: Issued: October 6, 2023¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE23030197 and WE23040233 dated September 27, 2023.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated

NEW JERSEY-AMERICAN WATER COMPANY, INC. Fifteenth Revised Sheet: No. 45
B.P.U. No. 8 – Wastewater Superseding Fourteenth Revised Sheet: No. 45

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WASTEWATER SERVICE RATE SCHEDULES
TABLE OF CONTENTS

Rate schedules are applicable for service provided in the entire area served as follows:

Location/Type	Class of Service	Rate Schedule	Sheet No.
Ocean City	General Metered Service	1-A	46
Ocean City	Purchased Wastewater Treatment Adjustment (PSTAC)	1-B	47
Statewide Collection	General Metered Service	2-A	48
Lakewood Township	Purchased Wastewater Treatment Adjustment (PSTAC)	2-B	49
Howell Township	Purchased Wastewater Treatment Adjustment (PSTAC)	3-B	51
Statewide Collection and Treatment	General Flat Rate Service	5-A	52
Statewide Collection and Treatment	General Metered Service	6-A	53
Other Contracts (C) former EDC service area, and (D) former Applied service area	Contracts	8-A	54
Entire Service Territory	Miscellaneous Service Charges	9-A	55
Entire Service Territory	Wastewater System Improvement Charge	9-A.1	55.1
Entire Service Territory	Universal Affordability – Wastewater	9-A.2	55.2
Plumsted Township (Jensen's Deep Run)	General Metered Service	10-A	56
Haddonfield Borough	General Metered Service	11-A	57
Elk Township	Purchased Wastewater Treatment Adjustment (PSTAC)	12-B	58
Borough of Mount Ephraim	General Metered Service	13-A	59
Long Hill Township	General Flat Rate Service	14-A	60
Long Hill Township	General Metered Service	15-A	61
Egg Harbor City Utility	General Metered and Flat Rate Service	16-A	62
Egg Harbor City Utility	Purchased Wastewater Treatment Adjustment (PSTAC)	16-B	63
Bound Brook Borough	General Flat Rate Service	18-A	64
Bound Brook Borough	General Metered Service	19-A	65
Somerville System	General Metered and Flat Rate Service	20-A	66
Somerville System	Purchased Wastewater Treatment Adjustment (PSTAC)	20-B	67
Former EDC System	General Metered Service	21-A	68
Salem City and Mannington	General Metered Service	22-A	69
Manville	General Metered Service	23-A	70
Manville	Purchased Wastewater Treatment Adjustment (PSTAC)	23-B	71

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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE23030197 and WE23040233 dated September 27, 2023.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated

NEW JERSEY-AMERICAN WATER COMPANY, INC. Twelfth Revised Sheet: No. 46
B.P.U. No. 8 – Wastewater Superseding Eleventh Revised Sheet: No. 46

RATE SCHEDULE 1-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service in the City of Ocean City. The charge for wastewater service shall consist of the total of the Minimum Service Charge, the Wastewater Usage Charge, the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff and as shown on Rate Schedule 1-B, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

MINIMUM SERVICE CHARGE
All wastewater service customers shall pay a Minimum Service Charge in addition to the Wastewater Usage Charge, if any. The Minimum Service Charge for a customer is determined every January 1 for the year based on the water usage for the prior July, August and September meter readings ("Summer Quarter Consumption") but in no event will a customer be billed for less than 7,480 gallons per year for wastewater service.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.64000	$16.4000

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. Charges shall be based on water consumption as indicated by water meter readings on a monthly basis.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.40210	$4.0210

TERMS OF PAYMENT

The following plan for payment of the Annual Minimum Service Charge is offered as a convenience to our customers and, in the case of seasonal service, does not relieve the customer of the liability to pay the entire Annual Minimum Service Charge if wastewater service is rendered for only a portion of the calendar year. In the case of a non-seasonal customer terminating their account, the customer shall be billed for service provided through the date of service termination.

A new customer, initiating service at existing premises, shall be billed for such service as of the account activation date. The new customer account usage will be based on the existing premises last known summer quarter consumption, until the new customer establishes a summer quarter consumption. A new customer account without established summer quarter consumption data will be required to pay a pro-rata share of the Annual Minimum Service Charge, until the new customer establishes a summer quarter consumption. The proration shall be based on the portion of the calendar year for which the customer receives service.

In addition, in the case of a reactivated account, the customer will be required to pay for the charges as if the account had been active as of January 1. The calculated Annual Minimum Service Charge will therefore be billed across the remaining installment billing periods in that calendar year.

For monthly billed customers, one-twelfth of the Minimum Service Charge shall be due and payable upon receipt of the regular bill for wastewater service.

If the Company determines by application of the following criteria that the customer's past record of payments does not warrant application of this payment plan, the Company may require payment of the entire service charge at one time rather than in installments.

1. If a customer has been terminated at least once in the past two years for non-payment of a bill for wastewater service; or,
2. If a customer receives three (3) Final Reminder Notices during a twelve-month period.

Usage charges based upon meter readings shall be billed in monthly in arrears. Valid bills for service furnished under this schedule are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Twentieth Revised Sheet: No. 47
B.P.U. No. 8 – Wastewater Superseding Nineteenth Revised Sheet: No. 47

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RATE SCHEDULE 1-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY
Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in the City of Ocean City. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company, and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE
The following are the PSTAC charges per one hundred gallons and per one thousand gallons that will be charged based on the Summer Quarter Consumption as defined in the Minimum Service Charge section of Wastewater-Rate Schedule 1-A to recover purchased wastewater treatment and disposal costs, but in no event will the consumption level for PSTAC be less than 7,480 gallons per year.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1000 Gallons
Non-Exempt	All	$3.37033	$33.7033

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FILING
The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

TERMS OF PAYMENT
See Rate Schedule for the applicable customer class.

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Deleted: Effective: May 1, 2023 ¶
Deleted: Issued: April 28, 2023¶
¶
By: Mark K. McDonough, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22110693 dated April 26, 2023.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

RATE SCHEDULE 1-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Eleventh Revised Sheet: No. 48
Superseding Tenth Revised Sheet: No. 48

RATE SCHEDULE 2-A
GENERAL METERED SERVICE
STATEWIDE COLLECTION AREAS

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service in the Statewide Wastewater Collection Area including Lakewood, Elk Township, and the Adelphia System (service area of the former Adelphia Sewer Company) and other franchise areas within the Township of Howell. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 2-B (Lakewood), Rate Schedule 3-B (Howell and Adelphia System), and Rate Schedule 12-B (Elk Township), and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, if any, as follows:

	Non-Exempt
Fixed Service Charge per customer per month.	$18.20

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

Volumetric Charges

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.59890	$5.9890

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: fifteen (15)
Deleted: Effective: September 1, 2022 ¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Twelfth Revised Sheet: No. 49
B.P.U. No. 8 – Wastewater Superseding Eleventh Revised Sheet: No. 49

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RATE SCHEDULE 2-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY
Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in the Statewide Wastewater Collection Area (Lakewood). The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company, and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE
In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 2-A of the current Tariff:

Deleted: Sewer

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$ 0.46191	$4.6191

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FILING
The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

(Continued)

Deleted: Effective: May 1, 2023¶
Deleted: Issued: April 28, 2023¶
¶
By: Mark K. McDonough, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22110693 dated April 26, 2023.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

First Revised Sheet: No. 49.1
Superseding Original Sheet: No. 49.1

RATE SCHEDULE 2-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT
See Rate Schedule for applicable customer class.

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TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: October 30, 2020

Effective: November 1, 2020

By: Cheryl Norton, President
One Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR19121516 dated October 28, 2020.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Eleventh Revised Sheet: No. 50
Superseding Tenth Revised Sheet: No. 50

Reserved for Future Use

Issued:

Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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GENERAL METERED SERVICE¶
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APPLICABILITY¶
Applicable for general residential, commercial, industrial and municipal wastewater service provided by the Company's Adelphia System (service area of the former Adelphia Sewer Company) and other franchise areas within the Township of Howell in Monmouth County. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Sewer Usage Charge, the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 3-B, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by the "Standard Terms and Conditions."¶
¶
¶
FIXED SERVICE CHARGE¶
All wastewater service customers shall pay a Fixed Service Charge in addition to the Sewer Usage Charge, if any, as follows:¶
¶
Non-Exempt Exempt¶
Fixed Service Charge per customer per month. $15.00 $12.96¶
¶
¶
SEWER USAGE CHARGE¶
The volume of sewer use is assumed to equal water meter registration. Charges shall be based on water consumption as indicated by water meter readings on a monthly basis (or quarterly, at the option of the Company). Where wastewater service is provided and water used on the premise is not supplied or metered by the Company, then a monthly usage constant of 4,000 gallons will be used for billing purposes.¶
¶ ... [15]

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TERMS OF PAYMENT¶
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears (or quarterly at the option of the Company), and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date.¶
¶
Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.¶

Deleted: Effective: September 1, 2022 ¶

Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Twelfth Revised Sheet: No. 51
B.P.U. No. 8 – Wastewater Superseding Eleventh Revised Sheet: No. 51

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RATE SCHEDULE 3-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY
Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service customers provided service by the Company's Adelphia System (service area of the former Adelphia Sewer Company) and other franchise areas within the Township of Howell in Monmouth County. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal associated with the normal operations of the Company, and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE
In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 2-A of the current Tariff:

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	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.69196	$6.9196

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FILING
The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

(Continued)

Deleted: Effective: May 1, 2023 ¶
Deleted: Issued: April 28, 2023¶
¶
By: Mark K. McDonough, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22110693 dated April 26, 2023.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

First Revised Sheet: No. 51.1
Superseding Original Sheet: No. 51.1

RATE SCHEDULE 3-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7 et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT
See Rate Schedule for applicable customer class.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

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Deleted: Effective: November 1, 2020 ¶

Deleted: Issued: October 30, 2020¶
¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Fifth Revised Sheet: No. 52
B.P.U. No. 8 – Wastewater Superseding Fourth Revised Sheet: No. 52

RATE SCHEDULE 5-A
GENERAL FLAT RATE SERVICE
STATEWIDE COLLECTION AND TREATMENT AREAS

APPLICABILITY FOR GENERAL FLAT RATE WASTEWATER SERVICE CUSTOMERS
Applicable to all general flat rate wastewater service customers located in the Company's Tewksbury System (Pottersville - service area of the former Valley Road Sewerage Company) in the Township of Tewksbury in Hunterdon County, and Service Areas noted as (A) and (B), formerly served by Applied Wastewater Management, Inc. ("Applied"), on Sheet No. 44 (COWS) who are not water service customers of NJAWC. The Class A/Class B designations in effect at the time rates were set by the Board in Docket. No. WR11070460 (May 1, 2012) shall remain in effect unless changed by order of the Board. No new Class A designations shall be made except at the discretion of the Company. The Company's charge for wastewater service shall consist of the total of a Flat Rate Service Charge, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FLAT RATE SERVICE CHARGE – GENERAL FLAT RATE WASTEWATER CUSTOMERS
All wastewater service customers shall pay a flat rate service charge as indicated below.

	RATE PER MONTH
CLASS A	$86.00
CLASS B	100.00

The Class A/Class B designations in effect at the time rates were set by the Board in Docket. No. WR11070460 (May 1, 2012) are as follows:

CLASS A
4 BEDROOM AGE RESTRICTED
3 BEDROOM AGE RESTRICTED
2 BEDROOM TOWNHOUSE
3 BEDROOM TOWNHOUSE AGE RESTRICTED
2 BEDROOM AGE RESTRICTED
1 BEDROOM TOWNHOUSE

CLASS B
DETACHED SINGLE FAMILY
3 BEDROOM TOWNHOUSE

CHARACTER OF FLAT RATE SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Seventh Revised Sheet: No. 53
Superseding Sixth Revised Sheet: No. 53

RATE SCHEDULE 6-A
GENERAL METERED SERVICE
STATEWIDE COLLECTION AND TREATMENT AREAS

APPLICABILITY FOR GENERAL METERED WASTEWATER SERVICE CUSTOMERS
Applicable to all general metered wastewater service customers located in the Company's Tewksbury System (Pottersville - service area of the former Valley Road Sewerage Company) in the Township of Tewksbury in Hunterdon County, Service Areas noted as (A) and (B), formerly served by Applied Wastewater Management, Inc. ("Applied"), on Sheet No. 44 (COWS and Homestead) who receive volume-based water service billings from NJAWC, and the Mansfield Warehousing Area. The Company's charge for wastewater service shall consist of the total of the Fixed Service Charge, a Wastewater Usage Charge, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$65.50

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.03990	$10.39900

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

Deleted: Sixth
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Deleted: (or quarterly at the option of the Company),
Deleted: fifteen (15)
Deleted: Effective: September 1, 2022 ¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Tenth Revised Sheet: No. 54
B.P.U. No. 8 – Wastewater Superseding Ninth Revised Sheet: No. 54

RATE SCHEDULE 8-A
OTHER CONTRACTS

APPLICABILITY

Applicable to wastewater service customers located in the Service Areas noted as D), formerly served by Applied Wastewater Management, Inc. ("Applied"), and C), formerly served by Environmental Disposal Corp. ("EDC") on Sheet No. 44 (Other Contracts).

CHARACTER OF SERVICE

Continuous (unmetered).

RATES

SERVICE AREA	CLASS	RATE PER MONTH	
Applied	Schools	$153.80	Per Formula*
Applied	Other	153.80	Per Equivalent Dwelling Units**
EDC	Bulk User***	9.6010	Per 1,000 Gallons

TERMS OF PAYMENT

Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

* Quarterly Charge = $360.00 x (Average Daily Enrollment x Student GPD)/300
Where Student GPD is as follows:
NJDEP projected usage per Elementary School student = 15 GPD
NJDEP projected usage per Middle School student = 20 GPD
NJDEP projected usage per High School student = 25 GPD

**An equivalent residential customer is based on 235 GPD

*** Rates for treatment of wastewater of BULK USER Customers delivered by said customers to the EDC treatment facility as set forth in this Tariff Sheet shall supersede the contractual rates and terms set forth in each of the Amended and Restated Sewer Allocation and Bulk User Agreements Between Environmental Disposal Corp. and the Boroughs of Bedminster, Far Hills, and Peapack and Gladstone ("Bulk User Agreements"), respectively.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: sewage
Deleted: Effective: September 1, 2022 ¶
Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Second Revised Sheet: No. 55
B.P.U. No. 8 – Wastewater Superseding First Revised Sheet: No. 55

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RATE SCHEDULE 9-A
MISCELLANEOUS SERVICE CHARGES

APPLICABILITY
Applicable to all classes of customers unless specified for the following classes of miscellaneous services throughout the entire area served by the Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

BAD CHECK CHARGE
If the Company receives a negotiable instrument from a customer in payment of a bill, charge, or deposit due, and such instrument is subsequently dishonored or uncollectible for any reason, the Company shall charge the customer a handling charge per instrument of $15.00.

If a bad check charge is applied to a customer account, that amount, as well as the amount of the dishonored check shall be paid with cash, certified check, money order, bank check, or other means of guaranteed payment before such account shall be deemed paid. Additionally, if a customer presents two checks that are dishonored by the bank as a result of the customer's error, the customer will be required to pay by the methods stated above for a period of twelve months from the date of the last dishonored check.

The provisions of this Tariff section shall not be deemed to require a customer to submit to automatic deduction from any bank account, credit card, or by on-line banking but the Company may offer same as an option provided the customer is presented with all other available options offered by the Company.

RESUMPTION OF SERVICE AFTER PHYSICAL DISCONNECTION OR PLUGGING DUE TO NONPAYMENT OF BILLS OR VIOLATION OF THE COMPANY'S RULES

Wastewater Service	-	At any time	Greater of $350.00 or actual cost

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CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISIONS
The Company may waive the fees and charges referenced in this Rate Schedule 9-A for a customer who is enrolled in the Company's H2O Help to Others Program or the Low Income Payment Program, provided that the customer is not deemed to have been abusing and/or taking advantage of the system, including but not limited to repeatedly requiring service reconnections more than three (3) times in any twelve (12) month period.

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Deleted: Issued: October 30, 2020¶
¶
By: Cheryl Norton, President¶
One Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR19121516 dated October 28, 2020.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Fourth Revised Sheet: No. 55.1
B.P.U. No. 8 – Wastewater Superseding Third Revised Sheet: No. 55.1

RATE SCHEDULE 9-A.1
WASTEWATER SYSTEM IMPROVEMENT CHARGE

Applicable to all wastewater treatment and service customers on Rate Schedules 1-A, 2-A, 5-A, 6-A, 10-A, 11-A and 13-A, and Rate Schedule 16-A effective June 2, 2025.

CHARACTER
Continuous, except as limited by the "Standard Terms and Conditions".

WASTEWATER SYSTEM IMPROVEMENT CHARGE (WSIC)
In addition to all other charges for wastewater collection and treatment throughout the entire territory served, the following charges will be assessed on a fixed, per meter or meter equivalent basis for each monthly bill, commencing .

RATE
This charge is in addition to Rate Schedules 1-A, 2-A, 3-A, 5-A, 6-A, 10-A, 11-A and 12-A.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$0.00	0.00
3/4"	0.00	0.00
1"	0.00	0.00
1 1/2"	0.00	0.00
2"	0.00	0.00
3"	0.00	0.00
4"	0.00	0.00
6"	0.00	0.00
8"	0.00	0.00
10"	0.00	0.00
12"	0.00	0.00
16"	0.00	0.00

FILING
The WSIC is authorized pursuant to N.J.A.C. 14:9-11.1 et seq. and the procedures for filing, reviewing, approving and implementing the WSIC are set forth therein. The WSIC is based on the Company's Foundational Filing, which was reviewed and approved by the Board of Public Utilities on October 6, 2021. The approval process included public notice and public hearings. The notice included proposed surcharge amounts, which were estimated based on projected construction schedules, costs and other factors. Pursuant to the approved Foundational Filing, the Company shall endeavor to make semi-annual WSIC filings at approximately six-month intervals. The WSIC is subject to a maximum amount and other limitations in N.J.A.C. 14:9-11.1 et seq.

TERMS OF PAYMENT
See Rate Schedules for applicable customer classes.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: November 15, 2023 Effective: December 30, 2023

By: Mark McDonough, President
One Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR21060917 dated October 6, 2021.

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*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863727 863621 per 1,000 gallons. This water tax is not applicable for sales for resale service.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 55.2

RATE SCHEDULE 9-A.2
UNIVERSAL AFFORDABILITY

AVAILABILITY

Available to all residential wastewater service customers served by the Company in all service areas who meet the income criteria of 200% or less than the Federal Poverty Level ("FPL"). NJ Shares determines and maintains the qualification requirements for the Company's discount programs. Customers who qualify for the program are required to recertify income eligibility every two years.

APPLICABILITY

The discount will be applied to the Fixed Service Charge and Wastewater Usage Charge (volumetric) portions of the bill for wastewater service. The discount will not apply to the Purchased Wastewater Adjustment Clause (PSTAC) Charge, as shown on Rate Schedule O-1 or the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

DISCOUNT

	Household Income	**Fixed Service Charge Discount**	**Wastewater Charge Discount**
Tier 1	0% - 50% of FPL	80%	80%
Tier 2	51% - 100% of FPL	60%	60%
Tier 3	101% - 150% of FPL	40%	40%
Tier 4	151% - 200% of FPL	20%	20%

Issued:

Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC. Eleventh Revised Sheet: No. 56
B.P.U. No. 8 – Wastewater Superseding Tenth Revised Sheet: No. 56

RATE SCHEDULE 10-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general flat rate residential, commercial, industrial and municipal wastewater service to customers served by the Company's Jensen's Deep Run System in the Township of Plumsted in Ocean County. The charge for wastewater service shall consist of the total of a Fixed Service Charge, a Wastewater Usage Charge, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$40.00

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.03990	$10.3990

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Eleventh Revised Sheet: No. 57
B.P.U. No. 8 – Wastewater Superseding Tenth Revised Sheet: No. 57

RATE SCHEDULE 11-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers served by the Company's Haddonfield Collection System in Camden County. The charge for wastewater service shall consist of a Wastewater Usage Charge based on the water consumption at the location for the same billing period, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$12.50

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.56680	$5.66800

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Eleventh Revised Sheet: No. 58
B.P.U. No. 8 – Wastewater Superseding Tenth Revised Sheet: No. 58

RATE SCHEDULE 12-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in Elk Township. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 2-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.40008	$4.0008

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT

See Rate Schedule for applicable customer class.

TERM

Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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GENERAL METERED SERVICE¶
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APPLICABILITY¶
Applicable for general residential, commercial, industrial and municipal wastewater service in Elk Township. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Sewer Usage Charge, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by the "Standard Terms and Conditions."¶
¶
¶
FIXED SERVICE CHARGE¶
All wastewater service customers shall pay a Fixed Service Charge in addition to the Sewer Usage Charge, if any, as follows:¶
¶
Non-Exempt ¶
Fixed Service Charge per customer per month. $ 20.00 ¶
¶
¶
SEWER USAGE CHARGE¶
The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Sewer Usage Charges are calculated.¶
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Volumetric Charges¶
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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Fourth Revised Sheet: No. 59
B.P.U. No. 8 – Wastewater Superseding Third Revised Sheet: No. 59

RATE SCHEDULE 13-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service in the Borough of Mount Ephraim. The charge for wastewater service shall consist of a Wastewater Usage Charge based on the water consumption at the location for the same billing period, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$12.50

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.03590	$0.3590

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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All wastewater service customers shall pay a flat rate service charge as indicated below.¶
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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Second Revised Sheet: No. 60
B.P.U. No. 8 – Wastewater Superseding First Revised Sheet: No. 60

RATE SCHEDULE 14-A
GENERAL FLAT RATE SERVICE[1]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in Long Hill Township who do not receive volume-based water service billings from NJAWC. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense. The charge for wastewater service shall consist of the Fixed Service Charge and the Flat Rate Service Charge.

AVAILABILITY OF SERVICE
As the Company has implemented a voluntary wastewater connection ban due to excess wastewater flow, all requests for new wastewater connections to the Long Hill Township wastewater system will be granted at the sole discretion of the Company.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – WASTEWATER
All wastewater service customers shall pay a Fixed Service Charge in addition to the Flat Rate Service Charge as indicated below. If a wastewater customer has multiple connections to a single property, only one Fixed Service Charge shall be applied to the wastewater customer.

	RATE PER MONTH Effective 10/23/2024
Non-Exempt, per unit	$15.93

FLAT RATE USAGE CHARGE – WASTEWATER CUSTOMERS
All wastewater service customers shall pay a Flat Rate Usage charge as indicated below.

	RATE PER MONTH Effective 10/23/2024
Non-Exempt Residential, per connection	$52.37
Non-Exempt Commercial, Industrial and Municipal, per connection	$109.27

FIXED SERVICE CHARGE DISCOUNT – RESIDENTIAL WASTEWATER CUSTOMERS
Residential wastewater customers of Long Hill Township enrolled in the Township's Senior Discount Program as of October 22, 2020, shall receive a Fixed Service Charge discount of $40.00 annually, or $3.33 per month. After October 22, 2020, customers will no longer be added to this Fixed Service Charge Discount program.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges and Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

[1] The rates on this schedule will increase by 3% on 10/23/2024 by the terms of the Agreement of Sale between Long Hill Township and New Jersey-American Water Company, Inc.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated _____.

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GENERAL METERED SERVICE¶
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Deleted: Issued: August 29, 2022¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Second Revised Sheet: No. 61
Superseding First Revised Sheet: No. 61

RATE SCHEDULE 15-A
GENERAL METERED SERVICE[4]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in Long Hill Township who receive volume-based water service billings from NJAWC. The charge for wastewater service shall consist of the total of the Fixed Service Charge and the Wastewater Usage Charge.

AVAILABILITY OF SERVICE
As the Company has implemented a voluntary wastewater connection ban due to excess wastewater flow, all requests for new wastewater connections to the Long Hill Township wastewater system will be granted at the sole discretion of the Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, as indicated below. If a wastewater customer has multiple connections to a single property, only one Fixed Service Charge shall be applied to the wastewater customer.

	RATE PER MONTH Effective 10/23/2024
Non-Exempt, per unit	$15.93

WASTEWATER USAGE CHARGE
The volume of wastewater discharged for monthly billing purposes shall be calculated by taking the total water metered (Actual Usage) for the six (6) winter months (January through March and October through December) from the preceding billing year and dividing that Actual Usage by twelve (12).

If the meter is not read or incorrectly read for one or more months of the Actual Usage period as determined by the Company, the amount charged for those months shall be equal to the approximate average monthly usage among other billable months during the same period.

Volumetric Charges

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt Effective 10/23/2024	All	$1.99640	$19.9640

FIXED SERVICE CHARGE DISCOUNT – RESIDENTIAL WASTEWATER CUSTOMERS
Residential wastewater customers of Long Hill Township enrolled in the Township's Senior Discount Program as of October 22, 2020, shall receive a Fixed Service Charge discount of $40.00 annually, or $3.33 per month. After October 22, 2020, customers will no longer be added to this Fixed Service Charge Discount program.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges shall be prorated to the date of establishment or discontinuance of service.

[4] The rates on this schedule will increase by 3% on 10/23/2024 by the terms of the Agreement of Sale between Long Hill Township and New Jersey-American Water Company, Inc.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: The Company has a residential customer assistance program for its low-income customers who are having difficulty paying water and/or wastewater bills issued by the Company.
Deleted: (or quarterly at the option of the Company),
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Deleted: Effective: September 1, 2022 ¶
Deleted: Issued: August 29, 2022¶ ¶ By: Mark K. McDonough, President¶ 1 Water Street, Camden, NJ 08102¶ Filed pursuant to Order of the Board of Public Utilities entered in¶ Docket No. WR22010019 dated August 17, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Second Revised Sheet: No. 62
Superseding First Sheet: No. 62

RATE SCHEDULE 16-A
GENERAL METERED AND FLAT RATE SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial, and municipal wastewater service to customers in Service Area 1G, the Egg Harbor City Utility. Those who receive volume-based water service billings from NJAWC will receive volume-based wastewater service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 16-B, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$12.50

WASTEWATER USAGE CHARGE

The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.42260	$4.2260

FLAT RATE SERVICE CHARGE – WASTEWATER
All wastewater service customers shall pay a Flat Rate Service Charge as indicated below.

	RATE PER MONTH
Non-Exempt	$46.40

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

Issued:

Effective: June 2, 2025

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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Deleted: Winter quarter consumption shall be determined based on an initial water meter reading taken in December of one year with the concluding meter reading taken approximately 90 days thereafter in March of the following year.¶
The monthly Wastewater Usage Charge shall be determined as follows:¶
Meters read in January, February and March¶
The Wastewater Usage Charge for each respective month shall be determined by multiplying the applicable monthly usage times applicable volumetric charges, but in no case less than 2,493 gallons per month, multiplied by applicable volumetric charges.¶
Meters read in April through December¶
The Wastewater Usage Charge for each month April through December shall be based on the Monthly Usage Constant, equal to one-third of the winter quarter consumption, but in no case less than 2,493 gallons per month, multiplied by applicable volumetric charges.¶
In the case of new customers, the volume of wastewater discharged shall be determined as follows:¶
New Customers in an Existing or New Dwelling or Premises for Which Actual Full Period Winter Quarter Usage History is Available: Determination of the monthly use constant shall be based on the last known full period winter quarter usage at that property.¶
Existing or New Customers in an Existing or New Dwelling or Premises for Which No Full Period Winter Quarter Usage History is Available: Monthly Wastewater Usage Charges will be calculated at the minimum usage of 2,493 gallons per month.¶
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Deleted: (or quarterly at the option of the Company)
Deleted: fifteen (15)
Deleted: Effective: June 1, 2023 ¶
Deleted: Issued: June 12, 2023¶
¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE21091147, WE21091148 & WE21091 ... [19]

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Second Revised Sheet: No. 63
Superseding First Revised Sheet: No. 63

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RATE SCHEDULE 16-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY
Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in Service Area 1G, the Egg Harbor City Utility. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE
In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 16-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.44935	$4.4935

FILING
The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

PROVISIONS
Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT
See Rate Schedule for applicable customer class.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Deleted: **RATE SCHEDULE 17-A**¶
GENERAL METERED SERVICE¶
¶
APPLICABILITY¶
Applicable for general residential, commercial, industrial, and municipal wastewater service to customers in Service Area 1G, the Egg Harbor City Utility, who receive volume-based water service billings from NJAWC. ¶
¶
CHARACTER OF SERVICE¶
Continuous, except as limited by the "Standard Terms and Conditions."¶
¶
FIXED SERVICE CHARGE¶
All wastewater service customers shall pay a Fixed Service Charge in addition to the Sewer Usage Charge, as indicated below. ¶
¶
... [20]

Issued:

Effective: June 2, 2025

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

First Revised Sheet: No. 64
Superseding Original Sheet: No. 64

RATE SCHEDULE 18-A
GENERAL FLAT RATE SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Bound Brook who do not receive volume-based water service billings from NJAWC. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FLAT RATE SERVICE CHARGE – WASTEWATER
All wastewater service customers shall pay a Flat Rate Service Charge as indicated below.

	RATE PER MONTH[7]
Non-Exempt	$40.77

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

[7] The Flat Rate Service Charge will increase by 3% on 8/12/2025, and 8/12/2026 by the terms of the Agreement of Sale between the Borough of Bound Brook and New Jersey-American Water Company, Inc.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in Docket No. WR2401 dated _____.

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¶
By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WE22020072 dated July 14, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

First Revised Sheet: No. 65
Superseding Original Sheet: No. 65

RATE SCHEDULE 19-A
GENERAL METERED SERVICE[8]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Bound Brook who receive volume-based water service billings from NJAWC.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, as indicated below.

	RATE PER MONTH
Non-Exempt	$5.15

WASTEWATER USAGE CHARGE
The volume of wastewater use is assumed to equal water meter registration.

Volumetric Charges

Customer Class*	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt Residential Tax Exempt Commercial – Class 1	All	$0.65920	$6.5920
Multiple-Dwelling	All	0.72510	7.2510
Commercial – Class 2 Industrial Significant Industrial Integrated Health Services and Successors Mixed Residential and Commercial Class 2	All	0.82400	8.2400

*Customer Class as these terms were defined by the Borough of Bound Brook at the time of acquisition, as follows:

Residential: any property solely used as a home or residence, including single family, multi two-family, and single dwelling condominium form of ownership, discharging domestic waste.

Tax-Exempt: any property exempt from real property taxation, discharging domestic waste.

Commercial - Class 1: any nonresidential property solely used for nonresidential purposes, including the retail of nonprocessed goods or for office or other business uses discharging domestic wastes.

Multiple-Dwelling: A building containing three or more dwelling units, discharging domestic waste.

Commercial - Class 2: Any property used for nonresidential purposes, including any use not classified in "Commercial User Class 1," discharging domestic wastes. Class 2 users include but are not limited to: industrial park, any property utilized for preparing food for sale, hair and nail salons, barber shops, laundromats and dry cleaners, automotive and small engine repair and sales, fueling/service stations, and funeral homes.

Industrial - Any person or property who discharges, causes, or permits the direct or indirect discharge of nondomestic wastewater into the treatment works. All nondomestic wastes discharged by an industrial user shall be considered industrial waste. Multiple-Dwelling: A building containing three or more dwelling units, discharging domestic wastes.

Significant Industrial - A user defined as a significant industrial user pursuant to the rules and regulations of the Middlesex County Utilities Authority.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges shall be prorated to the date of establishment or discontinuance of service.

[8] All rates on this schedule will increase by 3% on 8/12/2025, and 8/12/2026 by the terms of the Agreement of Sale between the Borough of Bound Brook and New Jersey-American Water Company, Inc.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Order of the Board of Public Utilities entered in¶
Docket No. WE22020072 dated July 14, 2022.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

First Revised Sheet: No. 66
Superseding Original Sheet: No. 66

RATE SCHEDULE 20-A
GENERAL METERED AND FLAT RATE SERVICE[9]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Somerville and the portion of the Township of Bridgewater served by the Somerville System. Those who receive volume-based water service billings from NJAWC will receive volume-based wastewater service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, and the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 20-B.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. Monthly Wastewater Usage Charges shall be determined based upon winter quarter consumption (detailed below), but in no case less than 2,493 gallons per month.

Customer Location	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Somerville	All	$0.34759	$3.4759
Bridgewater	All	0.48128	4.8128

FLAT RATE SERVICE CHARGE

Customer Location	Rate Per Month
Somerville	$32.00
Bridgewater	$40.33

CALCULATION OF WINTER QUARTER CONSUMPTION
Winter quarter consumption shall be determined based on an initial water meter reading taken in December of one year with the concluding meter reading taken approximately 90 days thereafter in March of the following year.

The monthly Wastewater Usage Charge shall be determined as follows:

Meters read in January, February and March
The Wastewater Usage Charge for each respective month shall be determined by multiplying the applicable monthly usage times applicable volumetric charges, but in no case less than 2,493 gallons per month, multiplied by applicable volumetric charges.

Meters read in April through December
The Wastewater Usage Charge for each month April through December shall be based on the Monthly Usage Constant, equal to one-third of the winter quarter consumption, but in no case less than 2,493 gallons per month, multiplied by applicable volumetric charges.

In the case of new customers, the volume of wastewater discharged shall be determined as follows:

New Customers in an Existing or New Dwelling or Premises for Which Actual Full Period Winter Quarter Usage History is Available: Determination of the monthly use constant shall be based on the last known full period winter quarter usage at that property.

Existing or New Customers in an Existing or New Dwelling or Premises for Which No Full Period Winter Quarter Usage History is Available: Monthly Wastewater Usage Charges will be calculated at the minimum usage of 2,493 gallons per month.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges shall be prorated to the date of establishment or discontinuance of service.

[9] The rates on this schedule will increase by 3% on October 4th in 2025, 2026, and 2027, and by 4% on October 4th in 2028 and 2029 by the terms of the Agreement of Sale between the Borough of Somerville and New Jersey-American Water Company, Inc.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated

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By: Mark K. McDonough, President¶
1 Water Street, Camden, NJ 08102¶
Filed pursuant to Orders of the Board of Public Utilities entered in¶
Docket Nos. WE23030197 and WE23040233 dated September 27, 2023.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 67

RATE SCHEDULE 20-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Somerville and the portion of the Township of Bridgewater served by the Somerville System.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE
In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or Flat Rate Service Charge any other Charge as set forth in Rate Schedule 20-A:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.52139	$5.2139

FILING
The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

TERMS OF PAYMENT
See Rate Schedule for applicable customer class.

PROVISIONS
Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 68

RATE SCHEDULE 21-A
GENERAL METERED AND FLAT RATE SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial, and municipal wastewater service to customers in the Environmental Dispoal Corp. ("EDC") Service Area. Those who receive volume-based water service billings from NJAWC will receive volume-based wastewater service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	Rate Per Month
Non-Exempt:	$39.97

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.03990	$10.3990

FLAT RATE SERVICE CHARGE

	Rate Per Month
Non-Exempt	$81.57

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 69

RATE SCHEDULE 22-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service provided in Salem City and the Township of Mannington. The charge for wastewater service shall consist of the total of the Fixed Service Charge and the Wastewater Usage Charge.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, if any, as follows:

	Non-Exempt
Fixed Service Charge per customer per month.	$56.88

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. Charges shall be based on water consumption as indicated by water meter readings on a monthly basis.

Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
All	$0.88500	$8.8500

SPECIAL SURCHARGES

Item	Additional Cost
Per pound of BOD_5	$0.26000
Per pound of suspended solids	$0.16000
Septage rate per gallon	$0.08000

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

RATE SCHEDULE 23-A
GENERAL METERED SERVICE[10]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service provided in the Borough of Manville. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, and the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 23-B.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, if any, as follows:

	Non-Exempt
Fixed Service Charge per customer per month.	$7.20

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.17136	$1.7136

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

[10] The rates on this schedule will increase by 2% in 2025, 3% in 2026, 2027 and 2028, and 4% in 2029 and 2030 by the terms of the Agreement of Sale between the Borough of Manville and New Jersey-American Water Company, Inc.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 71

RATE SCHEDULE 23-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY
Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in the Borough of Manville. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE
In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 23-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$ 0.51380	$5.1380

FILING
The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.
The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.
The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

PROVISIONS
Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT
See Rate Schedule for applicable customer class.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: Effective:

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401 dated .

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TARIFF FOR WATER AND WASTEWATER SERVICE

By: Mark K. McDonough, President
1 Water Street, Camden, New Jersey 08102

TABLE OF CONTENTS

AN INTRODUCTION TO CUSTOMERS

The approved tariff located in the Company's office at 1 Water Street, Camden, NJ, and on its website at https://www.amwater.com/njaw/customer-service-billing/your-water-and-wastewater-rates, is available for your review. The Company is obligated to keep its tariff current, including any changes approved by the Board of Public Utilities. The Company is required to maintain it in exactly the same format as the Company's tariff on file at the Board of Public Utilities, 44 South Clinton Avenue, 1st Floor, Trenton, NJ.

Through the Company's My Account portal, customers can complete some of the most common functions associated with their accounts and schedule some appointments. The Company's Customer Service personnel can also be reached at 1-800-272-1325 for assistance. If, after you review this tariff and discuss it with appropriate Company employees, you still have questions regarding clarification or interpretations, please contact the Board of Public Utilities, Division of Water at 1-609-633-9800 or the Board's Division of Customer Assistance at www.nj.gov/bpu/ or 1-800-624-0241.

You have the right to review this tariff at the Company's offices or at the Board's office in Trenton. Your inquiries will be handled by the Board's Staff in an expeditious manner in order to protect your rights as well as those of the water and/or wastewater Company. Please feel free to exercise this right by telephone or by visiting the Board's offices at any time between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday, or by writing a letter. The letter should contain the writer's name, address and phone number, including the area code. If the writer is a customer of record, the account number should be included.

The Company also has available in its office a leaflet entitled "The Utility Customer's Bill of Rights." This is a summary document; it does not include all customer rights or utility obligations.

New Jersey-American Water hereby adopts the rules and regulations promulgated by the Board of Public Utilities of the State of New Jersey, some of which are referenced herein, and all of which are herein adopted and incorporated by reference. New Jersey-American Water provides water and wastewater service to various municipalities, all in the State of New Jersey.

The Board of Public Utilities is responsible for the final interpretation and enforcement of a utility's tariff provisions and rates. The utility is bound by New Jersey's statutes and the Board's regulations. If a conflict should exist in the tariff that is detrimental to the customer, the Board's regulations supersede the tariff provision absent specific approval to the contrary by the NJ Board of Public Utilities. A utility company may provide for more liberal treatment than that provided for in the Board's regulations.

Tariff B.P.U. No. 8 - Water and Wastewater is divided into a water section and a wastewater section, preceded by standard terms and conditions which are universally applicable, standard terms and conditions applicable to water service only, and standard terms and conditions applicable to wastewater service only. Tables of contents for each section precede a series of sequentially numbered and lettered tariff rate schedules. The tables of contents denote the appropriate rate schedule applicability for all classes of service and are an integral part of this tariff.

DEFINITIONS - WATER

The following are definitions of specific terms that are used in this document:

1- "Board" or "BPU" shall mean the New Jersey Board of Public Utilities.

2- "Company" or "New Jersey-American Water" shall mean New Jersey-American Water Company, Inc. or, as applicable, any predecessor entity.

3- "Connecting line" is the portion of pipe that starts at the curb stop and conveys domestic water and/or fire service to the customer. The customer and/or premises owner owns, and is responsible for the operation and maintenance of the connecting line.

4- "Curb stop" is the fitting attached to the service line on the roadside utility right-of-way of the property, and is used primarily for turning on and shutting off water at the curb in emergencies, for purposes of repair or to discontinue service to a customer.

5- "Customer" means a person that is an end-user, a customer of record or both, as defined in N.J.A.C. 14:3-1.1. "Customer of Record" means the person that applies for utility service and is identified in the account records of a public utility as the person responsible for payment of the public utility bill. A customer may or may not be an end-user. "End User" means a person who receives, uses, or consumes water or wastewater service. An end user may or may not be a customer of record.

6- "DEP" shall mean the New Jersey Department of Environmental Protection.

7- "End User" means a person who receives, uses, or consumes water or receives wastewater or fire protection service. An end user may or may not be a customer or a premises owner.

8- "Extension" is an addition to the existing system of mains, intended to service more than one customer, either at the time of installation or in the future.

9- "Interruptible Service" means service which may be interrupted in the sole discretion of the Company on not less than three (3) hours' notice to the customer by telephone or otherwise.

10- "Main" is a pipe or conduit for conveying water or wastewater. A "water main" will exclusively convey water and a "wastewater main" will exclusively convey wastewater.

11- "Meter" is a device to measure the quantity of water, wastewater and/or the rate of flow delivered to or from a customer.

12- "Meter pit" is a structure that houses a small meter or meters less than or equal to 2-inches. Unless agreed to by the Company and the customer, it is installed, furnished and maintained by the Company.

13- "Meter vault" is a structure that houses a meter or meters larger than 2-inches. Unless explicitly agreed to by the Company and the customer in writing, it is located and designed by the Company, and constructed, installed, furnished and maintained by the Customer at the sole expense to the customer. The Company will ensure that the vault is kept clear of any of its equipment that is no longer in service, to the extent possible.

14- "Person" means an individual, firm, joint venture, partnership, co-partnership, corporation, association, State, county, municipality, public agency or authority, bi-state or interstate agency or authority, public utility, regulated entity, cable television company, cooperation association, or joint stock association, trust, limited liability company, governmental entity, or other legal entity, and includes any trustee, receiver, assignee, or personal representative thereof. (N.J.A.C. 14:3-1.1)

15- "Premises" is defined as follows:

a) A building under one-roof, owned or leased by one customer and occupied as one place of business or residence.
b) A combination of buildings, owned or leased by one customer in one common enclosure, occupied by one family or business.

DEFINITIONS – WATER (Continued)

c) A combination of buildings, such as a garden type apartment, owned or leased by one customer, in one common enclosure, none of the individual buildings of which is adapted to separate ownership.
d) The one side of a double house having a solid vertical partition wall, so that it may be adapted to separate ownership.
e) A building owned or leased by one person, of more than one apartment and using in common one hall and one entrance.
f) A building owned or leased by one person, having a number of apartments or offices, and using a common one hall and one or more means of entrance.
g) A public building or a single plot such as a park or a playground.
h) A building or combination of buildings owned by one customer or entity located on contiguous property not intersected or intervened by another customer or entity.

16- "Premises owner" is the party who possesses the exclusive right to hold, use, benefit from, enjoy, convey, transfer, and otherwise dispose of the property. A premises owner may or may not be the customer of record or end-user, as defined in N.J.A.C. 14:3-1.1.

17- "PWAC" or "Purchased water adjustment clause" is a provision that authorizes a utility to adjust its rates to compensate for an increase or decrease in the cost of water purchased from a water purveyor. (N.J.A.C. 14:9-7.2)

18- "PWAC Year" shall mean the twelve-month period beginning each April 1 and ending March 31 of the following calendar year.

19- "Residential customer" means a customer who receives service from a regulated entity for use in a residence. (N.J.A.C. 14:3-1.1)

20- "Sales for Resale Customer" means a municipal water system, a Municipal Utilities Authority, a County Utilities Authority, a Water Supply Authority, district or commission or a water utility regulated by the Board.

21- "Service line" is the portion of pipe that starts from a main and ends at the curb stop. The service line is owned, operated and maintained by the Company. (N.J.A.C. 14:3-8)

22- "Tap" is the fitting inserted in the main to which the service line is attached. It is used to facilitate the tapping of the main and for shutting off water in case of repairs to the service line.

23- "Tariff," as referred to herein, is the entire "Tariff for Water and Wastewater Service" as the same may be amended or revised from time to time in accordance with N.J.A.C. 14:3-1.3, Tariffs.

24- "Water connection" includes all service line, taps and curb stops necessary to supply customers with water at their premises from the Company's water mains.

25- "Water service" is the act of providing water to a customer.

DEFINITIONS - WASTEWATER

The following are definitions of specific terms that used hereafter in the tariff. Additional definitions are set forth in the Definitions section of the tariff for water and wastewater service.

1- "New Account" as herein used shall be defined as an account opened as the result of the construction of a new building.

2- "Building Drain" shall mean that part of the lowest horizontal piping of a drainage system which receives the discharge from drainage pipes inside the walls of the building terminating five (5) feet outside the face of the building wall from whence it becomes known as the building sewer.

3- "Building Sewer" shall mean the extension from the building drain to service lateral line and/or other point of connection to the Company wastewater collection system.

4- "Biochemical Oxygen Demand", denoted hereinafter as "B.O.D.", shall mean the quantity of oxygen utilized (demanded) in the biochemical oxidation of organic matter under standard laboratory procedure in five (5) days when incubated at 20^{o}C.

5- “Bulk User” means a municipality which has contracted with the utility for wastewater treatment services. The utility has no responsibility for construction of the mains connecting the Bulk User to the utility nor in the collection of payments of customers of the bulk user. Bulk User customers are not in the service territory of the utility.

6- "Suspended Solids" shall mean solids that either float on the surface of or are carried in suspension in water, wastewater or industrial wastes, and which are removable by laboratory filtering.

7- "pH" shall mean the logarithm to the base ten of the reciprocal of the weight of hydrogen ions in moles per liter of solution.

8- "Garbage" shall mean solid wastes from domestic and commercial preparation, cooking, dispensing or marketing of food or food products and from the handling, storage and sale of produce.

9- "Properly Shredded Garbage" shall mean garbage that has been shredded to such a degree that all particles will be carried freely under the flow conditions normally prevailing in the wastewater system with no particle greater than one-half inch (1/2") in any dimension.

10- “PSTAC” or “Purchased wastewater treatment adjustment clause” is a provision that authorizes a utility to adjust its rates to compensate for an increase or decrease in the cost of wastewater treatment purchased from a wastewater treatment purveyor. (N.J.A.C. 14:9-7.2)

11- “PSTAC Year” shall mean the twelve-month period beginning each April 1 and ending March 31 of the following calendar year.

12- "Slug" shall mean the discharge of water, sewage, or industrial waste which in concentration of any constituent or in quantity of flow exceeds for any period of duration longer than fifteen (15) minutes more than five (5) times the average twenty-four hour flow or concentration under normal operating conditions.

AN OVERVIEW OF CUSTOMER RIGHTS

(1) No public utility shall refuse to furnish or supply service to a qualified applicant. N.J.A.C. 14:3-3.1

(2) The utility shall not place the name of a second individual on the account of a residential customer unless specifically requested by said second individual. (N.J.A.C. 14:3-3.2(b))

(3) A customer has the right to have any complaint against the utility handled promptly by that utility. (Board Order, Docket No. CO8602155)

(4) Each utility shall, upon request, furnish its customers with such information as is reasonable in order that the customers may obtain safe, adequate and proper service. N.J.A.C. 14:3-3.3(a)) Each utility shall inform its customers, where peculiar or unusual circumstances prevail, as to the conditions under which sufficient and satisfactory service may be secured from its system. (N.J.A.C. 14:3-3.3(c)) Each utility shall supply its customers with information on the furnishing and performance of service in a manner that tends to conserve energy resources and water resources and preserve the quality of the environment. N.J.A.C. 14:3-3.3(d)

GENERAL RULES

1- The location of meters and the arrangement of the fittings and piping are subject to inspection and approval of the Company and should meet Company's requirements presented herein.

2- The Company will endeavor to provide a regular and uninterrupted supply of water through its facilities. However, if service shall be interrupted, irregular, or defective, or fail because of breakdown or emergency, the Company will not be liable for damage, inconvenience or lost income resulting there from.

3- A customer's responsibility to pay for service continues from the time service is commenced, pursuant to his/her application, until notice is received by the Company of a change of ownership or occupancy of the premises or notice is received by the Company to discontinue the applicable service. Upon receipt of such notice, the Company will arrange for a final meter reading and billing. No allowance will be made in case of non-occupancy, unless the Company is notified as stated above.

4- The Company does not undertake to render any special service or maintain any fixed pressure. In the event of an accident or for other reasons, the Company may shut off the water in its mains and pipes and may restrict the use of water whenever the public welfare may require it. All customers requiring an uninterrupted supply or a uniform pressure of water for any purpose, such as steam boilers, are cautioned to provide their own means of providing such special uninterrupted service. When the supply is to be interrupted or curtailed, the Company will endeavor to give notice.

5- The Company does not undertake to supply any uniform quality of water for special purposes, such as laboratories, manufacturing or processing plants, swimming pools, bleaching or dyeing plants, or laundries. Customers requiring water of special quality, or water free from discoloration or turbidity, are required to provide their own means of treating water, or provide such other protection as may be deemed necessary for the purpose required.

6- From time to time, the Company may provide public notices, specific notices, correspondence or other notifications ("Notices") regarding the presence of conditions affecting the quality and/or quantity of water service provided by the Company. (Examples of such Notices include, but are not limited to, boil water alerts, notice of hydrant and main flushing, and notice of water quality testing results.) These Notices may contain information about actions members of the public may wish to, are recommended to, or should take in response to the conditions identified in the Notice. In the event the Company issues a Notice, the Company will not be liable for any expenses or costs incurred by a customer or end-user for any action taken in response to any condition identified in the Notice.

GENERAL RULES (Continued)

7- Neither by inspection approval nor failure to approve, nor in any other way, does the Company give any guarantee, or assume any responsibility, expressed or implied, as to the adequacy, safety or characteristics of any structures, equipment, pipes, appliances or devices owned, installed or maintained by the customer or leased by the customer from third parties.

8- The Company will not be liable for any loss, injury, casualty, or damage resulting from the supply or use of water service, or from the presence or operation of the Company's structures, equipment, pipes, appliances or devices on the customer's premises.

9- No unauthorized person is permitted to turn the water on or off at any street valve, corporation stop, curb stop, or other street connection, or disconnect or remove any meter without the consent of the Company.

10- No agent or employee of the Company shall have authority to bind it, by any promise, agreement, or representation not provided in this tariff, or in any way inconsistent therewith

GENERAL RULES (Continued)

11- Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

12- The quantity of water recorded by the meter shall be taken to be the amount delivered to the customer, except where the meter has been found to be registering fast by more than one and one-half percent (1.5%) or has ceased to register.

13- All service provided by the Company except public fire protection shall be metered. Thus, no unmetered water service connections are permitted except as otherwise set forth herein or approved by the Company.

14- The Company shall own and provide without charge for each customer supplied on a measured basis, a meter and such appurtenances related to the meter as are customarily furnished by the Company, such as encoders, radio transmitters, meter pits (but not meter vaults), or other devices designed to facilitate the collection of accurate and efficient meter reads.

15- The Company requires that all meters be housed inside meter pits (for meters that are less than or equal to 2-inches) or meter vaults (for meters that are larger than 2-inches). Where more than one service type exists (domestic, private fire protection or irrigation) all meters shall be housed inside a meter vault if any one meter is greater than two inches. The Customer is responsible for the installation and maintenance of meter vaults. All meter pits and meter vaults will be located outside of the Customer's structure in a location acceptable to the express approval of the Water Company. Notwithstanding the foregoing, the Company may grant an exception to this rule on a case by case basis at the Company's discretion.

16- The Company maintains and repairs meters except in case of misuse or damage by the customer or the customer's invitees, agents, representatives or contractors, in which case the Company shall charge the customer for repairing and replacing the meter, said charge to be based on the costs related to the removing, repairing, replacing and/or resetting the meter. The charge will be made in accordance with Rate Schedule P-2.

17- Where more than one rate schedule is available to particular customers, the utility shall have at all times the duty to assist such customers in the selection of the rate schedule most favorable for their individual requirements and to make every reasonable effort to ensure that such customers are served under the most advantageous schedule.

18- Upon the request of a customer, the Company shall send a Spanish language version of the notice of discontinuance for nonpayment. N.J.A.C. 14:3-3A.3(e)

19- The Company reserves the right to require any customer having unusual requirements of demand, services or supply to enter into a special written contract, which contract shall provide for the mutual obligations of the customer and Company. Special contracts will be filed with the Board.

20- In case of fraud, deception, illegal use, or when it is clearly indicated that the customer is preparing to leave, the Company may demand immediate payment of accounts and terminate service without further notice.

21- The Company reserves the right to change, take from or add to this tariff and the Standard Terms and Conditions, to the extent permitted by law, or permitted by the applicable regulations of the state regulatory body having jurisdiction.

22- For all materials furnished or services rendered to any governmental agency or unit of the United States, New Jersey, or sub-unit thereof, that is not covered by any other tariff provision or rate schedule, and which pertain to hydrants, meters or situations involving emergencies, the charges will be 10% more than the total of the following applicable items:

(a) Equipment and materials: actual costs;
(b) Labor charges: actual costs (including base plus fringe); and,
(c) Other charges: actual costs (such as permits, police protection, contractor labor, restoration, etc.).

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DEPOSITS

1. If after notice of the methods of establishing credit and being afforded an opportunity, a customer has not established satisfactory credit, the utility may require a deposit. The deposit amount shall be determined in accordance with N.J.A.C. 14:3-3.4.

2. The utility must furnish a receipt to any customer posting a deposit. The deposit will be returned with simple interest at a rate established annually by the Board of Public Utilities. Once the customer has established satisfactory credit with the utility, the deposit shall be returned to the customer with interest due. The customer has the option of receiving the deposit refund either by a check or a credit on the account. If a residential customer's deposit is not returned, the utility shall credit the customer's account with the accrued interest once every twelve months, in accordance with N.J.A.C. 14:3-3.5.

3. Where a water or wastewater utility furnishes unmetered service, for which payment is received in advance, it may not require a deposit. N.J.A.C. 14:3-3.4(j)

4. The Company shall review a residential customer's account at least once every year and a nonresidential customer's account at least once every two years to determine whether the customer has established credit satisfactory to the Company. If this review indicates that the customer has met the utility's standard requirements for establishing credit, the utility shall refund the customer's deposit. N.J.A.C. 14:3-3.5, Return of deposits, interest on deposits.

5. If the deposit has remained with the Company for at least three months, without default, it will be returned to the customer with simple interest on an annual basis at a rate established annually by the Board of Public Utilities. Deposits shall cease to bear interest upon the discontinuance of service.

FORM OF BILL FOR METERED SERVICE

6. All bills will be computed in accordance with the rates of the Company as shown in this Tariff, and as the same may be amended or revised from time to time. Rates are subject to such changes as the state regulatory body having jurisdiction may require, authorize or allow.

7. A customer has twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted, or electronic transmission date for customers on electronic billing, to pay a bill. A water and/or wastewater company may not discontinue water or wastewater service unless it has provided written notice giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. This written notice shall be sent by first class mail, apart from the bill and as a separate mailing. (N.J.A.C. 14:3-3A.3 (c)) The notice shall not be given until after the expiration of the said twenty (20) days' time to pay a bill. (N.J.A.C. 14:3-3A.3(b)) The notice shall contain sufficient information for the customer to notify the Board of Public Utilities of the nature of the dispute. The utility shall make a good faith effort to determine which of its residential customers are over 65 years of age, and shall make good faith efforts to notify such customers of discontinuance of service by telephone in addition to notice by regular mail. This effort may consist of an appropriate inquiry set forth on the notice informing customers that they may designate a third party to receive notice of discontinuance.

8. Bills rendered must contain the following information: (a) the meter readings at the beginning and end of the billing period; (b) the dates on which the meter is read; (c) the number and kind of units measured; (d) identification of applicable rate schedule or statement that the applicable rate schedule will be furnished upon request; (e) the amount of the bill; (f) a distinctive marking to indicate an estimated, averaged, or remote meter index and web address and telephone number where the customer can obtain a description of the method used; (g) an explanation or statement of any conversion from meter reading to billing units or any other calculations or factors used in determining the bill; and (h) the gross receipts and franchise tax statement. N.J.A.C. 14:3-7.2

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

FORM OF BILL FOR METERED SERVICE (Continued)

9. Estimated Billing. If for any reason a utility cannot read a customer's meter, the utility may use estimated billing in accordance with N.J.A.C. 14:3-7.2(c). Customers may request a special reading for a meter where a high bill or other reason exists to believe the meter reading used for billing purposes is in error. Rules concerning estimated bills for residential customers are as follows:

   a. The Company shall maintain a regular meter reading schedule and make a reasonable effort to read all meters.

   b. The Company, upon request, must make available to all customers a postage-paid business reply card on which the customer may mark the meter reading. Said card shall have appropriate explanation. The utility must permit the customer to telephone the meter reading to the utility. The customer reading is to be used in lieu of an estimated reading, provided the reading is received in time for billing.

   c. When the Company estimates an account for four consecutive billing periods (monthly accounts), or two consecutive billing periods (bi-monthly and quarterly accounts), the Company must initiate a program to mail a notice marked "Important Notice" to the customer on the fifth and seventh months explaining that a meter reading must be obtained and said notice must explain the penalty for failure to complete an actual meter reading. After all reasonable means to obtain a meter reading have been exhausted, the Company may discontinue service provided at least eight months have passed since the last meter reading was obtained, the Board of Public Utilities has been so notified, and the customer has been properly notified by prior mailing. If service is discontinued and subsequently restored, the utility may charge a reconnection charge equal to the reconnection charge for restoring service after discontinuance for non-payment. The reconnection charge shall become due when service is restored, whether the Company or an authorized professional physically restores service. Unauthorized reconnections shall be considered theft of service. Unauthorized reconnections by a customer no longer in arrears, shall be considered tampering with utility facilities.

   d. The Company must submit to the Board of Public Utilities a statement detailing their estimating procedures.

   e. An estimated bill must be clearly designated as such.

   f. If low estimates result in a customer receiving an actual bill that is at least twenty five percent (25%) greater than the prior estimated bill, the Company shall allow the customer to amortize the excess amount. The amortization will be in equal installments over a period of time equal to the period when no actual meter reading was taken by the customer or the Company. (7) Annually, the Company shall notify all customers of their rights to amortize as set forth in N.J.A.C. 14:3-7.2.

BUDGET BILLING

10. The Company will make available to residential customers whose accounts do not reflect past-due balances the option to pay their bills on a monthly, budgeted basis. The budget billing plan year will be a twelve (12)-month time frame and allows a customer to pay a predetermined monthly amount, based upon the customer's average usage. If a customer is a new customer with little or no prior history of utility use, the monthly budget amount shall be determined using a reasonable estimate of likely usage. The budget billing plan will be made available to eligible customers by bill insert or bill message at least twice in each twelve (12)-month period.

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

BUDGET BILLING (Continued)

11. The Company will "true up" the actual cost of service rendered as determined by actual meter readings and the actual monthly budgeted amount at the beginning of the budget plan year, and at least once during the budget plan year if the true-up performed during the customer's budget plan year reveals an increase or decrease of twenty-five (25) percent or more in the monthly budget amount, the Company will adjust the budget billing plan up or down, if necessary. There shall be no more than one such adjustment during the budget plan year. The Company will notify the customer of any change in the budget billing amount prior to such change.

12. A final bill for the budget plan year shall be issued in the last month of the budget plan year, and shall contain the month's monthly budget amount, plus an adjustment of any difference between said amount and the actual cost of service rendered during the budget plan year. Payment of this final balance due is required before the customer will be allowed to participate in the budget billing program for the upcoming budget billing plan year.

13. The Company shall notify the budget billing plan customers in writing of a revised monthly budget amount at least ten (10) working days before the due date the initial bill of the next budget plan year. Should the customer opt out of the budget billing plan, payment of the total charges incurred to date will be due immediately, or, in the alternative, agree to enter into a deferred payment agreement according to N.J.A.C. 14:3-7.7; or a credit will be applied to the account, whichever is applicable. The plan bill shall contain the information required by N.J.A.C. 14:3-7.2, Form of Bill for Metered Service, N.J.A.C. 14:3-7.3 Form of Bill for Unmetered Service, and N.J.A.C. 14:3-7.4, Method of Billing.

14. Should the customer breach the terms of the budget billing plan by failing to make the monthly payments as required under the plan or by having a budget billing plan payment returned due to insufficient funds, the Company reserves the right to terminate the customer's participation from the program; payment of total charges incurred to date will be due immediately, or, in the alternative, the Company and the customer will agree to enter into a deferred payment agreement according to N.J.A.C. 14:3-7.7.

FINANCIAL AID

15. The Company understands that from time to time its customers may have difficulty paying their water and/or wastewater bills issued by the Company. If at any time customers find that they cannot pay their water and/or wastewater bill by the due date, the Company requests that the customers contact the Company's Customer Service Center, prior to the due date, to work out a payment arrangement with the Company to avoid a shut-off of service, at 1-800-272-1325.

16. In addition to working out payment arrangements with customers in times of financial difficulty, the Company has also established a residential customer assistance program for its low-income customers who are having difficulty paying their water and/or wastewater bills issued by the Company. This residential customer assistance program, called the H2O Help to Others Assistance Program, is designed to provide financial assistance to qualified residential customers to pay their water and/or wastewater bills and protect them from an unnecessary discontinuance of their water and/or wastewater service. A grant from the H2O Help to Others Assistance Program may be awarded to cover a portion or all of the residential customer's outstanding bill based on the customer's ability to pay, income level and the availability of funds in the program. For more information about this program, please contact NJ Shares at 1-877-652-9426 or any subsequent program administrator whose contact information may be found on the Company's web site. Customers who qualify for the program are required to recertify income eligibility every two years.

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DEFERRED PAYMENT ARRANGEMENTS

17. A customer is entitled to at least one deferred payment plan in one year. In the case of a residential customer who receives more than one utility service from the same utility (ex: water and wastewater; gas and electric) and the amount which is in arrears is a combination of those services, the utility shall offer a separate deferred payment agreement for each service based on the outstanding balance for that service. (N.J.A.C. 14:3-7.7(b)2) The Company must renegotiate the deferred payment agreement should the customer document a significant change in financial situation. The Company must also issue a new discontinuance notice each time it intends to shut off service, including defaults on the terms of the agreement. In the case of a residential customer who receives more than one utility service from the same utility and has subsequently entered into an agreement for each separate service, default on one such payment agreement shall constitute grounds for discontinuance of only that service. N.J.A.C. 14:3-7.7(f)

DISCONTINUANCE OF SERVICE

18. A water and wastewater utility shall not discontinue service because of nonpayment of bills in cases where a charge is in dispute provided the undisputed charges are paid (N.J.A.C. 14:3-3A.2(e)5) and a request is made to the Board within five (5) days for investigation of the disputed charge. The Company must advise the customer of their right to appeal to the Board of Public Utilities. N.J.A.C. 14:3-7.6(b)

19. Basis for Discontinuance of Service. The Company shall have the right to suspend or curtail or discontinue service for any of the following reasons (N.J.A.C. 14:3-3A.1(a)):

    a. For the purpose of making permanent or temporary repairs, changes or improvement in any part of its system;

    b. For compliance in good faith with any governmental order or directive, regardless of whether such order or directive subsequently may be held to be invalid;

    c. For non-payment of a valid bill due for service furnished at a present or previous location, in accordance with N.J.A.C. 14:3-3A.2. However, non-payment for business service shall not be a reason for discontinuance of residence service except in cases of diversion of service pursuant to N.J.A.C. 14:3-7.8;

    d. For nonpayment of a deposit, in accordance with N.J.A.C. 14: 3-3A.9;

    e. For any of the following acts or omissions on the part of the customer:

        (i) Refusal of reasonable access to the customer's premises in accordance with N.J.A.C. 14:3-3.6;
        (ii) tampering with any facility of the Company;
        (iii) fraudulent representation in relation to the use of service;
        (iv) customer moving from the premises, unless the customer requests that service be continued;
        (v) providing service to others without approval of the Company;
        (vi) refusal to contract for service where such contract is required;
        (vii) connecting and operating equipment in such manner as to produce disturbing effects on the service of the Company or other customers;
        (viii) failure of the customer to comply with reasonable Standard Terms and Conditions;
        (ix) where the condition of the customer's installation presents a hazard to life or property; or
        (x) failure of a customer to repair any faulty facility of the customer.

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DISCOUNTINUANCE OF SERVICE (Continued)

20. Public Utilities shall not discontinue residential service except between the hours of 8:00 a.m. and 4:00 p.m. Monday through Thursday unless there is a safety-related emergency. There shall be no involuntary discontinuance of service on Fridays, Saturdays or Sundays or on the day before a New Jersey State holiday or on a New Jersey State holiday, absent such emergency. N.J.A.C. 14:3-3A.1(c)

21. Should a customer be more than 20 days delinquent in paying the monthly bill for service, or violate one or more of the standard terms and conditions of service contained in this or subsequent tariffs of the Company, the Company may discontinue service by giving 10 days' written notice of disconnection to the customer and, for wastewater service, a copy of such notice to the local Board of Health.

22. Notices herein of discontinuance of service shall be sent by first class mail, apart from the bill and as a separate mailing. (N.J.A.C. 14:3-3A.3(b)2) Customers are advised that it is illegal to operate a dwelling without adequately functioning wastewater facilities, and that the Company is required to notify local health authorities of wastewater service termination.

23. Medical Emergency. Notwithstanding the following, at the end of the period of medical emergency the customer remains liable to the Company for the charges for services rendered during the period of non-discontinuance, subject to the provisions of N.J.A.C. 14:3-7.6. (N.J.A.C. 14:3-3A.2(i)). Residential service may not be discontinued for non-payment for a period of 90 days if a medical emergency exists within the premises and which would be aggravated by the shut off so long as the customer provides the Company with reasonable proof of his or her inability to pay and a licensed medical professional's written statement as to the existence of the emergency, its nature and probable duration, and how the termination of service will aggravate the medical emergency. This period of non-discontinuance may be extended as set forth in N.J.A.C. 14:3-3A.2(j). The Company reserves the right to contest the validity of any claimed medical emergency before the BPU.

24. Utilities shall annually notify all residential customers that, upon request, notice of discontinuance of service will be sent to a designated third party as well as to the customer of record. This provision shall not apply if Company makes a good faith effort to contact all residential customers by telephone prior to discontinuance and file with the Board a statement setting forth such procedure. N.J.A.C. 14:3-3A.4)

25. The Company shall make every reasonable attempt to determine when a landlord-tenant relationship is known to exist, and if the tenants are not the customers of record but are end-users, as these terms are defined at N.J.A.C. 14:3-1.1. Discontinuance of service is prohibited unless the utility has given a 15-day written notice to the owner of the premises or to the customer of record to whom the last preceding bill was rendered. The utility shall use its best efforts to determine the names and addresses of each tenant, in order to provide such notice, for example, through mailings to landlords requesting a list of tenants. The utility shall use its best efforts to provide copies of the discontinuance notice to all tenants. In addition, the utility shall provide the tenant(s) with a twenty (20) day written notice, which shall be hand delivered, mailed, or posted in a conspicuous area of the premises and in the common areas of multiple family premises. N.J.A.C. 14:3-3A.6.(a) If a utility uses posting as the method of notice, each utility shall use its best efforts to also place a copy of the notice on each tenant's car windshield or under the door of each tenant's dwelling. In the case of tenants of single and two-family dwellings, each tenant shall also be provided with a 15-day individual notice. Each utility shall offer the tenant(s) continued service to be billed to the tenant(s) unless the utility demonstrates that such billing is not feasible. Tenants seeking continuation of service under this provision shall supply the utility with a copy of a valid lease or rental agreement. The continuation of service to a tenant shall not be conditioned upon payment by the tenant of any outstanding bills due upon the account of any other person. The utility shall not be held to the requirements of this provision if the existence of a landlord-tenant relationship could not be reasonably ascertained. N.J.A.C. 14:3-3A.6.(b)

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

DISCOUNTINUANCE OF SERVICE (Continued)

26. The utility or its designated contractor shall have the right of reasonable access to customer's premises, and to all property furnished by the utility, at all reasonable times for the purpose of inspection of customer's premises incident to the rendering of service, reading meters, or inspecting, testing, repairing or conducting markouts, either itself or through its contractor designated to perform said markouts, in compliance with the Underground Facility Protection Act, N.J.S.A. 48:2-73 et seq., and N.J.A.C. 14:2, also known as the "One-Call rules," of its facilities used in connection with supplying the service, for the discontinuance of service for nonpayment after proper notice, or for the removal of its property. (N.J.A.C. 14:3-3.6(a)) Service can be discontinued for refusal of reasonable access to customer's premises for necessary purposes in connection with rendering of service, including meter and remote reading device installation, reading or testing, or the maintenance or removal of the utility's property. (N.J.A.C. 14:3-3A.1(a)5.i) Reconnection fees as shown on Rate Schedule P-2 and Rate Schedule 9-A will be charged upon restoration of service.

27. It is the responsibility of a customer who wishes to voluntarily discontinue his or her service to notify the Company and request a final reading. A customer wishing to discontinue service shall give notice to the utility. Within 48 hours of said notice, the utility shall discontinue service or obtain a meter reading for the purpose of calculating a final bill. Where such notice is not received by the utility, the customer shall be liable for service until the final reading of the meter is taken. Notice to discontinue service will not relieve a customer from any minimum or guaranteed payment under any contract or rate in accordance with the Standard Terms and Conditions on Sheet Nos. 23 and 24, nor will it mitigate any of the obligations on the Company's General Metered Rate Schedules. In accordance with N.J.A.C. 14:3-3A.1(b).

28. If a customer wishes to have his service physically disconnected, then notice as set forth within this tariff is required prior to such disconnection provided, however, that nothing herein shall operate to prevent the Company from discontinuing service at any time under conditions and for reasons set forth in this tariff; and provided further, that nothing herein shall be construed to prevent the making of contracts for extension of service or other special conditions.

29. When a customer is physically disconnected (water service) or the service lateral is plugged (wastewater service) for non-payment of a bill for, or violation of the standard terms and conditions of service, the customer will be required to pay, in addition to any outstanding or delinquent amount, the Company's actual cost of reconnection or $350.00, whichever is more, before service is restored. See Rate Schedules P-2 and 9-A. Wastewater service customers who remove plugs from their service laterals, and water customers who operate the curb stop to restore service after disconnection are tampering with Company property and may be charged with theft of service.

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

RESTORATION OF SERVICE

30. Service shall be restored within 12 hours upon proper application when: 1. all of the conditions under which service was discontinued are corrected; and 2. payment of all charges due is received at the utility or at an authorized payment center and the utility has received notice of the payment. Any other provision notwithstanding, the utility shall restore service within 12 hours if there is a complaint involving such matters before the Board and Board staff so directs the utility. N.J.A.C. 14:3-3A.9. See Rate Schedules P-2 and 9-A for restoration of service charges. Restoration of water service performed outside of normal business hours as shown on Rate Schedule P-2 will be subject to the Emergency Reconnection service charge of $100 as shown on that Rate Schedule P-2.

THEFT OF SERVICE

31. Whenever the Company reconnects service to a customer under the following conditions, a charge will be rendered for providing this service as described in Rate Schedule P-2 or 9-A.

    a. Whenever the Company has determined that a customer's service has been reconnected without the permission of the Company after service has been terminated for non-payment of bills or violation of the Company's tariff, the Company will terminate the customer's service for a second time and give written notice to the customer that if service is reconnected again without the permission of the Company, it will be necessary for the Company to excavate and physically disconnect service. A reconnection charge will be applied as set forth in Rate Schedules P-2 or 9-A of the present tariff.

    b. Customers in default in the payment of a bill may be required to furnish a deposit or increase their existing deposit in an amount sufficient to secure the payment of future bills. Service shall not be discontinued for failure to make such deposit except after proper notice to the customer. If a customer who has made a deposit fails to pay a bill, the Company may apply such deposit insofar as is necessary to liquidate the bill and may require that the deposit be restored to its original amount. N.J.A.C. 14:3-3.4(f)

32. The Company has certain rights under the law to obtain the cessation of acts constituting theft of service that have been committed in violation of N.J.S.A. 2C:20-8, as well as complete restitution for any losses or damages it has suffered as a result of said acts. Customers who tamper with Company property to illegally restore service after being shut off for nonpayment or any other reason under N.J.A.C. 14:3-3A et seq. may be subject to fees pursuant to Rate Schedule P-2 and Rate Schedule 9-A and responsible for payment of any resulting damages.

LATE PAYMENT CHARGE

33. Should a nonresidential customer fail to make payment as specified under Terms of Payment in the Rate Schedules the Company may, on the twenty-sixth (26th) day, assess a late charge at the rate of 0.35%. Service to state, county or municipal government entities will not be subject to a late payment charge. The charge will be applied to all amounts billed and unpaid finance charges applied to previous bills. The amount of the late payment charge to be applied to the Customer's account shall be calculated by multiplying the previous unpaid bill amount by the late payment charge rate. When payment is received by the Company from a Customer who has an unpaid balance which includes charges for late payment, the Customer's payment shall be applied first to the oldest aged unpaid bill amount and its applicable late charge, and then to the next oldest aged bill amount and late charge. Notwithstanding the foregoing, shut off provisions in accordance with N.J.A.C. 14:3-3A will still apply to past due accounts.

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

METER

34. The utility must provide for one free water meter test during any twelve (12) month period if the customer so requests it. (N.J.A.C. 14:3-4.5) A meter of a customer who has a complaint filed with the Board reflecting on the accuracy of the meter shall not be removed from service by the utility during the pendency of said complaint or during the following thirty (30) days unless otherwise authorized or directed by the Board. (N.J.A.C. 14:3-4.8(c)) When a billing dispute is known to exist, the water utility shall, prior to removing the meter, advise the customer that they may have the meter tested by the utility or may have the Board witness a testing of the meter by the utility, and that in any event the customer may have the test witnessed by a third party. (N.J.A.C. 14:3-4.5(c)) A meter test arising from a billing dispute may be appropriate in instances which include, but not limited to, unexplained increased consumption, crossed meters, consumption while an account is vacant or any other instance where the meter's accuracy might be an issue in a bill dispute. (N.J.A.C. 14:3-4.5 (d)) The customer can apply to the Board for a Board inspector to test the customer's meter. (N.J.A.C. 14:3-4.5(e)) All costs such a test shall be borne by the Company. N.J.A.C. 14:3-4.5(e)

35. If more than one meter test is made within a twelve (12) month period at the request of the customer and the meter is found to be accurate, the Company shall charge the customer for this meter test at the rate set forth in Rate Schedule P-2 for each additional test. (N.J.A.C. 14:3-4.5). If the meter is found to register fast by more than one and one-half percent (1.5%) of the water passed through the meter at full capacity, the customer will not be charged for the test. N.J.A.C. 14:3-4.6

36. Whenever a water meter is found to be registering fast by more than one and one-half percent, an adjustment of charges shall be made in accordance with the regulations which can be found at N.J.A.C. 14:3-4.6.

37. If a meter is found to be registering less than 100 percent of the service provided, an adjustment of charges may be made in accordance with the regulations which can be found at N.J.A.C. 14:3-4.6. In cases where the meter registers zero usage for an entire billing period, and the customer has knowingly taken and received water service, the customer shall be deemed to have reasonable knowledge that the meter may be defective or malfunctioning.

38. A water utility must maintain records of customers' accounts for each billing period occurring within a six year period. Such records shall contain all information necessary to permit computation of the bill. N.J.A.C. 14:3-6.1(b)

39. When the meter is not located inside the customer's building but outside in a meter pit, the customer shall not make connections or alterations inside the meter pit. All such connections are to be made outside of the meter pit on the customer's side of the meter. The meter pit or vault shall be installed at a location acceptable to, and with the express approval of, the Company. The Company may install, at the Company's discretion, radio transmitters or other remote meter reading devices on its meters and appurtenances as needed to promote efficient and accurate meter reads. Failure to comply with this requirement will be considered tampering with facilities of the Company and the customer will be subject to charges for repairs to damaged equipment and/or discontinuance of service.

40. When the customer's usage is obtained through an electronic ("encoder") read, that usage shall be deemed actual. No adjustment shall be made for a meter that is found to be registering less than 100 percent except in the case of meter tampering, non-registering meters or in circumstances in which the customer should reasonably have known that the bill did not reflect the actual usage. N.J.A.C. 14:3-4.6(d)

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

METER (Continued)

41. A customer having two or more meters (excluding meters for Service to Privately Owned Fire Protection Systems under applicable Rate Schedules set forth in the tariff) on the same premises will be charged at the tariff rate for the quantity of water equivalent to the sum registered on all of the meters on the premises, subject to a facilities charge equal to the sum of the facilities charges for each meter. Private Fire Protection services will be charged separately, in agreement to the present tariff.

APPLICATIONS FOR SERVICE

42. Inquiry for a water or wastewater service connection may be made by mail, telephone (888.237.1333) or via the Company's website at www.amwater.com/njaw, and the Company will provide and submit to the applicant, if necessary, any and all forms required to be filled out and signed by the owner, or their agents, for the premises to be supplied, including the identity of the customer of record before any new connection shall be installed. The application will not be processed until all forms are completed in full and any required supporting documentation is provided. Customers must agree to the terms, conditions and rates for service as set forth in this and subsequent tariffs of the Company.

43. Such inquiry shall be made in a reasonable time before such service is required for new buildings and premises not previously supplied to allow for the installation of service lines and accessories by the Company, as hereinafter defined.

44. Separate inquiry shall be made for each premises and for each type of service requested to be furnished (*i.e.* consumptive, irrigation, construction, wastewater, etc.)

45. Water and wastewater connections shall be made by the Company subject to the prior existence of a main that is adequately sized in terms of capacity and pressure required for the specific water connection within a public right of way or company easement abutting the property or premises to be served except in the case where the location of the connection is proposed to be on the long side of a divided (raised or grass) state highway, in which case the customer will be required to enter into an extension agreement. The acceptance of such inquiries for service shall in no way obligate the Company to extend its distribution or collection mains to abut the property or premises except as hereinafter provided.

46. The connection shall be in accordance with the applicable laws including but not limited to those of the BPU, DEP and all federal, state and local agencies.

47. In areas where the billing for wastewater service is based on the volume of water supplied to the premise by the Company, the Company will provide wastewater service only where the water used on the premises is measured by a water meter, subject to the limitations described within this paragraph, below. Where wastewater service is provided and water used on the premises is not supplied by the Company, then the water so used shall be measured by a meter furnished and installed by the Company at a location approved by the Company subject to the limitations described within this paragraph, below. Said wastewater charges shall be based on the volume of water supplied to the premises and measured by the water meter, unless the Company determines that, due to such issues as adverse ground conditions or due to other such unforeseen circumstances, or as required by other tariff provisions herein, it is impracticable or imprudent to install a water meter at the customer's premises in order to base wastewater service charges on the volume of water supplied to the premises as measured by said meter. In such situations, wastewater service billing will be based upon a flat rate, or a minimum usage as established by the applicable rate schedule within this tariff. In instances where a customer's water comes from a well, the Company will make a reasonable effort to install a meter on said well for purposes of determining wastewater service based on water consumption. However, if the utility determines that it is not feasible or practical to install a water meter on the well, the wastewater service billing shall be based upon a flat rate. In addition, should conditions in or around the well cause the meter to malfunction 2 times after installation, the Company has the right to remove the meter and to bill wastewater service on a flat rate, or a minimum usage as established by the applicable rate schedule within this tariff.

STANDARD TERMS AND CONDITIONS
WATER AND WASTEWATER

APPLICATIONS FOR SERVICE (CONTINUED)

48. The Company is not obligated to install more than one service and meter for each property or premises. Furthermore, in those instances where more than one service is requested the Company reserves the right to recapture all costs associated with the additional service(s).

49. Physical connections, such as cross-connections, interconnections, valves, pumps, or similar devices, either permanent or temporary, connecting the pipelines or facilities of the Company with other pipelines or facilities supplied with water from other sources will not be permitted without the express written consent of the Company. Water which has once been drawn from the Company's distribution network and used for any purpose or stored in tanks, is considered an unapproved source of supply.

50. The Company may require a cross-connection protective device on a customer's service, in accordance with N.J.A.C. 7:10-10, which will be purchased and installed at the expense of the customer. The cross-connection device shall be of the type approved by the Company. Inspection and testing at intervals, in accordance to N.J.A.C. 7:10-10, will be performed at the expense of the customer.

51. No device or connection is permitted between pipes carrying water from the mains of the Company and any portion of the plumbing system of the premises, which may under any condition permit back-flow or back-siphonage unless prior written permission has been granted by the Company.

52. Customers requesting a relocation of their service line will be required to pay a fee for the new service line and elimination of the existing service line.

53. Customers requesting a relocation of a Public Fire Hydrant will be required to pay a fee for its relocation.

54. Installation of electronic meter reading devices and other equipment designed to facilitate efficient and accurate meter reads, protect the integrity of the water system and/or quality of the water supplied by the Company may be required from any customer as a condition of service at the discretion of the Company.

55. Water sales to customers or entities using trucks or tanks that require additional attention can affect the Company's daily operations. A surcharge may be applied as listed in Rate Schedule P-1 of the present tariff.

56. A deposit may be required to guarantee payment for water service used for general construction and contracting purposes in an amount equal to the cost of the meter furnished. The deposit, less the cost of repairs to the meter, if any, will be refunded after surrender of the meter and payment of all charges for water supplied through it.

STANDARD TERMS AND CONDITIONS
WATER

WATER SERVICE AND CONNECTING LINES

Company Side – Service Lines

1. The Company is responsible for the installation and maintenance of the service line.
2. Only employees of the Company or persons duly authorized to do so by the Company are permitted to operate or otherwise access the curb stop.
3. No service line shall be used to supply more than one customer unless authorized in advance by the Company in writing.
4. Where two or more customers are supplied through a single service line, the customers and/or premises owner must provide a suitable location(s) for a separate meter and separate shut-off valve that will be dedicated to each customer. The piping of the building must be so arranged that each customer can be supplied through an independent meter, shut off valve and piping system as may be required by the Company, at the Company's sole discretion. The meter pit or vault shall be installed at a location acceptable to, and with the express approval of, the Company. Failure to comply with this provision may result in termination of service to all accounts serviced by a single connecting line when service to one account must be discontinued for non-payment or failure to otherwise comply with the terms and conditions of service provided for herein. Notice provisions outlined on Sheet No. 12, paragraph 25, will apply.
5. No single building or single group of buildings in one common enclosure and under one ownership shall be supplied by more than one of the same type of service line (i.e., only one domestic line and one fire line).

Customer Side – Connecting Lines

6. Connecting lines are owned, installed, maintained and repaired by the premises owner at the premises owner's sole expense. The connecting line should be maintained in a condition conducive for the Company to perform the services required to serve its customers. If the connecting pipe is not so maintained, any failure of this pipe following the operation of the curb stop by the Company will be the responsibility of the premises owner. While performing its duties, if the Company notices that the connecting pipe or other premises owner-owned and maintained appurtenances appear to be in poor condition, the Company will attempt to notify the premises owner of such, including that the owner may desire to contact a licensed plumber for a professional evaluation and/or repair of the connecting pipe and appurtenances. Failure to repair a leaking connecting line is grounds for termination of water service. N.J.A.C. 14:3-3A.1(a)5.
7. Notwithstanding any other provision of this tariff, the Company may, at its own expense, and with the permission of the customer, replace a customer's connecting line that is i) made of lead pipe, ii) made of pipe lined with lead or iii) made of ferrous-based pipe material capable of retaining lead particles.
   a. After the Company replaces the customer's connecting line, as described above, the customer will continue to own and be responsible for the connecting line, including maintenance of such line, in accordance with this tariff. The Company will offer the customer a warranty of the workmanship of its installation of the new connecting line for a period of 12 months following the date the customer signs the replacement agreement with the Company, with the Company's liability limited to the cost of repairing or replacing the customer's connecting line during that time. Except for the Company's limited liability under the 12-month workmanship warranty, the Company will not own nor assume any liability or responsibility with respect to the customer connecting line. The customer will agree to release and hold the Company harmless the Company, its contractors and subcontractors from and against all claims, liability and costs resulting from acts and omissions of Company and/or its approved contractors and/or subcontractors in installing the Customer service line pursuant to the replacement agreement.

STANDARD TERMS AND CONDITIONS
WATER

WATER SERVICE AND CONNECTING LINES

Customer Side – Connecting Lines (continued)

8. Connecting lines should be installed, without sharp bends, at right angles to the line of the street and shall be installed in the trench not less than 3-1/2 feet in depth to avoid damage and possible interruption to service caused by freezing. Other utility service lines shall not be installed in the same trench as the connecting line. No attachment shall be made to the connecting line between the curb stop and the meter except as otherwise authorized by the Company. Unauthorized attachments are grounds for termination of service. N.J.A.C. 14:3-3A.1(a)5.ii

9. Connecting lines should not be less than ¾ inch in inside diameter.

10. A customer must install a water pressure reducing valve where required by State of New Jersey plumbing code. If a water pressure reducing valve is required to be installed, the customer must install a pressure relief valve (collectively both are referred to as the "Valves"). In all cases, the costs of installation and maintenance of the Valves shall be borne by the customer. The customer shall own and be obligated to maintain the Valves. The Company will not be liable for damage due to meter failures if the customer is located in a high pressure zone and does not have a pressure reducing valve or has a pressure reducing valve downstream from a water meter that is installed inside the premises.

11. For meters less than or equal to 2 inches the pressure reducing valve will be located on the downstream side of the meter if the meter is located outside of the customer's premises and on the upstream side of the meter, if the meter is located inside of the customer's premises. For meters greater than 2 inches the pressure reducing valve will always be located on the upstream side of the meter.

12. The customer is required to make all changes in the connecting line due to changes in grade, relocation of mains, or other causes only if such changes are mandated by a municipality, county, state or other governmental body.

WATER MAIN EXTENSIONS

13. The Company will extend water service in accordance with all applicable laws of the State of New Jersey and Board of Public Utilities regulations and orders including N.J.A.C. 14:3-8.1 et seq. Mains will be extended to the mid-point of property frontage for residential properties, and along the entire frontage for commercial properties, regardless of where the service stub is installed.

    Information on how to apply for a water main extension can be found on the Company's website at https://www.amwater.com/njaw/About-Us/Providing-Solutions/Developers/.

CUSTOMER'S PREMISES

14. The Company may refuse to provide a water connection, or furnish water through a connection pipe already installed, when a customer's piping system is not installed in accordance with the regulations of the Company and of the municipality in which the premises are located; or when the system on the premises is not at sufficient depth to prevent freezing.

15. Customers shall not permit access to the meter and other appliances of the Company except by authorized employees of the Company or properly authorized state or local inspectors.

16. In all cases the customers should not interfere with property of the Company, but should immediately notify the Company of any problem.

17. It is the sole responsibility of each customer to ensure that all piping and appurtenances within a customer's premises comply with state, municipal and other public health regulations in force with respect hereto including state and local plumbing codes. The piping and appurtenances shall be maintained in a condition conducive for the Company to perform the services required to serve the customer.

STANDARD TERMS AND CONDITIONS
WATER

CUSTOMER'S PREMISES (CONTINUED)

18. In any premises where devices are used which might produce a back pressure, such as steam boilers, carbonation equipment for soft drinks, booster pumps, etc., a check valve shall be installed by the customer at the meter. In the event such check valve is installed, pressure relief valves should be provided by the customer in the system.

19. In any premises where an auxiliary water source is available, the pipes carrying water from the mains of the Company are required to be marked in some distinctive manner for ready identification.

PRIVATE FIRE PROTECTION SERVICE

20. Customers desiring a separate service connection for private fire service are required to make separate application for such service on forms prescribed by the Company. Private fire service installations are made in accordance with the provisions of this tariff regarding the installation of service and connecting pipes and other facilities.

21. Service lines designated for private fire protection are installed for customers requiring a private fire service to supply sprinkler heads, hydrants or hose connections. Any connection in which sprinkler heads and/or hose connections are supplied through a domestic service connection are considered "multi-use", are not considered as part of a private fire protection service, and shall not be deemed as part of this section. The utility shall have the right to suspend or curtail or discontinue service for any of the following acts or omissions on the part of the customer: tampering with any facility of the utility; fraudulent representation in relation to the use of service; and connecting and operating in such manner as to produce disturbing effects on the service of the utility or other customers. (N.J.A.C. 14:3-3A.1(a)5)

22. The connection shall be in accordance with the applicable laws including but not limited to those of the BPU, DEP and all federal, state and local agencies.

23. Unless specified by the Company, dedicated private fire service lines and facilities, including hydrants, are to be used exclusively for fire protection purposes and should be equipped with special meters.

24. No water should be used through private fire protection facilities except for permitted testing purposes or in case of fire. The use of private fire protection facilities for other reasons will result in termination of service following notification pursuant to N.J.A.C. 14:3-3A.1(d).

25. Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for private fire protection.

26. A "multi-use" service is not a private fire service. Please refer to Schedule P-3 for the terms and conditions regarding multi-use service.

27. Private fire protection shall not be offered or charged for service to private fire hydrants connected after a master meter on a general metered or multi-use service. A master meter on general metered or multi-use service with a hydrant will be billed pursuant to the applicable general metered rate schedule and considered as such.

28. The Company shall not be liable for any loss, injury, casualty or damage resulting from fire or water, or other agency, resulting from the supply or use of water service or the failure thereof, which may occur on account of the installation or presence of a private fire service connection, or from the presence or operation of the Company's structures, equipment, pipes, appliances or devices on the customer's premises, or connected therewith.

29. The Company may not discontinue water service unless it has provided written notice giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. However, in case of fraud, illegal use, or when it is clearly indicated that the customer is preparing to leave, immediate payment of accounts may be required, and service may be discontinued without further notice.

STANDARD TERMS AND CONDITIONS
WATER

PUBLIC FIRE PROTECTION SERVICE

30. Upon application or request by a duly authorized representative of a municipality in the Company's service area, the Company will install fire hydrants for purposes of public fire protection. The locations of such hydrants are selected by agreement between officials of the municipalities and representatives of the Company after careful consideration. Municipalities or the designated customer of record (*e.g.* local fire district) shall pay the Company a charge for service to public fire hydrants within that municipality as provided in the applicable rate schedule set forth in this tariff.

MULTI-USE SERVICE

31. Multi-use service is only available to franchise customers who submit a completed application to the Company. By applying for multi-use service, the customer agrees to be responsible for all claims, costs and liability for personal injury, death and/or property damage, resulting from the customer's individual water system, unless caused by the negligence of the water utility. A "multi-use" service is not a private fire service. Please refer to Schedule P-3 for the terms and conditions regarding multi-use service.

32. All multi-use service lines shall be metered and the meter shall be located in a meter pit or vault located outside of the Customer's structure. The meter pit or vault shall be installed at a location acceptable to the express approval of the Water Company.

33. If a customer requests a change in meter size associated with a multi-service meter, the customer must re-apply for service and re-certify each item addressed below and in Rate Schedule P-3.

34. By applying for multi-use service, and operating the same, the customer agrees:

    a. The customer has complied with all of the terms and conditions set forth on Rate Schedule P-3;

    b. To include a backflow prevention device(s) as defined at N.J.A.C. 7:10-1.3, and as specified at N.J.A.C. 7:10-10.3;

    c. To be solely responsible for all costs and expenses relating to the installation, operation, maintenance, repair and replacement of the customer's water system, including the fire suppression system and backflow prevention device(s);

    d. To ensure that the customer's water system complies with the applicable requirements of the Uniform Construction Code in effect at the time of system installation, including any applicable building, plumbing and fire protection sub-codes;

    e. To ensure that the customer's water system is maintained in accordance with all applicable law so as to protect against backflow, back-siphonage and contamination of the potable water system; and

    f. To be subject to disconnection under the standard terms and conditions as apply to fire protection service or multi-use service in accordance with the Board's rules governing discontinuance of such service at N.J.A.C. 14:3-3A.4(k) and N.J.A.C. 14:9-8.3.

EMERGENCY RESPONSES DUE TO EXTRAORDINARY DEMAND AND/OR DIMINISHED SUPPLY

34. Discontinuance of service for failure to comply with use restrictions. For compliance by the utility in good faith with any governmental order or directive, notwithstanding that such order or directive subsequently may be held to be invalid, the Company may, upon reasonable notice, suspend, curtail, or discontinue service pursuant to N.J.S.A. 48:2-23, N.J.S.A. 48:2-24, and N.J.A.C. 14:3-3A for any of the following acts or omissions on the part of the customer:

    a. Connecting or operating any piping or other facility, including but not limited to, lawn sprinkling on the customer's premises in such a manner as to adversely affect the safety or adequacy of service provided to other customers present or prospective; or

STANDARD TERMS AND CONDITIONS
WATER

EMERGENCY RESPONSES DUE TO EXTRAORDINARY DEMAND AND/OR DIMINISHED SUPPLY

Discontinuance of service for failure to comply with use restrictions (continued)

b. Continuing waste of water by customers after notice from the utility through improper or imperfect pipes, fixtures, or failure to comply with restrictions; or

c. Failure to comply with the standard terms and conditions contained in this tariff or failure to comply with any state law, or the rules, regulations, orders or restrictions of any governmental authority having jurisdiction.

35. Water service shall be restored when the conditions under which such service was discontinued, as specified above, are corrected and upon the payment of the SPECIAL RESTORATION OF SERVICE CHARGE of $100.00 for each restoration.

36. The Company will endeavor to provide a regular and uninterrupted supply of water through its facilities. However, if because of emergencies beyond the control of the Company, including governmental mandate, service is interrupted, irregular, defective or fails, the Company will not be liable for damages or inconvenience resulting there from. In the event of an extraordinary demand and/or diminished supply, or when operational issues make such actions desirable, including, among other things, protecting the integrity of the system and permit conditions, the Company may restrict the use of water whenever the public welfare may require it and, if necessary, may shut off the water in its mains and pipes. In such cases the Company shall advise its customers by placing a prominent advertisement detailing the conditions and restrictions in a newspaper of general circulation in the utility service area. The notice will state the purpose and probable duration of the restriction or discontinuance. Failure to provide regular and uninterrupted service due to breakdowns is covered under other sections of this tariff.

37. The Company may restrict water service during certain periods, where the Company advises the Board of Public Utilities, in order to protect the public water supply, or otherwise to comply with any regulations, orders or decrees issued by the Governor of New Jersey or the Department of Environmental Protection, or any successor agency or department pursuant to the Water Supply Management Act, or other statutes or regulations of the state or federal government. Such interruptions or restrictions shall be reported to the Department of Environmental Protection, if necessary, and the Board by each utility by the speediest means of communications available, promptly followed by a detailed written report, pursuant to the provisions of N.J.A.C. 14:3-3.7 et seq. Thereafter the utility shall provide weekly reports for the duration of the emergency.

38. When the supply of water to individual customers is to be discontinued or curtailed for the customer's failure to comply with emergency water restrictions imposed because of extraordinary demand or diminished supply, the Company shall advise such customer(s) by placing a door tag on the front door of the home of the individual(s) in violation of the restrictions, at least twenty-four (24) hours prior to discontinuance or curtailment, or by giving another form of notice acceptable to the Board. The Company will advise business and commercial customers, in writing, by mailing a notice to the customers' billing address. In the case of door tags, they shall be sequentially numbered and include the date, time and nature of the violation and the procedure for restoration of service. All such notices shall be accounted for by the utility.

STANDARD TERMS AND CONDITIONS
WASTEWATER

A. WASTEWATER MAIN EXTENSIONS

Applicability

Applicable to all wastewater service customers served by the Company.

1. The Company will extend wastewater service in accordance with all applicable laws, regulations and orders of the State of New Jersey and Board of Public Utilities including N.J.A.C. 14:3-8, et seq.
2. Mains will be extended to the mid-point of property frontage for residential properties, and along the entire frontage for commercial properties, regardless of where the service stub is installed.
3. Documentation on how standard wastewater main extensions are handled can be found on the Company's website at https://www.amwater.com/njaw/About-Us/Providing-Solutions/Developers/.
4. Please also refer to Sheet No. 13, paragraph 28 of the Standard Terms and Conditions .

B. CALCULATION OF WINTER QUARTER CONSUMPTION

Applicability
Applicable to wastewater service customers served by the Company in the Statewide Wastewater Collection Areas of Lakewood, Tewksbury Township, Service Area 1D, the former Applied Wastewater Management Service Area ("Applied"), Plumsted Township, Elk Township, the Boroughs of Haddonfield and Mount Ephraim, the former Environmental Disposal Corp. Service Area ("EDC"), and the Borough of Manville, Rate Schedules 2-A, 6-A, 10-A, 11-A, 13-A, 21-A, and 23-A, respectively.

Volumetric Wastewater Charge
The volume of wastewater discharged is assumed to equal water meter registration. The monthly Volumetric Wastewater Charge shall be determined based upon winter quarter consumption, but in no case less than 2,000 gallons per month. Winter quarter consumption shall be determined based on an initial water meter reading taken in December of one year with the concluding meter reading taken approximately 90 days thereafter in March of the following year.

The monthly Volumetric Wastewater Charge shall be determined as follows:

Meters read in January, February and March
The Volumetric Wastewater Charge for each respective month shall be determined by multiplying the applicable monthly usage times applicable volumetric charges.

Meters read in April through December
The Volumetric Wastewater Charge for each month April through December shall be based on the Monthly Usage Constant, equal to one-third of the winter quarter consumption, but in no case less than 2,000 gallons per month, multiplied by applicable volumetric charges.

In the case of new customers, the volume of wastewater discharged shall be determined as follows:

1. New Customers in an Existing Dwelling or Premises for Which Actual Full Period Winter Quarter Usage History is Available.
   Determination of the monthly use constant shall be based on the last known full period winter quarter usage at that property, but in no case less than 2,000 gallons per month. This monthly use constant will be used for billing purposes until the customer receives the January bill in the following year. The January and subsequent bills will be calculated in accordance with the method described in this Tariff for determining the monthly Volumetric Wastewater Charge.

STANDARD TERMS AND CONDITIONS
WASTEWATER

B. CALCULATION OF WINTER QUARTER CONSUMPTION (CONTINUED)

2. Existing or New Customers in an Existing or New Dwelling or Premises for Which No Full Period Winter Quarter History has Been Established.

a. For service established outside of the winter quarter:
Determination of the monthly use constant shall be based on 12,000 gallons per quarter (a monthly usage constant of 4,000 gallons) until the customer receives the January bill in the following year. The January and subsequent bills will be calculated in accordance with the method described in this Tariff for determining the monthly Volumetric Wastewater Charge.

b. For service established during the winter quarter:
Determination of the monthly use constant will be based upon the actual usage during the winter quarter with a minimum of 12,000 gallons (a monthly usage constant of 4,000 gallons). This monthly use constant will be used for billing purposes until the customer receives the January bill in the following year. The January and subsequent bills will be calculated in accordance with the method described in this Tariff for determining the monthly Volumetric Wastewater Charge.

C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – COLLECTION SYSTEMS

Applicability

Applicable to wastewater service customers served by the Company in Bound Brook, Bridgewater, Haddonfield, the Egg Harbor City Utility, Howell Township, Lakewood Township, Mount Ephraim, Ocean City, Elk Township, and the Boroughs of Somerville and Manville.

1. Separate and independent wastewater service lines shall be installed for each customer. All building drains and building wastewater appurtenances shall be the responsibility of the customer and shall be installed and maintained by the customer.
2. No customer shall discharge or cause to be discharged into the Company's system any storm water, surface water, ground water, roof runoff, sub-surface drainage, foundation or basement sump drainage, uncontaminated cooling water or unpolluted industrial process water.
3. No customer shall discharge or cause to be discharged into the Company's system the following described substances, materials, waters, or wastes without the prior written approval of the Company. Such wastes can harm either the wastewater system or treatment process and/or equipment, have an adverse effect upon the receiving stream for the treated wastewater, or can otherwise endanger life, limb or property or create a nuisance. In forming the opinions as to whether or not to permit the discharge, the Company will consider the effect upon receiving wastewater system, as well as the conditions placed upon the Company by its service agreements with the local treatment Utilities Authorities that treat the wastewater the Company collects.
4. The customer shall be responsible for maintaining and repairing the “building drain” and “building sewer.”
5. The customer shall be responsible for installing and maintaining a backwater valve in buildings that have fixtures below grade level. In the event of a gray water backup, the Company shall not be liable for any damage or inconvenience resulting from the absence/malfunctioning of this appurtenance.
6. The Company reserves the right upon completion of its findings to:
   a. Reject the wastes.
   b. Require pretreatment to an acceptable condition for discharge.
   c. Require flow equalization.

STANDARD TERMS AND CONDITIONS
WASTEWATER

C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – COLLECTION SYSTEMS (CONTINUED)

7. In the event pretreatment facilities or flow equalization is required, the design and construction of such facilities shall be subject to approval of the Company and operation of said facilities shall be subject to inspection by the Company. Monitoring and/or sampling equipment shall be installed and operated by the customer as deemed necessary by the Company to ascertain proper operation of the pretreatment facilities.

8. The wastes requiring written approval are:
   a. Any liquid or vapor having a temperature in excess of 150°F.
   b. Any waters or wastewaters containing phenols.
   c. Any waters or wastes having a pH in excess of 9.5.
   d. Any water containing unusual concentrations of inert suspended solids, such as, but not limited to, diatomaceous earth, lime and lime slurries or of dissolved solids such as but not limited to sodium chloride or sodium sulfate.
   e. Any water or wastewater containing excessive discoloration.
   f. Wastewater having unusual "B.O.D." concentration, suspended solids concentration or high chlorine demand in such quantities as to constitute a significant load on the treatment plant.
   g. Unusual volume of flow or concentrations of wastes constituting "slugs" as hereinbefore defined.
   h. Water or wastes containing substances not amenable to biological treatment processes as defined by a wastewater treatment plant owner or operator.

9. No customers shall discharge or cause to be discharged any of the following described waters or wastes to the wastewater system:
   a. Any gasoline, benzene, naptha, paints, lacquers, fuel oil or other flammable or explosive liquid, solid or gas which by reason of its nature or quality may cause fire or explosion or which, in any way, may be injurious to personnel or the wastewater system.
   b. Any water or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity either singly or by interaction with other wastes to injure or interfere with any wastewater treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the wastewater treatment plant.
   c. Any waters or wastes having a pH of lower than 5.5 or having any other corrosive property capable of causing damage or hazard to the wastewater system and/or personnel of the Company.
   d. Plating mill wastewater or other industrial process water containing spent pickle liquor, concentrated plating solutions, chromium, zinc and similar toxic heavy metals, cyanides and cleaning solvents.
   e. Any radioactive material.
   f. Any water or wastes containing fats, wax, grease, tar, oils or any other substances, whether emulsified or not which may solidify or become viscous at temperatures between 32° and 150°F or which would impair, impede, affect, interfere with, or endanger personnel or the wastewater system.
   g. Any garbage not properly shredded.
   h. Any solids of such size or characteristic capable of causing obstruction to the flow in sewers, such as, but not limited to, ashes, cinders, sand, mud, straw, metal shavings, glass, rags, feathers, tar, plastic, wood, paunch manure, hair fleshings, offal, entrails, etc.

STANDARD TERMS AND CONDITIONS
WASTEWATER

C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – COLLECTION SYSTEMS (CONTINUED)

10. Any customer discharging industrial wastes shall provide and maintain a control manhole suitable to facilitate observation, sampling and measurement of the wastes. The Company (and the local treatment Utilities Authorities that treat the wastewater the Company collects) shall have the right to inspect, sample, measure and analyze wastewater as they deem necessary.

D. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – TREATMENT SYSTEMS

Applicability

Applicable to wastewater service to customers served by the Company in Service Area 1D, the former Applied Wastewater Management Service Area ("Applied"), Plumsted Township, Tewksbury Township, Long Hill Township, the former EDC Service Area and Salem City, except as specifically provided elsewhere in this tariff.

1. The within rates are applicable to normal wastewater, as defined by the New Jersey Department of Environmental Protection, namely 250 ppm.5 – day B.O.D. The utility company reserves the right to require pretreatment of the wastewater prior to discharge into sewers in the event that the wastewater contains harmful substances such as gasoline, PCBs, oil, explosive liquids, phenols, acids, alkalines, lint, excessive detergents or any other substance as defined by NJDEP. Each customer shall be fully responsible for proper use of the wastewater system and shall therefore not discharge any chemicals or contaminants which are toxic and which may cause damage to the wastewater system's electrical, mechanical, biological, or physical process components or may harm either the groundwater, soil or atmosphere, as listed on Schedule A on Sheet No. 27, as it may be periodically updated. Any cost involved in repairs of damage to the Company's facilities, environmental damages and penalties or fines levied against the utility caused by the introduction by the customer of unacceptable or harmful substances shall be the responsibility of the customer.

2. In accordance with the National Standard Plumbing Code adopted by the Uniform Construction Code of the State of New Jersey, no storm drainage system of a building shall be connected directly or indirectly to the sanitary drainage system. The company adopts the above provision and prohibits the drainage of storm water into its collecting system. Each customer shall be responsible to prevent any surface water or groundwater from entering into the wastewater system and therefore shall not connect or allow to be connected to the system any sump pumps, basement or crawl space drains, roof gutters, downspouts, or floor drains, and shall properly maintain all pipes and clean-outs to assure a watertight connection. Improperly discharging effluent from a non-approved drainage or collection system shall be considered the basis for immediate termination of service pursuant to N.J.A.C.14:3-3A.1 et seq. The Company will provide notice of the termination of service to the extent reasonably possible.

3. Garbage disposal units are not permitted unless specifically authorized by the Company.

4. Each customer shall prevent damage to all system components located on the property being served, including components located within easement area; maintain the grass growth and prevent the growth of trees, shrubs, and ornamentals within the easement areas; maintain and repair pipes connecting the home to the septic tank to prevent clogging and leaking; and to notify the Company of any damage which may occur to system components.

5. Because the wastewater system can only handle a limited quantity of water, each residential customer may discharge no more than the maximum average of 350 gallons per day, or 32,000 gallons per quarter, of wastewater. In order to verify compliance with this provision, each customer must allow a representative of the Company to inspect all plumbing components upon request and to obtain all water meter readings as may be required.

6. Customers may not trespass on Company property or enter any Company facility without a representative of the Company being present.

STANDARD TERMS AND CONDITIONS
WASTEWATER

C. SPECIAL REQUIREMENTS RELATING TO WASTEWATER SERVICE – TREATMENT SYSTEMS (CONTINUED)

7. A customer may permanently terminate service by giving notice to the Company, which shall terminate service within five (5) business days of receipt of each notification. Temporary discontinuance of wastewater service is not permitted and each customer shall pay the applicable fixed service charge and minimum monthly charge (i.e., "RATES"), per month or per quarter, as applicable, unless and until such time as a replacement customer commences service at the premise. Customers are advised that it is illegal to operate a dwelling without adequate functioning wastewater facilities, and that the Company is required to notify local health authorities of wastewater service termination.

SCHEDULE A

I. MATERIALS NOT TO BE DISPOSED THROUGH THE WASTEWATER SYSTEM

Grease
Wipes (baby, cleaning, flushable, wet)
Gloves (latex, rubber)
Food scraps
Plastics
Gasoline or motor fuels
Paint and paint thinners
Used motor oils
Petroleum solvents
Pesticides (solids or liquids)
Herbicides (solids or liquids)
Engine coolants (antifreeze)
Acids
Water softener backwash
Photographic development solutions

II. MAXIMUM PERMITTED DISCHARGE CONCENTRATIONS

"Biochemical Oxygen Demand", – 250mg/L
Chemical oxygen demand – 351 mg/L
Total organic carbon – 99 mg/L
Total solids – 1,608 mg/L
Volatile solids – 295 mg/L
Total suspended solids – 75 mg/L
Volatile suspended solids – 62 mg/L
Calcium – 59 mg/L
Magnesium – 33 mg/L
Sodium – 218 mg/L
Chlorine – 218 mg/L
Oil and grease – 22 mg/L
Total dissolved solids – 872 mg/L
Total Kjeldahl nitrogen – 60.7 mg – N/L
Ammonia nitrogen – 53.3 mg – NL
Phosphorus – 6.3 mg – P/L
Turbidity – 45 NTU
Ph – 5-9
Alkaline – 479 mg CaCo3/L
Hardness – 327 mg CaCo3/L
Volatile organics by GC/MS – Non-detectable
Pesticides – Non-detectable
Herbicides – Non-detectable

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Eleventh Revised Sheet: No. 28
Superseding Tenth Revised Sheet: No. 28

AREA SERVED – WATER SERVICE

This tariff shall apply to the service area of the Company, which includes all or part of the following municipalities and all other places as may be permitted by law. This tariff shall also apply to other systems under contract wherever served. Hereafter, and unless otherwise specified herein,

- **Service Area 1** refers to the water service area of New Jersey-American Water Company as it existed prior to January 1, 2007;
- **Service Area 2** refers to the water service area of the former Elizabethtown Water Company;
- **Service Area 3** refers to the water service area of the former Mount Holly Water Company;
- **Service Area 1A** refers to the water service area of the former South Jersey Water Supply Company;
- **Service Area 1B** refers to the water service area of the former Pennsgrove Water Supply Company;
- **Service Area 1C** refers to the service area of the former Shorelands Water Company;
- **Service Area 1D** refers to the service area of the former Applied Wastewater Management, Inc. ("Applied"); and
- **Service Area 1E** refers to the service area including all customers formerly served by the Borough of Haddonfield or located within the geographic boundaries of Haddonfield;
- **Service Area 1F** refers to the service area of the former Roxbury Water Company; and
- **Service Area 1G** refers to the service area of the former Egg Harbor City Water & Sewer Utility ("Egg Harbor City Utility").
- **Service Area 1H** refers to the former service area of Salem City ("Salem");

Unless otherwise indicated, all municipalities and customers referenced below having no numeric designation next to their names were served by New Jersey-American Water Company as it existed prior to January 1, 2007. All municipalities and customers with a (2) designation next to their names were served by the former Elizabethtown Water Company prior to January 1, 2007; with a (3) designation next to their names were previously served by the former Mount Holly Water Company prior to January 1, 2007; with a (1A) designation next to their names were previously served by the former South Jersey Water Supply Company prior to November 1, 2007; with a (1B) designation next to their names were previously served by the former Pennsgrove Water Supply Company prior to November 1, 2007; with a (1C) next to their names were previously served by the former Shorelands Water Company prior to April 3, 2017; with a (1D) designation next to their names were previously served by Applied Wastewater Management, Inc. prior to September 1, 2010; and with a (1F) designation were previously served by Roxbury Water Company prior to January 1, 2019; with a (1G) designation were previously serviced by the Egg Harbor City Water & Sewer Utility prior to June 1, 2023; and with a (1H) designation, were previously serviced by Salem City prior to [date of closing]. Where a municipality was served in part by two of the former water companies listed above, service provided by New Jersey-American Water Company as it existed prior to January 1, 2007 shall be identified by a (1) designation. All municipalities for which the Company provides water service only to a portion of the municipality are reflected by a double asterisk (**) designation.

Atlantic County

Franchise Customers

Cities		Townships
Absecon	Northfield	Egg Harbor
Egg Harbor	Pleasantville	Galloway (1)(1G)
Linwood	Somers Point	

Burlington County

Franchise Customers

Boroughs	Townships		Resale Customers
Palmyra	Burlington **	Maple Shade**	Evesham Township MUA
Riverton	Cinnaminson	Mt. Laurel *	Township of Moorestown
	Delanco	Mt. Holly (3)	*Medford Township
Cities	Delran	Pemberton **	Mt. Laurel Township MUA
Beverly	Eastampton (3)	Riverside	Township of Maple Shade
	Edgewater Park	Southampton (3)	
	Hainesport (3)	Springfield (3) **	
	Lumberton (3)	Westampton (3)	
	Mansfield (3)		

(Continued)

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Ninth Revised Sheet: No. 29
B.P.U. No. 8 – Water Superseding Eighth Revised Sheet: No. 29

AREA SERVED - WATER SERVICE
(Continued)

Camden County

Franchise Customers		Resale Customers
Boroughs	Cities	
Audubon	Camden (11th and 12th Wards) **	Township of Haddon
Barrington		Aqua New Jersey
Bellmawr **		Borough of Berlin
Clementon **		Merchantville-Pennsauken
Gibbsboro	Townships	Water Commission
Haddon Heights	Cherry Hill **	Winslow Township MUA
Haddonfield (1E)	Gloucester **	Pine Hill Borough MUA
Hi-Nella	Haddon **	Audubon Park
Laurel Springs	Pennsauken **	Ancora Psychiatric Hospital
Lawnside	Voorhees	
Lindenwold		
Magnolia		
Mt. Ephraim		
Oaklyn		
Runnemede		
Somerdale		
Stratford		

Cape May County

Franchise Customers	Resale Customers
Cities	
Ocean City	Middle Township Water District #2
Townships	
Middle **	
Upper	

Essex County

Franchise Customers		Resale Customers
Boroughs	Townships	
North Caldwell **	Cedar Grove **	Township of Livingston
	Irvington	City of Orange
	Livingston **	Township of South Orange Village
	Maplewood	Borough of Essex Fells
	Millburn	
	South Orange Village **	
	West Orange	

Gloucester County

Franchise Customers	Resale Customers
Townships	Deptford Township MUA
East Greenwich **	East Greenwich Township
Elk Township	Mantua Township MUA
Harrison (1A)	Township of West Deptford
Logan (1) & (1B)	City of Woodbury
Mantua**	Borough of Pitman
Woolwich**	Borough of Woodbury Heights
	Borough of Glassboro
	Borough of National Park
	Aqua New Jersey
	Borough of Clayton

(Continued)

AREA SERVED - WATER SERVICE
(Continued)

Hunterdon County

Franchise Customers	
Boroughs	Townships
Frenchtown	Raritan (2)
	Readington (2)**
	Tewskbury (2) (1D)**

Mercer County

Franchise Customers		Resale Customers
Boroughs	Townships	Borough of Hopewell (2)
Princeton (2)	Hopewell (2) **	
	Lawrence (2)**	
	West Windsor (2)	

Middlesex County

Franchise Customers		Resale Customers
Boroughs	Townships	
Dunellen (2)	Cranbury (2)	Township of Edison
Jamesburg	Edison (2)**	Township of South Brunswick (2)
Middlesex (2)**	Monroe **	Middlesex Water Co. (2)
South Plainfield (2) **	Piscataway (2) **	
	Plainsboro (2) **	
	South Brunswick (2) **	

Monmouth County

Franchise Customers		Resale Customers
Boroughs	Cities	
Allenhurst	Asbury Park	Borough of Avon
Bradley Beach	Long Branch	Borough of Belmar
Deal		Lake Como Borough
Eatontown	Townships	Borough of Matawan
Fair Haven	Aberdeen **	Borough of Red Bank
Highlands	Colts Neck **	Borough of Keansburg
Interlaken	Freehold **	Farmingdale Borough
Little Silver	Hazlet (1C)	Aberdeen Township (1C)
Monmouth Beach	Holmdel **(1C)	Keyport Borough (1C)
Neptune City	Howell **	
Oceanport	Middletown	
Red Bank **	Neptune (incl. Ocean Grove)	
Rumson	Ocean	
Sea Bright	Shrewsbury **	
Shrewsbury		
Tinton Falls	Villages	
Union Beach	Loch Arbour	
West Long Branch		

(Continued)

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

AREA SERVED - WATER SERVICE
(Continued)

Morris County

Franchise Customers		Resale Customers
Boroughs	Townships	
Mendham	Chatham	Township of East Hanover
Florham Park **	Chester (2) (1D)**	
Chester	Harding **	
	Long Hill (formerly Passaic)	
	Mendham **	
	Mt. Olive (1) (1D)**	
	Roxbury (1F)	

Ocean County

Franchise Customers		Resale Customers
Boroughs	Townships	
Bay Head	Berkeley**	Borough of Point Pleasant
Lavallette **	Brick**	
Mantoloking	Toms River (formerly Dover)**	
	Lakewood	
	Plumsted (3)	

Passaic County

Franchise Customers	
Boroughs	Townships
West Paterson **	Little Falls

Salem County

Franchise Customers	
Boroughs	Townships
Pennsgrove (1B)	Carneys Point (1B)
	Mannington (1H)
	Oldmans (1B)
Cities	Quinton (1H) **
Salem (1H)	

Somerset County

Franchise Customers		Resale Customers
Boroughs	Townships	
Bernardsville	Bedminster (1) & (2)	Franklin Township (2)
Bound Brook (2)	Bernards	Rocky Hill Borough
Far Hills	Branchburg (2)	
Manville (2)	Bridgewater (2)	
Millstone (2)	Franklin (2) **	
North Plainfield (2)	Green Brook (2)	
Peapack and Gladstone (2)	Hillsborough (2)	
Raritan (2)	Montgomery (2)	
Rocky Hill	Warren (1) & (2)	
Somerville (2)		
South Bound Brook (2)		
Watchung (1) & (2)		

(Continued)

AREA SERVED - WATER SERVICE
(Continued)

Union County

Franchise Customers		Resale Customers
Boroughs	Townships	
Fanwood (2)	Berkeley Heights	City of Elizabeth (2)
Garwood (2)	Clark (2)	Winfield Mutual Housing Corporation (2)
Kenilworth (2)	Cranford (2)	City of Rahway
Mountainside (2)	Hillside (1) & (2)	
New Providence	Scotch Plains (2)	
Roselle (2)	Springfield	
Roselle Park (2)	Union (1) & (2)	
Cities	Towns	
Summit	Westfield (2)	
Linden (2)		
Plainfield (2)		

Warren County

Franchise Customers	
Boroughs	Townships
Washington	Franklin
	Mansfield
Towns	Oxford **
Belvidere	Washington
	White

NEW JERSEY-AMERICAN WATER COMPANY, INC. Seventh Revised Sheet: No. 33
B.P.U. No. 8 – Water Superseding Sixth Revised Sheet: No. 33

WATER SERVICE RATE SCHEDULES
TABLE OF CONTENTS

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

RATE SCHEDULE A-1
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered residential, commercial, industrial, and municipal service throughout Service Area 1, Service Area 1A, Service Area 1B, Service Area 1C, Service Area 1D, Service Area 1E, Service Area 2, and Service Area 3, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119,20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16”	4,767,40	4,117.23

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710
Exempt	All	$0.84384	$8.4384

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

RATE SCHEDULE A-2
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered sales for resale service throughout the entire territory served except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119,20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16”	4,767,40	4,117.23

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710
Exempt	All	$0.84384	$8.4384

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Reserved for future use.

Reserved for Future Use

Reserved for Future Use

RATE SCHEDULE A-16
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered service throughout Service Area 1F, Roxbury, served by the Company, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119,20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16”	4,767,40

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Non-Exempt	All	$0. 49150	$4.9150

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

RATE SCHEDULE A-17
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered residential, commercial, industrial, and municipal service throughout Service Area 1G, Egg Harbor City Utility, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119,20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16"	4,767,40

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

RATE SCHEDULE A-18
IRRIGATION SERVICE

APPLICABILITY
Applicable to use of water supplied through meters to residential, commercial, industrial, and municipal customer located in Service Area 1G, the Egg Harbor City Utility, for the sole purpose of irrigation. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service. The charge for the general metered irrigation service shall consist of the total of the Fixed Service Charge and the Water Charge.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE

Size of Meter	Non-Exempt Per Month
5/8"	$5.00
3/4"	7.50
1"	12.50
1 1/2"	25.00
2"	40.10
3"	75.20
4"	125.20
6"	250.40
8"	400.60
10"	500.80
12"	625.90
16"	1,001.60

WATER CHARGE

	Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Non-Exempt	All	$0.97710	$9.7710

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 34.9

RATE SCHEDULE A-19
GENERAL METERED AND FLAT SERVICE

APPLICABILITY
Applicable for general metered residential and light commercial service throughout Service Area 1H, Salem, except as specifically provided elsewhere in this tariff. Those who receive metered water service will receive volume-based water service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any customer utilizing a well or other private water system at the property owner's expense. The charge for general metered service shall consist of the total of the Fixed Service Charge and the Water Charge.

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Usage Allowance	Non-Exempt Per Month
5/8"	2,500	$30.87
3/4"	5,000	61.41
1"	9,000	110.15
1 ¼"	20,000	244.99
1 ½"	20,000	244.99
2"	35,000	429.22

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter above the usage allowance included in the Fixed Service Charge.

Gallons Per Month	Rate* Per 100 Gallons	Rate* Per 1,000 Gallons
Up to 1,000,000	$0.84600	$8.4600
Over 1,000,000	$1.01300	$10.1300

FLAT RATE WATER CHARGE
All unmetered water service customers in a Single Family unit as defined by the Salem City municipal code shall pay a Flat Rate Water Charge per unit as indicated below.

	RATE PER MONTH PER UNIT
Non-Exempt	$35.42

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

RATE SCHEDULE A-20
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general metered institutional, heavy commercial, industrial and municipal service throughout Service Area 1H, Salem, except as specifically provided elsewhere in this tariff. The charge for general metered service shall consist of the total of the Fixed Service Charge and the Water Charge

FIXED SERVICE CHARGE
All general metered water service customers shall pay a fixed service charge based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Usage Allowance	Non-Exempt Per Month
5/8"	2,500	$30.98
3/4"	5,000	62.85
1"	9,000	110.30
1 ¼"	20,000	245.25
1 ½"	20,000	245.25
2"	35,000	429.26
3"	50,000	614.10
4"	100,000	1,226.25
6"	150,000	1,837.25
8"	300,000	3,571.63

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter above the usage allowance included in the Fixed Service Charge.

Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Up to 167,000	$0.84600	$8.4600
Over 167,000	$1.01300	$10.1300

TERMS OF PAYMENT
Valid bills for general metered water service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

RIDER A
ECONOMIC DEVELOPMENT PROGRAM

ELIGIBILITY:

- Minimum Annual Average Monthly Volume: 35,000 gallons per monthly billing cycle for new customers or a net increase of 35,000 gallons for existing customers meeting the additional provisions below.
- Employment of a minimum of ten (10) new full-time equivalent employees or a 50% increase in the number of new full-time jobs created, whichever is less, who will be employed in the new or expanded space.
- Customer Classes: General Metered Service Commercial and General Metered Service Industrial
  - Customer class exception: Residential uses in Commercial class (Apartments and condominiums) while considered commercial customers, are not eligible for this program.
- New customers who lease, purchase or construct new space for manufacturing, retail, research, office or warehousing.
- Existing customers who lease, purchase or construct new space for manufacturing, retail, research, office or warehousing and/or expand its existing operations.
- Any existing space that is reconverted for use for the purpose of qualifying under this program must have been vacant for a minimum of one (1) year.
- Application to New Jersey American Water shall be made on the Company's form, which must be completed and submitted by the customer and approved by New Jersey American Water, at the Company's discretion, before the customer may participate in the program.
- An annual certification is required. The certification shall be made on the form prescribed by New Jersey American Water by an officer of the customer stating that eligibility requirements have been met. Failure to submit the annual certification shall be grounds for termination of the customer's participation in the program.

BENEFITS:

- Credit on water consumption charge for up to four (4) years. Applicable fixed charges, PWAC charges, and any other applicable charges will continue to be applied at the standard rate, as set forth within this tariff.
- Amount of Credit on Water Consumption Charges:

Year	Amount of Credit
1st Year	50%
2nd Year	40%
3rd Year	25%
4th Year	10%

- Additional credit of five per cent (5%) on water consumption charges will be added to the above credits for all of the Company's customers who qualify for the Economic Development Program and who are also located in a "priority location" (Urban Enterprise Zone) as defined by the New Jersey Economic Development Authority.

NOTE:
The decision to accept the initial application, or continued participation, of a customer into the program resides with New Jersey American Water, at the Company's discretion. Also, the ability to include customers into the program is subject to available capacity as established through the New Jersey Department of Environmental Protection permitting process.

Failure of the customer to maintain the minimum monthly usage during 2 or more months in a rolling 12-month period shall be grounds to remove the customer from the Economic Development Program.

RATE SCHEDULE C

SALES FOR RESALE – COMMODITY-DEMAND SERVICE

APPLICABILITY

Applicable to Sales for Resale customers served by the Company who have executed a Commodity-Demand Regional Water Sales Agreement ("Agreement") with an initial term of 10 years and a minimum Nominated Demand, as defined in the Agreement, of 50,000 gallons per day. The charge for service shall consist of the total of the Fixed Service Charge, the Commodity Charge, the Demand Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE

Continuous, except as limited by the terms of the agreement.

FIXED SERVICE CHARGE

All such customers shall pay a monthly fixed service charge based on the size of each meter installed by the Company, in addition to the charge for the commodity of water used and the charge for the demand nominated or experienced, whichever is greater. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119,20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767,40	4,117.23

COMMODITY CHARGE

A charge will be rendered for all water used pursuant to the provisions of the Applicability section of this Rate Schedule C as follows:

	Rate Per 100 Gallons		Rate Per 1,000 Gallons	
Gallons Per Month	Non-Exempt	Exempt	Non-Exempt	Exempt
All	$0.07540	$0.06510	$0.7540	$0.6510

DEMAND CHARGE

A monthly charge will be rendered for all water available to the customer in accordance with the customer's Nominated Demand, as provided for in the Agreement.

Nominated Demand Charge Per Month			
Rate Per 100 Gallons of Nominated Demand		Rate Per 1,000 Gallons of Nominated Demand	
Non-Exempt	Exempt	Non-Exempt	Exempt
$8.94690	$7.72670	$89.4690	$77.2670

TERMS OF PAYMENT

Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION

*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Third Revised Sheet: No. 36.2
B.P.U. No. 8 – Water Superseding Second Revised Sheet: No. 36.2

RATE SCHEDULE D

SALES FOR RESALE – OFF-PEAK SERVICE

APPLICABILITY

Applicable to Sales for Resale customers served by the Company who have executed an Off-Peak Water Sales Agreement ("Agreement") with an initial term of 10 years and a minimum Off-Peak Demand, as defined in the Agreement, of 50,000 gallons per day. The charge for service shall consist of the total of the Fixed Service Charge, the Commodity Charge, the Demand Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE

Continuous, except as limited by the terms of the agreement.

FIXED SERVICE CHARGE

All such customers shall pay a monthly fixed service charge based on the size of each meter installed by the Company, in addition to the charge for the commodity of water used and the charge for the demand selected or experienced, whichever is greater. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established for a new customer or discontinued for a customer leaving the system permanently, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service. The fixed service charge shall not be prorated for any service provided during the months of May through September of each year.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119,20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767,40	4,117.23

COMMODITY CHARGE

A charge will be rendered for all water used pursuant to the provisions of the Applicability section of this Rate Schedule D as follows:

	Rate Per 100 Gallons		Rate Per 1,000 Gallons	
Gallons Per Month	Non-Exempt	Exempt	Non-Exempt	Exempt
All	$0.07540	$0.06510	$0.7540	$0.6510

DEMAND CHARGE

A monthly charge will be rendered for all water available to the customer in accordance with the customer's Off-Peak Demand, as provided for in the Agreement. The Demand Rate is 91.96% of the Commodity-Demand Service Demand Rate set forth on Rate Schedule C.

Off-Peak Demand Charge Per Month

Rate Per 100 Gallons of Off-Peak Demand		Rate Per 1,000 Gallons of Off-Peak Demand	
Non-Exempt	Exempt	Non-Exempt	Exempt
$8.2343	$7.1113	$82.3430	$71.1130

TERMS OF PAYMENT

Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION

*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPLICABILITY
Applicable to Sales for Resale customers served by the Company in Service Area 1 who have executed Manasquan Reservoir Water Supply System Water Purchase Contracts and either: (1) whose purchases of water and rates of flow are in accordance with the provisions of Appendix A of this Rate Schedule; or, (2) who have executed a Water Resale and Treatment Agreement, in which case the terms of such Agreement, regarding purchase limitations, shall supersede the applicable Appendix A schedule herein.

CHARACTER OF SERVICE
Continuous, except as limited by the terms of the agreement.

FIXED SERVICE CHARGE
All such customers shall pay a Fixed Service Charge based on the size of each meter installed by the Company, in addition to the charge for the quantity of water used, if any, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119,20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16”	4,767,40

WATER CHARGE
A charge will be made for all water used pursuant to the provisions of the Applicability section of this Rate Schedule E as follows:

	Rate Per 100 Gallons Non-Exempt	Rate Per 1,000 Gallons Non-Exempt
Uninterruptible	$0.25080	$2.5080
Interruptible	$0.97710	$9.7710

(Continued)

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN
(Continued)

DEFINITIONS:

UNINTERRUPTIBLE SERVICE
Uninterruptible service is water service to be provided to customers in quantities specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement. The Annual Purchase Requirement is the minimum total volume of water per year which will be purchased take-or-pay by the customer from the Company. The Company agrees to provide to the customer the quantity specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement unconditionally, except to the extent that: (1) the limitations of Appendix A herein or Schedule A of the Water Resale and Treatment Agreement apply to restrict the quantity of water which the customer may take on a maximum monthly, maximum daily and peak hourly basis; and, (2) in those cases where the contracts have been executed, the provisions of Section 5 of the Agreement, regarding force majeure events, may apply under certain circumstances. The rate may be found on Rate Schedule E of the present tariff.

INTERRUPTIBLE SERVICE
Interruptible service means a supply of water, to the extent that the Company in its reasonable judgment determines that it has excess water available above the Annual Purchase Period Limitations specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement, which may be provided to the customer: (1) to meet extraordinary consumer demand requirements; (2) for occasional, temporary, or emergent needs; or (3) in such other circumstances as shall be agreed upon by the Company and the customer. The rate may be found on Rate Schedule E of the present tariff. In addition to the charge for the quantity of water used, if any, above the Annual Purchase Period Limitations specified in Appendix A herein or Schedule A of the Water Resale and Treatment Agreement, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1 will apply.

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

(Continued)

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPENDIX A

Annual Purchase Period: July 1, 1990 through June 30, 1991 and each subsequent 12-month period thereafter.

Uninterruptible Service shall not exceed the limits established for each month, day and hour in each Annual Purchase Period as set forth in the following tables:

Borough of Avon-By-The-Sea
Annual Purchase Requirement: 46.0 Million Gallons Per Year (MGY)

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase Million Gallons (MG)	Maximum Daily Purchase Million Gallons (MG)	Peak Hourly Purchase Gallons Per Minute (GPM)
January	7	0.30	250
February	7	0.30	250
March	7	0.30	250
April	7	0.30	250
May	3	0.11	90
June	2	0.11	90
July	1	0.05	90
August	2	0.11	90
September	4	0.16	90
October	7	0.30	250
November	7	0.30	250
December	7	0.30	250

Borough of Belmar
Annual Purchase Requirement: 105.0 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase (MG)	Maximum Daily Purchase (MG)	Peak Hourly Purchase (GPM)
January	17	1.00	1000
February	17	1.00	1000
March	17	1.00	1000
April	17	1.00	1000
May	0	0.00	0
June	0	0.00	0
July	0	0.00	0
August	0	0.00	0
September	0	0.00	0
October	17	1.00	1000
November	17	1.00	1000
December	17	1.00	1000

(Continued)

By: Cheryl Norton, President
One Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR19121516 dated October 28, 2020.

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPENDIX A
(Continued)

Borough of Matawan
Annual Purchase Requirement: 121.18 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase (MG)	Maximum Daily Purchase (MG)	Peak Hourly Purchase (GPM)
January	24	1.20	900
February	21	1.05	900
March	23	1.15	900
April	21	1.05	900
May	0	0.00	0
June	0	0.00	0
July	0	0.00	0
August	0	0.00	0
September	0	0.00	0
October	23	1.15	900
November	23	1.15	900
December	23	1.15	900

Borough of Red Bank
Annual Purchase Requirement: 200.0 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Maximum Monthly Purchase (MG)	Maximum Daily Purchase (MG)	Peak Hourly Purchase (GPM)
January	51	2.55	2100
February	51	2.55	2100
March	51	2.55	2100
April	34	1.46	1200
May	6	0.30	300
June	6	0.30	300
July	6	0.30	300
August	6	0.30	300
September	6	0.30	300
October	34	1.46	1200
November	62	2.66	2150
December	62	2.66	2150

With mutual consent, the parties may agree to reduce delivery at one point while increasing delivery at the other point.

(Continued)

RATE SCHEDULE E
SALES FOR RESALE – MANASQUAN

APPENDIX A
(Continued)

Lake Como Borough
Annual Purchase Requirement: 36.5 MGY

Uninterruptible Service
Annual Purchase Period Limitations

Month	Sales for resale Manasquan Maximum Monthly Purchase (MG)	Manasquan Maximum Daily Purchase (MG)	Manasquan Peak Hourly Purchase (GPM)
January	4.0	0.37	300
February	4.0	0.37	300
March	4.0	0.37	300
April	4.0	0.37	300
May	3.65	0.12	400
June	2.45	0.12	500
July	1.23	0.06	450
August	2.45	0.12	400
September	4.8	0.18	350
October	5.0	0.37	350
November	4.0	0.37	300
December	4.0	0.37	300

RATE SCHEDULE F
OPTIONAL INDUSTRIAL WHOLESALE

APPLICABILITY

Applicable only to customers that are served by the Company and that (a) use 9,350,000 or more gallons of water per month, each and every month (b) have loading factors (the ratio of maximum demand (peak load) to the average demand (load) during a given period) not in excess of 1.2 times their monthly consumption on an average daily basis. The charge for service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All such customers shall pay a Fixed Service Charge based on the size of the meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate. Whenever service is established or discontinued, all applicable fixed charged shall be prorated to the date of establishment or discontinuance of service as follows:

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119,20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16”	4,767,40	4,117.23

WATER CHARGE

Rate Per 100 Gallons		Rate Per 1,000 Gallons	
Non-Exempt	Exempt	Non-Exempt*	Exempt*
$0.51200	$0.44220	$5.1200	$4.4220

MINIMUM CONSUMPTION CHARGE
A minimum consumption charge is applicable. The minimum consumption charge is equal to 9,350,000 gallons of water per month multiplied by the appropriate Water Charge herein and the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1.

TERMS OF PAYMENT
Valid bills for sale of water under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days’ notice prior to the proposed discontinuance.

(Continued)

RATE SCHEDULE F
OPTIONAL INDUSTRIAL WHOLESALE
(Continued)

TERMS
Bills are rendered monthly in arrears.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

If monthly consumption on an average daily basis exceeds a load factor of 1.2 times the last (rolling) twelve months average monthly consumption on an average daily basis for three consecutive months, between April 1 and September 30, a customer will be removed from this Rate Schedule and will be billed under the General Metered Service Rate Schedule A-1. A customer eliminated from this Rate Schedule will continue to be billed under General Metered Service for a minimum of twelve months and will again be eligible for this schedule if, after twelve months, its monthly consumption on an average daily basis has not exceeded, for three consecutive months, 1.2 times the last twelve-month average monthly consumption.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

RATE SCHEDULE G

SALES FOR RESALE – SERVICE TO OTHER SYSTEMS

APPLICABILITY

Applicable to Sales for Resale customers receiving service from the Company as of December 8, 2008. Applicable to customers served by the Company throughout Service Area 2 that have a contract demand of 500,000 or more gallons per day pursuant to a contract entered into with the Company at the Company's sole option. The charge for metered Service to Other Systems Under Contract shall consist of the total of Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE

Continuous, except as limited by written agreement.

WATER CHARGE

Consumption	Rate Per 1,000 Gallons	
	Non-Exempt	Exempt
All water usage	$3.9380	$3.4010

	Rate Per 100 Gallons	
	Non-Exempt	Exempt
All water usage	$0.39380	$0.34010

TERMS OF PAYMENT

Valid bills for sale of water under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

TERMS

Subject to written agreement.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISION

*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

RATE SCHEDULE H
SALES FOR RESALE – PEAKING SERVICE

APPLICABILITY
Applicable to Sales for Resale customers for sales occurring during the Company's peak service period May 1 through September 30 who: (1) do not have a written agreement with the Company for the provision of water service; or (2) whose written agreement with the Company does not contain an annual purchase commitment. This Rate Schedule does not apply to customers taking service under Rate Schedule D (Off-Peak) during non-drought conditions unless otherwise provided for in that customer's agreement. During drought emergencies declared by the Governor, this Rate Schedule will be applied to all surplus water transfers ordered by the Commissioner of the Department of Environmental Protection to mitigate drought. The charge for this service shall consist of the total of the Fixed Service Charge, the Water Charge, the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

CHARACTER OF SERVICE
Interruptible.

FIXED SERVICE CHARGE
All such customers shall pay a fixed service charge, during any month when water is consumed pursuant to this Rate Schedule H, based on the size of each meter installed by the Company. Customers with multiple meters shall be charged for each meter at the indicated rate.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$23.80	$20.55
3/4"	35.70	30.83
1"	59.60	51.47
1 1/2"	119,20	102.94
2"	190.90	164.87
3"	357.80	309.00
4"	596.00	514.72
6"	1,191.90	1,029.35
8"	1,907.00	1,646.93
10"	2,383.70	2,058.61
12"	2,979.40	2,573.07
16"	4,767,40	4,117.23

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.14450	$11.4450
Exempt	All	$0.98841	$9.8841

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

RATE SCHEDULE I
EMERGENCY OR BACKUP BULK RATE SALES

APPLICABILITY
Applicable to emergency/backup bulk sales to municipalities or other water purveyors in Service Area 1C, Shorelands, and only by yearly contract between the municipality or other water purveyor and the Company.

CHARACTER OF SERVICE
Continuous, except as limited by “Standard Terms and Conditions”.

FIXED SERVICE CHARGE
All such customers shall pay a fixed service charge, during any month when water is consumed pursuant to this Rate Schedule I, based on the size of each meter installed by the Company, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K. The Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, will apply to all water used in excess of any Annual Purchase Requirement. Customers with multiple meters shall be charged for each meter at the indicated rate.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119,20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16”	4,767,40

WATER CHARGE
In addition to the Fixed Service Charge set forth above, a charge will be made for all water used as registered by the meter.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.67810	$6.7810

Exempt customers, as defined in N.J.S.A. 54:30A-50(c), are those public utility corporations which are subject to the payment of a tax based on gross receipts.

Non-Exempt customers are all other customers not entitled to the statutory exemptions provided pursuant to N.J.S.A. 54:30A-50(c). Uninterruptible customers are as defined in the Water Resale and Treatment Agreement.

TERMS OF PAYMENT
Valid bills for sale of water under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

RATE SCHEDULE J
SALES FOR RESALE – MANASQUAN

APPLICABILITY
Applicable to bulk sales to municipalities or other water purveyors taking water from the New Jersey Water Supply Authority ("NJWSA") delivered through Service Area 1C, Shorelands, pursuant to Water Resale and Treatment contractual requirements where they pay the NJWSA directly for the raw water.

FIXED SERVICE CHARGE
All sales for resale service customers shall pay a fixed service charge based on the size of each meter installed, in addition to the charge for the quantity of water used, if any, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, and the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K. The Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, will apply to all water used in excess of any Annual Purchase Requirement. Customers with multiple meters shall be charged for each meter at the indicated rate.

Size of Meter	Non-Exempt Per Month
5/8"	$23.80
3/4"	35.70
1"	59.60
1 1/2"	119,20
2"	190.90
3"	357.80
4"	596.00
6"	1,191.90
8"	1,907.00
10"	2,383.70
12"	2,979.40
16”	4,767,40

WATER CHARGES
A charge will be made for all water used pursuant to the take or pay contractual agreement as follows:

	Non-Exempt Rate Per 1,000 Gallons	Non-Exempt Rate Per 1,000 Gallons
Uninterruptible	$0.35790	$3.5790

Exempt customers, as defined in N.J.S.A. 54:30A-50(c), are those public utility corporations which are subject to the payment of a tax based on gross receipts.

Non-Exempt customers are all other customers not entitled to the statutory exemptions provided pursuant to N.J.S.A. 54:30A-50(c). Uninterruptible customers are as defined in the Water Resale and Treatment Agreement.

TERMS OF PAYMENT
Valid bills for sales for resale service furnished under this schedule will be rendered monthly in arrears and are due 30 days after the invoice date. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). This water tax is not applicable for sales for resale service.

RATE SCHEDULE K
DISTRIBUTION SYSTEM IMPROVEMENT CHARGE

Applicable to all general metered service and sales for resale customers throughout the entire territory served.

CHARACTER
Continuous, except as limited by the “Standard Terms and Conditions”.

DISTRIBUTION SYSTEM IMPROVEMENT CHARGE (DSIC)
In addition to all other charges for general metered service (GMS) and sales for resale customers throughout the entire territory served, the following charges will be assessed on a fixed, per meter basis for each monthly bill, commencing _____.

RATE
This charge is in addition to Rate Schedules A-1 through A-18 as noted on those rate schedules, and C, D, E, F, H, I and J.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$0.00	$0.00
3/4"	0.00	0.00
1"	0.00	0.00
1 1/2"	0.00	0.00
2"	0.00	0.00
3"	0.00	0.00
4"	0.00	0.00
6"	0.00	0.00
8"	0.00	0.00
10"	0.00	0.00
12"	0.00	0.00
16”	0.00	0.00

FILING
The DSIC is authorized pursuant to N.J.A.C. 14:9-10.1 et seq. and the procedures for filing, reviewing, approving and implementing the DSIC are set forth therein. The DSIC is based on the Company's Foundational Filing, which was reviewed and approved by the Board of Public Utilities on August 17, 2022. The approval process included public notice and four public hearings. The notice included proposed surcharge amounts, which were estimated based on projected construction schedules, costs and other factors. Pursuant to the approved Foundational Filing, the Company shall endeavor to make semi-annual DSIC filings at approximately six-month intervals. The DSIC is subject to a maximum amount and other limitations in N.J.A.C. 14:9-10.1 et seq.

TERMS OF PAYMENT
See Rate Schedules for applicable customer classes.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISION
*Non-Exempt consumption charges reflect a water tax of $.01 per 1,000 gallons of water consumed pursuant to N.J.S.A. 58:12A-21(a). Exempt consumption charges reflect a water tax of $.01 multiplied by 0.863621 per 1,000 gallons. This water tax is not applicable for sales for resale service. Exempt rates are charged for service rendered to those customers entitled to statutory relief pursuant to N.J.S.A. 54:30A-50, et seq.

RATE SCHEDULE L-1
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection throughout Service Area 1, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1 – Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16" connection	1,930.24

Hydrant Charge

	Per Month
For each Hydrant	$66.00

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS

No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. The use of private fire protection facilities for other reasons will result in termination of service following notification pursuant to N.J.A.C. 14:3-3A.1(d), and water charges will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-1.

RATE SCHEDULE L-2
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection where multiple customers are served from one private fire service connection in Service Area 1 in the Townships of Logan and Woolwich, Gloucester County in the area formerly served by Logan Wells Water Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES
The charge for private fire protection shall consist of the total of the sprinkler head charge based on the number of sprinkler heads, the hydrant charge based on the number of hydrants, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

	Per Month
For each Sprinkler Head	$1.53
For each Hydrant	$61.50

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered in monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-2.

RATE SCHEDULE L-3
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection throughout Service Area 2, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$55.18
For each 3" connection	108.40
For each 4" connection	174.79
For each 6" connection	324.23
For each 8" connection	553.64
For each 10" connection	722.97
For each 12" connection	1,041.04
For each 16" connection	2,045.52
For each 20" connection	3,727.87

2- Hydrant Charge

	Per Month
For each Hydrant	$65.50

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM

Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS

Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS

No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-3.

Reserved for future use.

RATE SCHEDULE L-7
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively for private fire protection throughout Service Area 3 and Service Area 1A, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16" connection	1,930.24

2- Hydrant Charge

	Per Month
For each Hydrant	$52.50

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-7.

RATE SCHEDULE L-9

PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY

Applicable for service furnished exclusively for private fire protection throughout Service Area 1B, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16” connection	1,930.24

2- Hydrant Charge

	Per Month
For each Hydrant	$45.30

TERMS OF PAYMENT

Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days’ notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM

Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS

Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS

No additional charge shall be made for water used in extinguishing fires or for underwriters’ tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters’ tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the “Rooming and Boarding House Act of 1974” and those residential health care facilities as defined in the “Health Care Facilities Planning Act,” upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-9.

RATE SCHEDULE L-10
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1C, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Sprinkler services with hose or hydrant connected to them:

Size of Connection	Per Month
For each 3" connection	$190.00
For each 4" connection	316.26
For each 6" connection	632.52
For each 8" connection	1,012.52
For each10" connection	1,569.18

Sprinkler services without hose or hydrant connected to them:

Size of Connection	Per Month
For each connection of 2" or less	$63.74
For each 3" connection	133.61
For each 4" connection	223.09
For each 6" connection	446.18
For each 8" connection	713.40
For each 10" connection	1,114.22

Hydrant Charge

	Per Month
For each Hydrant	$66.00

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

(continued)

RATE SCHEDULE L-10
PRIVATE FIRE PROTECTION SERVICE
(Continued)

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-10.

RATE SCHEDULE L-11
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to customers throughout Service Area 1D, formerly served by Applied Wastewater Management, Inc. ("Applied"), for private fire protection service. The charge for private fire protection service will consist of the total of the connection charge, the hydrant charge, and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by "Standard Terms and Conditions".

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$30.16
For each 3" connection	67.85
For each 4" connection	120.60
For each 6" connection	271.37
For each 8" connection	482.45
For each 10" connection	754.00
For each 12" connection	1,085.76
For each 16" connection	1,930.24

2- Hydrant Charge

	Per Month
For each Hydrant	$40.30

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

CONDITIONS
Subject to "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-1.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-11.

RATE SCHEDULE L-12
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1F, except as specifically provided elsewhere in this tariff. The charge for private fire protection service will consist of the total of the monthly system charge and the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

	Per Month
For each system:	$40.30

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-16.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-12.

RATE SCHEDULE L-13
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1G, the Egg Harbor City Utility, except as specifically provided elsewhere in this tariff.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$68.70
For each 3" connection	68.70
For each 4" connection	68.70
For each 6" connection	146.56
For each 8" connection	274.80
For each 12" connection	641.20

2- Hydrant Charge

	Per Month
For each Hydrant	$15.00

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-17.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-13.

RATE SCHEDULE L-14
PRIVATE FIRE PROTECTION SERVICE

APPLICABILITY
Applicable for service furnished exclusively to private fire protection facilities served by the Company, throughout Service Area 1H, Salem, except as specifically provided elsewhere in this tariff.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

1- Service Charge

Size of Connection	Per Month
For each connection of 2" or less	$53.01
For each 4" connection	249.06
For each 6" connection	438.86
For each 8" connection	619.14
For each 12" connection	805.36

2- Sprinkler Charge

	Per Month
For each Sprinkler	$0.36

TERMS OF PAYMENT
Valid bills for private fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least thirty (30) days' notice prior to the proposed discontinuance. The Company will adhere to all applicable notification requirements found in N.J.A.C. 14:3-3A.4(j) before discontinuing service.

TERM
Continuous until water service to the customer is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions", including those specific to Private Fire Protection starting on Sheet No. 20, except as otherwise set forth in this Schedule. Testing, inspection, maintenance, and repair of private fire hydrants shall be the responsibility of the property owner.

SPECIAL PROVISIONS
No additional charge shall be made for water used in extinguishing fires or for underwriters' tests where service is furnished under this schedule.

Private fire service lines shall be equipped with special meters and are to be used exclusively for fire protection purposes. No water shall be used through these connections except for purposes of underwriters' tests or extinguishment of fire. Any water usage for other purposes will be computed under the General Metered Service Rate Schedule A-19.

Residential customers served by a water service line of two (2) inches or less in diameter will not be imposed a standby fee for fire protection system.

Rooming and boarding houses as defined in the "Rooming and Boarding House Act of 1974" and those residential health care facilities as defined in the "Health Care Facilities Planning Act," upon furnishing to the Company proof in the form of a license or certificate from the appropriate state agency that the particular facility or house is entitled to exemption, will be exempt from the charges of Rate Schedule L-14.

RATE SCHEDULE M-1
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company throughout Service Areas 1, 1C, 1E, and 2, except as specifically provided elsewhere in this tariff.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$66.00

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE M-2
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company in Service Area 1 in the Townships of Logan and Woolwich, Gloucester County in the area formerly served by Logan Wells Water Company as well as in Ortley Beach and the Pelican Island System in Toms River Township, Ocean County, and in the Townships of Howell and Freehold, Monmouth County, in the area formerly served by Adelphia Water Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$61.50

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Reserved for future use.

RATE SCHEDULE M-5
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company in the Townships of Bedminster and Franklin in Service Area 2.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$60.50

TERMS AND PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due fifteen (15) days from the date of the postmark on the envelope in which the bill was transmitted. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

TERM
Continuous until water service within municipality is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE M-6
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to all municipalities for public fire protection service provided by the Company in Service Area 3.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge The amount of the bill will reflect the hydrant charge as defined hereafter for each tariff zone located in Service Area 3 as defined in Rate Schedule M-6.

Tariff Zone	For each Hydrant Per Month
3A	$42.50
3B	47.80
3C	52.30
3D	56.80
3G	63.50

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

TERM
Continuous until water service within municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.
The table hereafter defines the different tariff zones for Service Area 3:

Tariff Zone	Municipality
3A	• Mansfield (Columbus) Township • Springfield Township
3B	• Plumsted Township
3C	• Mansfield -Homestead • Southampton Township
3D	• Mount Holly Township
3G	• Eastampton Township • Hainesport Township • Lumberton Township • Medford Township • Westampton Township

RATE SCHEDULE M-7
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company throughout Service Area 1A, except as specifically provided elsewhere in this tariff. Applicable for flat rate fire protection service in the locations where the Company has facilities suitable and adequate for the desired service upon request from the proper authorities.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$52.50

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE M-8
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to municipalities for public fire protection service provided by the Company throughout Service Areas 1B and 1H, Salem, except as specifically provided elsewhere in this tariff. Applicable for flat rate fire protection service in the locations where the Company has facilities suitable and adequate for the desired service upon request from the proper authorities.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES

Hydrant Charge

	Per Month
For each Hydrant	$45.30

TERMS OF PAYMENT
Valid bills for public fire protection service furnished under this schedule are to be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Reserved for future use.

RATE SCHEDULE M-10
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to the municipality for all fire hydrants on public streets within Service Area 1D, formerly served by Applied Wastewater Management, Inc. ("Applied"), and Service Area 1F, Roxbury.

CHARACTER OF SERVICE
Continuous, except as limited by "Standard Terms and Conditions".

RATES

Hydrant Charge

	Per Month
For each Hydrant	$40.30

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service.

CONDITIONS
Subject to "Standard Terms and Conditions".

Reserved for future use.

RATE SCHEDULE M-12
PUBLIC FIRE PROTECTION SERVICE

APPLICABILITY
Applicable to the municipality for all fire hydrants on public streets within Service Area 1G, the Egg Harbor City Utility.

CHARACTER OF SERVICE
Continuous, except as limited by "Standard Terms and Conditions".

RATES

Hydrant Charge

	Per Month
For each Hydrant	$15.00

TERM
Continuous until water service to the municipality is permanently discontinued. Whenever service is established or is discontinued, all applicable fixed service charges shall be prorated to the date of establishment or discontinuance of service.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date. Thereafter, the Company may not discontinue water service unless written notice is provided giving the customer at least ten (10) days' notice prior to the proposed discontinuance. The 10 days shall begin on the postmark date of the notice. N.J.A.C. 14:3-3A.3.

CONDITIONS
Subject to "Standard Terms and Conditions".

RATE SCHEDULE O-1

PURCHASED WATER ADJUSTMENT CLAUSE (PWAC)

APPLICABILITY

Applicable to all Metered Water Customer classes served by the Company in all service areas for water service, except for Manasquan Uninterruptible Service, and those customers subject to Rate Schedules I and J, who will only be subject to the PWAC for any water used in excess of their Annual Purchase Requirement.

The PWAC charge, as defined under the Standard Terms and Conditions of this tariff, is designed to recover the cost of purchased water associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased water costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WATER ADJUSTMENT CLAUSE (PWAC) CHARGE

In addition to all other charges for metered service, the following charges per one hundred gallons or per one thousand gallons for all sales will be made to recover purchased water costs not included in the Water Charge or any other Charge:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.05477	$0.5477
Exempt	All	$0.04731	$0.4731

The PWAC Charge is also applicable to any difference between the quantity of water actually purchased by the customer and any applicable take-or-pay commitment.

FILING

The Company shall endeavor to make an annual PWAC filing no later than December 1st of each year proposing a PWAC rate to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PWAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PWAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PWAC charge for purchased water;
2. Projected rates supported by projected volumes, revenues, and projected purchased water costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PWAC rate.

The benchmark bill shall be the average residential water customer bill for a twelve-month period.

(Continued)

RATE SCHEDULE O-1
PURCHASED WATER ADJUSTMENT CLAUSE (PWAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PWAC rates at the beginning of each PWAC Year succeeding any PWAC year in which any monthly purchased water costs over recovery has taken place. Any debit or credit balance in the separate deferred net revenue or separate cost of purchased water accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of purchased water balances. Interest on such water costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7.1, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7.1, et seq.

TERMS OF PAYMENT

See Rate Schedules for applicable customer classes.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE O-2
LEAD SERVICE LINE REPLACEMENT CHARGE

APPLICABILITY

Applicable to all water customer classes served by the Company in all service areas for water service taking service under Rate Schedules A-1 through A-16 (GMS) and C, D, E, F, G, H, I, J, and L-1 through L12 (non-GMS). The Lead Service Line Replacement Charge is designed to recover project costs associated with replacing customer-owned lead service lines.

CHARACTER
Continuous, except as limited by the "Standard Terms and Conditions".

LEAD SERVICE LINE REPLACEMENT CHARGE (LSLRC)
In addition to all other charges for GMS and non-GMS customers throughout the entire territory served, the following charges will be assessed as follows commencing January 1, 2024:

- For each surcharge period, revenue responsibility shall be assigned to GMS customers on a volumetric basis in the same proportion as total revenue requirements were assigned to GMS in the Company's most recently concluded base rate case. Then the balance of the revenue responsibility shall be assigned to non-GMS as a fixed per customer surcharge based on the aggregate customer count of non-GMS customers.

- The non-GMS customer count and GMS volumetric usage will be updated with each surcharge filing. The non-GMS customer count will be updated to reflect the count at the end of the month prior to each surcharge filing. The GMS usage will be updated to reflect the actual usage from the six-month period during which the costs were incurred.

- GMS and non-GMS LSLRC revenue requirement allocation percentages will be updated following each base rate proceeding during the LSLRC recovery period.

RATE
This charge is in addition to Rate Schedules A-1 through A-16 (GMS) and C, D, E, F, G, H, I, J, and L-1 through L12 (non-GMS). The surcharge amounts for GMS and Non-GMS customers are as follows:

GMS Rate Per 1,000 Gallons	Non-GMS Fixed Charge Per Month
$ 0.6630	$21.24

The recovery of these costs will be shown as a LSLRC surcharge on each customer's bill.

FILING
The LSLRC is authorized pursuant to N.J.S. A. 58:12A-40, et seq. (Lead Service Line Replacement Law) and the procedures for filing, approving and implementing the LSLRC are set forth therein, along with the Company's Lead Service Line Replacement Plan, which was reviewed and approved by the Board of Public Utilities in BPU Docket No. WR22010017 on October 12, 2022, and the BPU Order approving said Plan.

The approval process for implementing this surcharge includes public notice and hearing. The notice included a proposed surcharge amount based on the actual project costs associated with the replacement of customer-owned lead service lines incurred by the Company between July 1, 2020 and October 31, 2022, as well as estimated surcharge amounts for the first five years of the lead service line replacement program, which were estimated based on estimated construction schedules, costs and other factors described in the approved Lead Service Line Replacement Plan. Pursuant to the approved Lead Service Line Replacement Plan, the Company shall endeavor to make semi-annual LSLRC filings at approximately six-month intervals. In addition, to ensure that customers are surcharged the proper amount, the Company will reconcile any over- or under-collections on an annual basis as part of its surcharge filings.

TERMS OF PAYMENT
See Rate Schedules for applicable customer classes.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 40.3

RATE SCHEDULE O-3
UNIVERSAL AFFORDABILITY

AVAILABILITY

Available to all residential water customers served by the Company in all service areas who meet the income criteria of 200% or less than the Federal Poverty Level ("FPL"). NJ Shares determines and maintains the qualification requirements for the Company's discount programs. Customers who qualify for the program are required to recertify income eligibility every two years.

APPLICABILITY

The discount will be applied to the Fixed Service Charge and Water Charge (volumetric) portion of the bill for water service. The discount will not be applied to the Purchased Water Adjustment Clause (PWAC) Charge, as shown on Rate Schedule O-1, the Lead Service Line Replacement Charge (LSLRC), as shown on Rate Schedule O-2, or the Distribution System Improvement Charge (DSIC), as shown on Rate Schedule K.

DISCOUNT

	Household Income	**Fixed Service Charge Discount**	**Water Charge Discount**
Tier 1	0% - 50% of FPL	80%	80%
Tier 2	51% - 100% of FPL	60%	60%
Tier 3	101% - 150% of FPL	40%	40%
Tier 4	151% - 200% of FPL	20%	20%

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 40.4

RATE SCHEDULE O-4
REVENUE DECOUPLING MECHANISM

APPLICABILITY
Applicable to all water customer classes served by the Company in all service areas for water service taking service under Rate Schedules A-1 through A-16.

CHARACTER
Continuous, except as limited by the "Standard Terms and Conditions".

REVENUE DECOUPLING MECHANISM ("RDM")
For purposes of the RDM only, the terms below are defined to mean:

Effective Period shall mean the period for which the adjustments are to be billed to customers and shall be the nine-month period April 1 through December 31 after the Filing Month.

Filing Month shall mean the month in which an adjustment is determined by the Company and submitted to the Board, which shall be on or before January 31 each year.

Fiscal Year shall mean the 12-month period that ended as of the most recent December 31.

GMS Residential Customers shall mean all general metered service residential customers.

GMS Non-Residential Customers shall mean all general metered service commercial, industrial, municipal, and Sales for Resale customers.

Previous Amortization Period shall mean the nine-month reconciliation amortization period that ended as of the most recent Fiscal Year.

Upcoming Amortization Period shall mean the nine-month reconciliation amortization period commencing on April 1 following the Fiscal Year.

RATE
This charge is in addition to Rate Schedules A-1 through A-16. The calculation of the adjustments for GMS Residential and GMS Non-Residential customers are detailed below.

The GMS Residential Adjustment is calculated as follows:

$$\frac{RESREV - (VC*RESUSE) - (RC*RESCUST)}{RESFC}$$

Where:

RESREV represents the actual dollar amount of revenues billed to residential customers for the identified service classifications, excluding revenues arising from adjustments under this tariff and any other tariff, which were billed for the applicable month.

RESUSE represents the number of 100-gallon units delivered to residential customers by the Company, including the number of 100-gallon units for the applicable month.

RESCUST represents the average number of residential customers for the applicable month

VC represents the Volumetric Charge ($0.9771 per hundred gallons proposed)

RC represents the Residential Fixed Charge (based on meter size per month at proposed)

RESFC represents the number of 100-gallon units expected to be delivered to residential customers by the Company, including the number of 100-gallon units for the applicable Effective Period.

(continued)

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Water

Original Sheet: No. 40.4.1

RATE SCHEDULE O-4
REVENUE DECOUPLING MECHANISM
(Continued)

The GMS Non-Residential Adjustment is calculated as follows:

$$\frac{NONREV - (VC*NONUSE) - (NC*NONCUST)}{NONFC}$$

Where:

NONREV represents the actual dollar amount of revenues billed to GMS Non-Residential customers for the identified service classifications, excluding revenues arising from adjustments under this tariff and any other tariff, which were billed for the applicable month.

NONUSE represents the number of 100-gallon units delivered to GMS Non-Residential customers by the Company, including the number of 100-gallon units for the applicable month.

NONCUST represents the average number of GMS Non-Residential customers for the applicable month

VC represents the Volumetric Charge ($0.9771 per hundred gallons proposed)

NC represents the Non-Residential Fixed Charge (based on meter size per month at proposed)

NONFC represents the number of 100-gallon units expected to be delivered to GMS Non-Residential customers by the Company, including the number of 100-gallon units for the applicable Effective Period.

FILING

The Company shall submit to the Board on or before January 30 of each year, the RDM calculation and support for any annual adjustments to be effective under this tariff. The Board will have 60 days to review. The reconciliation amount will be surcharged from April 1 through December 31 of each calendar year. Any credit will be issued as soon as administratively possible.

TERMS OF PAYMENT

See Rate Schedules for applicable customer classes.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

RATE SCHEDULE P-1
MISCELLANEOUS SERVICE

APPLICABILITY
Applicable throughout the entire area served by the Company for Miscellaneous Municipal Service, General Building Construction and Trucked Bulk Water Sales.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RATES
(a) Miscellaneous Municipal Service: Each customer shall pay for all water used for street sprinkling, street or sewer flushing, swimming pools or other miscellaneous uses at the General Metered Service Rates of this tariff as applicable. Water consumption will determined by metering or by such other method as may be mutually agreed upon by the customer and the Company. Fire hydrants are not to be used for this service without the express consent of the Company in each circumstance where this service is required. No person, other than municipal fire and Company personnel is permitted to operate or take water from any public fire hydrant for street sprinkling, flushing sewers, storm water drains, or any purpose unless authorized by the Company and the fire chief of the municipality in writing and upon the terms and conditions set forth by the fire chief and the Company therein.

(b) Water For Building Construction: Where water service is temporarily furnished for building construction and/or any other temporary use, it shall, wherever practical, be supplied through a meter at the General Metered Service Rates of this tariff as applicable. Should a new service be required to provide this temporary use, the customer shall pay the cost to install and remove the service. No person, other than municipal fire and Company personnel, is permitted to operate or take water from any public fire hydrant for building construction or any purpose unless authorized by the Company and the fire chief of the municipality in writing and upon the terms and conditions set forth by the fire chief and the Company therein.

(c) Bulk Water Sales for water transfers using Trucks and Tanks: Water sales to customers or entities using trucks or tanks to receive water service from the Company that require additional attention may affect the Company's daily operations. A surcharge in the amount of $50 may be applied for each such request in addition to the water charge as set forth in the applicable General Metered Service Rates of this tariff. If at any time the Company determines that a customer or entity has taken water without permission or proper compensation to the Company under this provision, the Company reserves the right to refuse to sell water to the customer or entity hereunder. Bulk Water Sales for water transfers using trucks and tanks in Service Area 1H, Salem, will be charged $19.95 per 1,000 gallons.

TERMS OF PAYMENT
All charges rendered under this Rate Schedule are in arrears for metered service and in advance for un-metered service. At the option of the Company, a deposit may be required for metered service billed in arrears, in accordance with N.J.A.C. 14:3-3.4, et seq. The Company may not require a deposit for un-metered service billed in advance in accordance with N.J.A.C. 14:3-3.4(i). Bills are due twenty (20) days from the date of the postmark on the envelope in which the bill is transmitted or electronic transmission date for customers on electronic billing.

TERM
Continuous until water service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISIONS
Where metered service is provided through a hydrant meter, a deposit equal to the cost of the hydrant meter may be required by the Company. The meter shall be kept safe and accessible during its use. The deposit, less the cost of repairs to the meter, if any, will be returned to the applicant by the Company after surrender of the meter and payment of all charges for water supplied through it.

RATE SCHEDULE P-2
MISCELLANEOUS SERVICE –
CHARGES NOT INVOLVING THE USE OF WATER

APPLICABILITY
Applicable to all classes of customers unless specified for the following classes of miscellaneous services throughout the entire area served by the Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

RECONNECTIONS AND RECONNECTION CHARGE

1. Resumption of service rates due to: discontinuance of service as a result of non-payment of bills; violation of the Company's tariff rules; the voluntary request of the customer when the meter has not been removed (e.g. seasonal requests) or for customer's convenience, are set forth as follows.

Conditions	Rate
Normal working hours For the purpose of requests for reconnection services under this section, normal working hours are as follows: Monday through Friday* 8 AM to 6 PM Saturday* 8 AM to 2 PM *Except for the following holidays: New Year's Day, President's Day, Veteran's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the day after Thanksgiving, and Christmas Day.	$28.00
After-hours restoration of service The Company has 12 hours from proper application by the customer to restore service, after all of the conditions under which such service was discontinued are corrected and the utility has received notice of payment. Requests for reconnection of service that must be worked all days and times outside of normal working hours as listed above, plus all holidays as listed above, are subject to the after-hours restoration of service rate.	$100.00

2. Resumption of service when a customer's service has been reconnected without the permission of the Company after service has been terminated by the Company for non-payment of bills or violation of the Company's tariff. The Company will physically disconnect the customer's service for a second time and the customer will be required to pay, in addition to any outstanding or delinquent amount, the Company's actual cost of reconnection or $350.00, whichever is more, before service is restored. The Company shall give written notice to the customer that if service is reconnected again without the permission of the Company, it will be necessary for the Company to excavate and physically disconnect service and that a reconnection charge of $500, or the actual cost incurred by the Company to excavate and physically disconnect and reconnect the service, whichever is more, will be made. The Company may also seek criminal prosecution under N.J.S.A. 2C:20-8c as well as civil damages.

(Continued)

RATE SCHEDULE P-2
MISCELLANEOUS SERVICE –
CHARGES NOT INVOLVING THE USE OF WATER
(Continued)

3. Requirement for Customer to be Present for Reconnection. Customers must be present on the premises when the Company reconnects a discontinued water service to said premises. Notwithstanding the foregoing, if the customer is not present but has given consent to the Company to reconnect the water service in his, her or its absence, the Company may reconnect the water service. In such case, the customer is solely responsible for any damage incurred by the customer and/or to the customer's premises due to an approved reconnection of service when the customer is not present at the time of said reconnection, provided that the customer will not be responsible for damage due to the sole negligence of the Company.

CROSS CONNECTION INSPECTION CHARGE
A charge of $75.00 will be imposed by the Company for an inspection of each cross-connection device installed between an unapproved source of supply and the Company's water supply, subject to the availability of Company resources. The customer must provide proof of inspection.

METER TESTING AND REPLACEMENT CHARGE

1. Customer Request for Additional Meter Testing. If a customer requests that the Company test a meter during any twelve (12) month period in which the Company has already provided one free meter test per N.J.A.C. 14:3-4.5, or if the meter first referred to has been in use less than two years, and the meter is found to be accurate, the Company may charge the customer a fee for removing the meter and a fee for testing the meter as follows:

Schedule for removing and replacing a meter

Meter Size	Rate
Meters up to and including 2" in diameter	$37.00
Meters larger than 2" in diameter	Actual cost

These charges will not exceed the replacement cost of the meter.

Schedule for testing the meter

Meter Size	Rate
All meters from ⅝ inches up to 1 inch	$50.00
All meters from 1 ½ inches up to 3 inches	$75.00
All meters from 4 inches up to 10 inches	$100.00
All meters from 12 inches and larger	$125.00

2. Removing, Repairing and Replacing Meters damaged due to negligence of the customer. The Company may impose a charge on any customer who causes damage to a meter as follows:

(a) Repair Only: Actual cost of materials used to repair the meter, and the actual cost of labor required to repair and reinstall the meter.

(b) Meter Replacement for Non-repairable Meters: Actual cost of a new meter, materials used to replace the meter, and the actual cost to install the meter, including the cost of labor required to install the meter.

(Continued)

RATE SCHEDULE P-2
MISCELLANEOUS SERVICE –
CHARGES NOT INVOLVING THE USE OF WATER
(Continued)

BAD CHECK CHARGE
If the Company receives a negotiable instrument from a customer in payment of a bill, charge, or deposit due, and such instrument is subsequently dishonored or uncollectible for any reason, the Company shall charge the customer a handling charge per instrument of $15.00.

If a bad check charge is applied to a customer account, that amount, as well as the amount of the dishonored check shall be paid with cash, certified check, money order, bank check, or other means of guaranteed payment before such account shall be deemed paid. Additionally, if a customer presents two checks that are dishonored by the bank as a result of the customer's error, the customer will be required to pay by the methods stated above for a period of twelve months from the date of the last dishonored check.

The provisions of this tariff section shall not be deemed to require a customer to submit to automatic deduction from any bank account, credit card, or by on-line banking but the Company may offer same as an option provided the customer is presented with all other available options offered by the Company.

UNAUTHORIZED USE OF COMPANY FACILITIES
There will be a minimum charge of $500.00 for unauthorized use of Company facilities plus costs for repair of any damages to Company property resulting therefrom.

TERMS OF PAYMENT
Valid bills furnished under this schedule are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

TERM
Continuous until water service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISIONS
The Company may waive the fees and charges referenced in this Rate Schedule P-2 for a customer who is enrolled in the Company's H20 Help to Others Assistance Program or the H20 Help to Others Discount Program, provided that the customer is not deemed to have been abusing and/or taking advantage of the system, including but not limited to repeatedly requiring service reconnections more than three (3) times in any twelve (12) month period.

RATE SCHEDULE P-3
MULTI-USE SERVICE LINE

APPLICABILITY

The Company will provide an option to customers, upon request and where applicable, to use a "multi-use" service line per N.J.A.C. 14:9-8.3 et seq.

"Multi-use service" means water service that is supplied through one water line extending from the water main to the structure, and which is used for both domestic water service on the premises and for fire suppression service inside a structure. A multi-use service is not private fire protection service.

Terms and Conditions not defined specifically below for Multi-Use services shall be the same as those under the STANDARD TERMS AND CONDITIONS.

RATES

Rates applicable to multi-use service are those found in the Company's General Metered Service Rate Schedules in this tariff as applicable.

TERMS OF PAYMENT

A water utility may terminate a customer's multi-use service for non-payment of a valid water bill for multi-use service, in accordance with the Board's rules governing discontinuance of such service at N.J.A.C. 14:3-3A.4(j) and N.J.A.C. 14:9-8.3.

CONDITIONS

By applying for multi-use service, the customer or builder certifies that:

1. The customer or builder has hydraulically calculated the demand for the customer's or builder's water system, based on the simultaneous domestic and fire sprinkler demand. The customer or builder shall make this calculation in accordance with the Uniform Construction Code and any other applicable state or local codes; and

2. The customer or builder will ensure that the system is installed in accordance with the Uniform Construction Code at N.J.A.C. 5:23; and

3. The customer will, prior to installation of the meter, obtain and provide the Company with a copy of a valid construction permit in accordance with the Uniform Construction Code from the enforcing agency having jurisdiction over the system.

GENERAL TERMS AND CONDITIONS

1- By applying for multi-use service, the customer agrees to be responsible for all claims, costs and liability for personal injury, death and/or property damage, resulting from the customer's individual water system, and agrees that the Company shall not be so liable unless caused by the negligence of the water utility. (N.J.A.C. 14:9-8.3(d))

2- All multi-use service lines shall be metered, and the meter shall be located in a meter pit or vault located outside of the Customer's structure. The meter pit or vault shall be installed at a location acceptable to the express, advance approval of the Water Company, and otherwise shall comply with the Company's standard terms and conditions.

3- If a customer requests a change in meter size associated with a multi-service meter, the customer must re-apply for service and re-certify each item addressed in this Rate Schedule.

(Continued)

RATE SCHEDULE P-3
MULTI-USE SERVICE LINE
(Continued)

PROVISION OF SERVICES

By applying for multi-use service, and operating the same, the customer agrees:

1. To include a backflow prevention device(s) as defined at N.J.A.C. 7:10-1.3, and as specified at N.J.A.C. 7:10-10.3;

2. To be solely responsible for all costs and expenses relating to the installation, operation, maintenance, repair and replacement of the customer's water system, including the fire suppression system and backflow prevention device(s);

3. To ensure that the customer's water system complies with the applicable requirements of the Uniform Construction Code in effect at the time of system installation, including any applicable building, plumbing and fire protection sub-codes; and

4. To ensure that the customer's water system is maintained in accordance with all applicable law so as to protect against backflow, back-siphonage and contamination of the potable water system.

NEW JERSEY-AMERICAN WATER COMPANY, INC. Eleventh Revised Sheet: No. 44
B.P.U. No. 8 – Wastewater Superseding Tenth Revised Sheet: No. 44

AREA SERVED – WASTEWATER SERVICE

	County	Municipality	All or Portion	Development/Section	Wastewater System
**	Atlantic	City of Egg Harbor	All	N/A	Egg Harbor City
**	Atlantic	Twp. of Galloway	Portion	N/A	Egg Harbor City
**	Atlantic	Twp. of Mullica	Portion	N/A	Egg Harbor City
A)	Bergen	Twp. of Oakland	Portion	Ramapo River Reserve	Ramapo River Reserve
A)	Burlington	Twp. of Mansfield	Portion	Mapleton (Mansfield Farms)	Mapleton
B)	Burlington	Twp. of Mansfield	Portion	Homestead (Country Walk)	Homestead
D)	Burlington	Twp. of Mansfield	Portion	John Hydock Elementary School	Mapleton
D)	Burlington	Twp. of Mansfield	Portion	Northern Burlington School	Mapleton
**	Burlington	Twp. of Mansfield	Portion	Mansfield Warehousing Area	
**	Camden	Borough of Haddonfield	All	N/A	Haddonfield/CCMUA
**	Camden	Borough of Mount Ephraim	All	N/A	Mount Ephraim
A)	Cape May	Twp. of Middle	Portion	Avalon Country Club	Avalon Links
*	Cape May	Ocean City	All	N/A	Ocean City/CMCMUA
**	Gloucester	Twp. of Elk	All	N/A	Elk Township
A)	Hunterdon	Borough of Bloomsbury	Portion	Fawn Run	Fawn Run
A)	Hunterdon	Twp. of Tewksbury	Portion	Crossroads at Oldwick	Crossroads
*	Hunterdon	Twp. of Tewksbury	Portion	Pottersville	Pottersville
A)	Hunterdon	Twp. of Union	Portion	Village Square	Village Square
A)	Hunterdon	Twp. of Clinton	Portion	Brass Castle	Brass Castle
A)	Hunterdon	Twp. of Union	Portion	Lookout Pointe	Lookout Pointe
A)	Hunterdon	Twp. of Clinton	Portion	Glen Meadows & Twin Oaks	Glen Meadows
A)	Monmouth	Twp. of Upper Freehold	Portion	Four Seasons at Upper Freehold	Beacon Hill
D)	Monmouth	Twp. of Upper Freehold	Portion	Beacon Hill Clubhouse	Beacon Hill
*, **	Monmouth	Twp. of Howell	Portion	N/A	Howell/MRRSA/OCUA
A)	Morris	Twp. of Mount Olive	Portion	Country Oaks	Country Oaks
A)	Morris	Twp. of Chester	Portion	Four Seasons @ Chester	Four Seasons @ Chester
A)	Morris	Twp. of Jefferson	Portion	Peaks @ Jefferson	Jefferson Peaks
A)	Morris	Twp. of Mount Olive	Portion	Morris Chase	Morris Chase
**	Morris	Twp. of Long Hill	All	N/A	Long Hill Township
*	Ocean	Twp. of Lakewood	Portion	N/A	Lakewood/OCUA
**	Ocean	Twp. of Plumsted	Portion	Jensen's Deep Run	Jensen's
**	Salem	City of Salem	All	N/A	Salem City
**	Salem	Twp. of Mannington	All	N/A	Salem City
C)	Somerset	Twp. of Bedminster	Portion	N/A	EDC
C)	Somerset	Twp. of Bernards	Portion	N/A	EDC
**	Somerset	Borough of Bound Brook	All	N/A	Bound Brook
**	Somerset	Twp. of Bridgewater	Portion	Somerville Adjacent	Somerville
A)	Somerset	Twp. of Hillsborough	Portion	Hillsborough Chase	Hillsborough Chase
**	Somerset	Borough of Manville	All	N/A	Manville
**	Somerset	Borough of Somerville	All	N/A	Somerville
A)	Warren	Twp. of Washington	Portion	Hawk Pointe	Hawk Pointe

KEY:

A) Community On-Site Water and/or Wastewater System (COWS) (formerly served by Applied)
B) Homestead (formerly served by Applied)
C) Wastewater system of the former Environmental Disposal Corp. ("EDC")
D) Other Contracts (formerly served by Applied)
* Wastewater systems served by the Company prior to the merger of Applied Wastewater Management, Inc. ("Applied") into the Company on September 1, 2010.
** Systems acquired by the Company after January 1, 2011.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

WASTEWATER SERVICE RATE SCHEDULES
TABLE OF CONTENTS

Rate schedules are applicable for service provided in the entire area served as follows:

RATE SCHEDULE 1-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service in the City of Ocean City. The charge for wastewater service shall consist of the total of the Minimum Service Charge, the Wastewater Usage Charge, the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff and as shown on Rate Schedule 1-B, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

MINIMUM SERVICE CHARGE
All wastewater service customers shall pay a Minimum Service Charge in addition to the Wastewater Usage Charge, if any. The Minimum Service Charge for a customer is determined every January 1 for the year based on the water usage for the prior July, August and September meter readings ("Summer Quarter Consumption") but in no event will a customer be billed for less than 7,480 gallons per year for wastewater service.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.64000	$16.4000

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. Charges shall be based on water consumption as indicated by water meter readings on a monthly basis.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.40210	$4.0210

TERMS OF PAYMENT

The following plan for payment of the Annual Minimum Service Charge is offered as a convenience to our customers and, in the case of seasonal service, does not relieve the customer of the liability to pay the entire Annual Minimum Service Charge if wastewater service is rendered for only a portion of the calendar year. In the case of a non-seasonal customer terminating their account, the customer shall be billed for service provided through the date of service termination.

A new customer, initiating service at existing premises, shall be billed for such service as of the account activation date. The new customer account usage will be based on the existing premises last known summer quarter consumption, until the new customer establishes a summer quarter consumption. A new customer account without established summer quarter consumption data will be required to pay a pro-rata share of the Annual Minimum Service Charge, until the new customer establishes a summer quarter consumption. The proration shall be based on the portion of the calendar year for which the customer receives service.

In addition, in the case of a reactivated account, the customer will be required to pay for the charges as if the account had been active as of January 1. The calculated Annual Minimum Service Charge will therefore be billed across the remaining installment billing periods in that calendar year.

For monthly billed customers, one-twelfth of the Minimum Service Charge shall be due and payable upon receipt of the regular bill for wastewater service.

If the Company determines by application of the following criteria that the customer's past record of payments does not warrant application of this payment plan, the Company may require payment of the entire service charge at one time rather than in installments.

1. If a customer has been terminated at least once in the past two years for non-payment of a bill for wastewater service; or,
2. If a customer receives three (3) Final Reminder Notices during a twelve-month period.

Usage charges based upon meter readings shall be billed in monthly in arrears.
Valid bills for service furnished under this schedule are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

RATE SCHEDULE 1-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in the City of Ocean City. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company, and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

The following are the PSTAC charges per one hundred gallons and per one thousand gallons that will be charged based on the Summer Quarter Consumption as defined in the Minimum Service Charge section of Wastewater-Rate Schedule 1-A to recover purchased wastewater treatment and disposal costs, but in no event will the consumption level for PSTAC be less than 7,480 gallons per year.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1000 Gallons
Non-Exempt	All	$3.37033	$33.7033

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

TERMS OF PAYMENT

See Rate Schedule for the applicable customer class.

(Continued)

RATE SCHEDULE 1-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE 2-A
GENERAL METERED SERVICE
STATEWIDE COLLECTION AREAS

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service in the Statewide Wastewater Collection Area including Lakewood, Elk Township, and the Adelphia System (service area of the former Adelphia Sewer Company) and other franchise areas within the Township of Howell. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 2-B (Lakewood), Rate Schedule 3-B (Howell and Adelphia System), and Rate Schedule 12-B (Elk Township), and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, if any, as follows:

	Non-Exempt
Fixed Service Charge per customer per month.	$18.20

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

Volumetric Charges

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.59890	$5.9890

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

RATE SCHEDULE 2-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in the Statewide Wastewater Collection Area (Lakewood). The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company, and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 2-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$ 0.46191	$4.6191

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

(Continued)

RATE SCHEDULE 2-B
PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT
See Rate Schedule for applicable customer class.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Reserved for Future Use

RATE SCHEDULE 3-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service customers provided service by the Company's Adelphia System (service area of the former Adelphia Sewer Company) and other franchise areas within the Township of Howell in Monmouth County. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal associated with the normal operations of the Company, and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 2-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.69196	$6.9196

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;

2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;

3. Deferred balances and the timeframe over which they are proposed to be collected or returned;

4. A written explanation of the circumstances that caused the deferred balances in (3) above;

5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and

6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

(Continued)

RATE SCHEDULE 3-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)
(Continued)

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7 et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT
See Rate Schedule for applicable customer class.

TERM
Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE 5-A
GENERAL FLAT RATE SERVICE
STATEWIDE COLLECTION AND TREATMENT AREAS

APPLICABILITY FOR GENERAL FLAT RATE WASTEWATER SERVICE CUSTOMERS
Applicable to all general flat rate wastewater service customers located in the Company's Tewksbury System (Pottersville - service area of the former Valley Road Sewerage Company) in the Township of Tewksbury in Hunterdon County, and Service Areas noted as (A) and (B), formerly served by Applied Wastewater Management, Inc. ("Applied"), on Sheet No. 44 (COWS) who are not water service customers of NJAWC. The Class A/Class B designations in effect at the time rates were set by the Board in Docket. No. WR11070460 (May 1, 2012) shall remain in effect unless changed by order of the Board. No new Class A designations shall be made except at the discretion of the Company. The Company's charge for wastewater service shall consist of the total of a Flat Rate Service Charge, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FLAT RATE SERVICE CHARGE – GENERAL FLAT RATE WASTEWATER CUSTOMERS
All wastewater service customers shall pay a flat rate service charge as indicated below.

	RATE PER MONTH
CLASS A	$86.00
CLASS B	100.00

The Class A/Class B designations in effect at the time rates were set by the Board in Docket. No. WR11070460 (May 1, 2012) are as follows:

CLASS A
4 BEDROOM AGE RESTRICTED
3 BEDROOM AGE RESTRICTED
2 BEDROOM TOWNHOUSE
3 BEDROOM TOWNHOUSE AGE RESTRICTED
2 BEDROOM AGE RESTRICTED
1 BEDROOM TOWNHOUSE

CLASS B
DETACHED SINGLE FAMILY
3 BEDROOM TOWNHOUSE

CHARACTER OF FLAT RATE SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

RATE SCHEDULE 6-A
GENERAL METERED SERVICE
STATEWIDE COLLECTION AND TREATMENT AREAS

APPLICABILITY FOR GENERAL METERED WASTEWATER SERVICE CUSTOMERS
Applicable to all general metered wastewater service customers located in the Company's Tewksbury System (Pottersville - service area of the former Valley Road Sewerage Company) in the Township of Tewksbury in Hunterdon County, Service Areas noted as (A) and (B), formerly served by Applied Wastewater Management, Inc. ("Applied"), on Sheet No. 44 (COWS and Homestead) who receive volume-based water service billings from NJAWC, and the Mansfield Warehousing Area. The Company's charge for wastewater service shall consist of the total of the Fixed Service Charge, a Wastewater Usage Charge, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$65.50

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.03990	$10.3990

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

RATE SCHEDULE 8-A
OTHER CONTRACTS

APPLICABILITY

Applicable to wastewater service customers located in the Service Areas noted as D), formerly served by Applied Wastewater Management, Inc. ("Applied"), and C), formerly served by Environmental Disposal Corp. ("EDC") on Sheet No. 44 (Other Contracts).

CHARACTER OF SERVICE

Continuous (unmetered).

RATES

SERVICE AREA	CLASS	RATE PER MONTH	
Applied	Schools	$153.80	Per Formula*
Applied	Other	153.80	Per Equivalent Dwelling Units**
EDC	Bulk User***	9.6010	Per 1,000 Gallons

TERMS OF PAYMENT

Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

* Quarterly Charge = $360.00 x (Average Daily Enrollment x Student GPD)/300
Where Student GPD is as follows:
NJDEP projected usage per Elementary School student = 15 GPD
NJDEP projected usage per Middle School student = 20 GPD
NJDEP projected usage per High School student = 25 GPD

**An equivalent residential customer is based on 235 GPD

*** Rates for treatment of wastewater of BULK USER Customers delivered by said customers to the EDC treatment facility as set forth in this Tariff Sheet shall supersede the contractual rates and terms set forth in each of the Amended and Restated Sewer Allocation and Bulk User Agreements Between Environmental Disposal Corp. and the Boroughs of Bedminster, Far Hills, and Peapack and Gladstone ("Bulk User Agreements"), respectively.

RATE SCHEDULE 9-A
MISCELLANEOUS SERVICE CHARGES

APPLICABILITY
Applicable to all classes of customers unless specified for the following classes of miscellaneous services throughout the entire area served by the Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

BAD CHECK CHARGE
If the Company receives a negotiable instrument from a customer in payment of a bill, charge, or deposit due, and such instrument is subsequently dishonored or uncollectible for any reason, the Company shall charge the customer a handling charge per instrument of $15.00.

If a bad check charge is applied to a customer account, that amount, as well as the amount of the dishonored check shall be paid with cash, certified check, money order, bank check, or other means of guaranteed payment before such account shall be deemed paid. Additionally, if a customer presents two checks that are dishonored by the bank as a result of the customer's error, the customer will be required to pay by the methods stated above for a period of twelve months from the date of the last dishonored check.

The provisions of this Tariff section shall not be deemed to require a customer to submit to automatic deduction from any bank account, credit card, or by on-line banking but the Company may offer same as an option provided the customer is presented with all other available options offered by the Company.

RESUMPTION OF SERVICE AFTER PHYSICAL DISCONNECTION OR PLUGGING DUE TO NONPAYMENT OF BILLS OR VIOLATION OF THE COMPANY'S RULES

Wastewater Service	-	At any time	Greater of $350.00 or actual cost

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

SPECIAL PROVISIONS
The Company may waive the fees and charges referenced in this Rate Schedule 9-A for a customer who is enrolled in the Company's H2O Help to Others Program or the Low Income Payment Program, provided that the customer is not deemed to have been abusing and/or taking advantage of the system, including but not limited to repeatedly requiring service reconnections more than three (3) times in any twelve (12) month period.

RATE SCHEDULE 9-A.1
WASTEWATER SYSTEM IMPROVEMENT CHARGE

Applicable to all wastewater treatment and service customers on Rate Schedules 1-A, 2-A, 5-A, 6-A, 10-A, 11-A and 13-A, and Rate Schedule 16-A effective June 2, 2025.

CHARACTER
Continuous, except as limited by the “Standard Terms and Conditions”.

WASTEWATER SYSTEM IMPROVEMENT CHARGE (WSIC)
In addition to all other charges for wastewater collection and treatment throughout the entire territory served, the following charges will be assessed on a fixed, per meter or meter equivalent basis for each monthly bill, commencing _____.

RATE
This charge is in addition to Rate Schedules 1-A, 2-A, 3-A, 5-A, 6-A, 10-A, 11-A and 12-A.

Size of Meter	Non-Exempt Per Month	Exempt Per Month
5/8"	$0.00	0.00
3/4"	0.00	0.00
1"	0.00	0.00
1 1/2"	0.00	0.00
2"	0.00	0.00
3"	0.00	0.00
4"	0.00	0.00
6"	0.00	0.00
8"	0.00	0.00
10"	0.00	0.00
12"	0.00	0.00
16”	0.00	0.00

FILING
The WSIC is authorized pursuant to N.J.A.C. 14:9-11.1 et seq. and the procedures for filing, reviewing, approving and implementing the WSIC are set forth therein. The WSIC is based on the Company's Foundational Filing, which was reviewed and approved by the Board of Public Utilities on October 6, 2021. The approval process included public notice and public hearings. The notice included proposed surcharge amounts, which were estimated based on projected construction schedules, costs and other factors. Pursuant to the approved Foundational Filing, the Company shall endeavor to make semi-annual WSIC filings at approximately six-month intervals. The WSIC is subject to a maximum amount and other limitations in N.J.A.C. 14:9-11.1 et seq.

TERMS OF PAYMENT
See Rate Schedules for applicable customer classes.

CONDITIONS
Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE 9-A.2
UNIVERSAL AFFORDABILITY

AVAILABILITY

Available to all residential wastewater service customers served by the Company in all service areas who meet the income criteria of 200% or less than the Federal Poverty Level ("FPL"). NJ Shares determines and maintains the qualification requirements for the Company's discount programs. Customers who qualify for the program are required to recertify income eligibility every two years.

APPLICABILITY

The discount will be applied to the Fixed Service Charge and Wastewater Usage Charge (volumetric) portions of the bill for wastewater service. The discount will not apply to the Purchased Wastewater Adjustment Clause (PSTAC) Charge, as shown on Rate Schedule O-1 or the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

DISCOUNT

	Household Income	**Fixed Service Charge Discount**	**Wastewater Charge Discount**
Tier 1	0% - 50% of FPL	80%	80%
Tier 2	51% - 100% of FPL	60%	60%
Tier 3	101% - 150% of FPL	40%	40%
Tier 4	151% - 200% of FPL	20%	20%

RATE SCHEDULE 10-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general flat rate residential, commercial, industrial and municipal wastewater service to customers served by the Company's Jensen's Deep Run System in the Township of Plumsted in Ocean County. The charge for wastewater service shall consist of the total of a Fixed Service Charge, a Wastewater Usage Charge, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$40.00

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.03990	$10.3990

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

RATE SCHEDULE 11-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers served by the Company's Haddonfield Collection System in Camden County. The charge for wastewater service shall consist of a Wastewater Usage Charge based on the water consumption at the location for the same billing period, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$12.50

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.56680	$5.6680

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

RATE SCHEDULE 12-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in Elk Township. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 2-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.40008	$4.0008

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT

See Rate Schedule for applicable customer class.

TERM

Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE 13-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service in the Borough of Mount Ephraim. The charge for wastewater service shall consist of a Wastewater Usage Charge based on the water consumption at the location for the same billing period, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$12.50

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.03590	$0.3590

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

RATE SCHEDULE 14-A
GENERAL FLAT RATE SERVICE[1]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in Long Hill Township who do not receive volume-based water service billings from NJAWC. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense. The charge for wastewater service shall consist of the Fixed Service Charge and the Flat Rate Service Charge.

AVAILABILITY OF SERVICE
As the Company has implemented a voluntary wastewater connection ban due to excess wastewater flow, all requests for new wastewater connections to the Long Hill Township wastewater system will be granted at the sole discretion of the Company.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – WASTEWATER
All wastewater service customers shall pay a Fixed Service Charge in addition to the Flat Rate Service Charge as indicated below. If a wastewater customer has multiple connections to a single property, only one Fixed Service Charge shall be applied to the wastewater customer.

	RATE PER MONTH Effective 10/23/2024
Non-Exempt, per unit	$15.93

FLAT RATE USAGE CHARGE – WASTEWATER CUSTOMERS
All wastewater service customers shall pay a Flat Rate Usage charge as indicated below.

	RATE PER MONTH Effective 10/23/2024
Non-Exempt Residential, per connection	$52.37
Non-Exempt Commercial, Industrial and Municipal, per connection	$109.27

FIXED SERVICE CHARGE DISCOUNT – RESIDENTIAL WASTEWATER CUSTOMERS
Residential wastewater customers of Long Hill Township enrolled in the Township's Senior Discount Program as of October 22, 2020, shall receive a Fixed Service Charge discount of $40.00 annually, or $3.33 per month. After October 22, 2020, customers will no longer be added to this Fixed Service Charge Discount program.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges and Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

[1] The rates on this schedule will increase by 3% on 10/23/2024 by the terms of the Agreement of Sale between Long Hill Township and New Jersey-American Water Company, Inc.

RATE SCHEDULE 15-A
GENERAL METERED SERVICE[4]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in Long Hill Township who receive volume-based water service billings from NJAWC. The charge for wastewater service shall consist of the total of the Fixed Service Charge and the Wastewater Usage Charge.

AVAILABILITY OF SERVICE
As the Company has implemented a voluntary wastewater connection ban due to excess wastewater flow, all requests for new wastewater connections to the Long Hill Township wastewater system will be granted at the sole discretion of the Company.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, as indicated below. If a wastewater customer has multiple connections to a single property, only one Fixed Service Charge shall be applied to the wastewater customer.

	RATE PER MONTH Effective 10/23/2024
Non-Exempt, per unit	$15.93

WASTEWATER USAGE CHARGE
The volume of wastewater discharged for monthly billing purposes shall be calculated by taking the total water metered (Actual Usage) for the six (6) winter months (January through March and October through December) from the preceding billing year and dividing that Actual Usage by twelve (12).

If the meter is not read or incorrectly read for one or more months of the Actual Usage period as determined by the Company, the amount charged for those months shall be equal to the approximate average monthly usage among other billable months during the same period.

Volumetric Charges

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt Effective 10/23/2024	All	$1.99640	$19.9640

FIXED SERVICE CHARGE DISCOUNT – RESIDENTIAL WASTEWATER CUSTOMERS
Residential wastewater customers of Long Hill Township enrolled in the Township's Senior Discount Program as of October 22, 2020, shall receive a Fixed Service Charge discount of $40.00 annually, or $3.33 per month. After October 22, 2020, customers will no longer be added to this Fixed Service Charge Discount program.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges shall be prorated to the date of establishment or discontinuance of service.

[4] The rates on this schedule will increase by 3% on 10/23/2024 by the terms of the Agreement of Sale between Long Hill Township and New Jersey-American Water Company, Inc.

RATE SCHEDULE 16-A
GENERAL METERED AND FLAT RATE SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial, and municipal wastewater service to customers in Service Area 1G, the Egg Harbor City Utility. Those who receive volume-based water service billings from NJAWC will receive volume-based wastewater service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 16-B, and the Wastewater System Improvement Charge (WSIC), as shown on Rate Schedule 9-A.1.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	RATE PER MONTH
Non-Exempt	$12.50

WASTEWATER USAGE CHARGE

The volume of wastewater use is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.42260	$4.2260

FLAT RATE SERVICE CHARGE – WASTEWATER
All wastewater service customers shall pay a Flat Rate Service Charge as indicated below.

	RATE PER MONTH
Non-Exempt	$46.40

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

RATE SCHEDULE 16-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in Service Area 1G, the Egg Harbor City Utility. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 16-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.44935	$4.4935

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT

See Rate Schedule for applicable customer class.

TERM

Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

RATE SCHEDULE 18-A
GENERAL FLAT RATE SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Bound Brook who do not receive volume-based water service billings from NJAWC. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FLAT RATE SERVICE CHARGE – WASTEWATER
All wastewater service customers shall pay a Flat Rate Service Charge as indicated below.

	RATE PER MONTH[7]
Non-Exempt	$40.77

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

[7] The Flat Rate Service Charge will increase by 3% on 8/12/2025, and 8/12/2026 by the terms of the Agreement of Sale between the Borough of Bound Brook and New Jersey-American Water Company, Inc.

RATE SCHEDULE 19-A
GENERAL METERED SERVICE[8]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Bound Brook who receive volume-based water service billings from NJAWC.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, as indicated below.

	RATE PER MONTH
Non-Exempt	$5.15

WASTEWATER USAGE CHARGE
The volume of wastewater use is assumed to equal water meter registration.

Volumetric Charges

Customer Class*	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt Residential Tax Exempt Commercial – Class 1 Multiple-Dwelling Commercial – Class 2 Industrial Significant Industrial Integrated Health Services and Successors Mixed Residential and Commercial Class 2	All	$0.65920	$6.5920
	All	0.72510	7.2510
	All	0.82400	8.2400

*Customer Class as these terms were defined by the Borough of Bound Brook at the time of acquisition, as follows:

Residential: any property solely used as a home or residence, including single family, multi two-family, and single dwelling condominium form of ownership, discharging domestic waste.

Tax-Exempt: any property exempt from real property taxation, discharging domestic waste.

Commercial - Class 1: any nonresidential property solely used for nonresidential purposes, including the retail of nonprocessed goods or for office or other business uses discharging domestic wastes.

Multiple-Dwelling: A building containing three or more dwelling units, discharging domestic waste.

Commercial - Class 2: Any property used for nonresidential purposes, including any use not classified in "Commercial User Class 1," discharging domestic wastes. Class 2 users include but are not limited to: industrial park, any property utilized for preparing food for sale, hair and nail salons, barber shops, laundromats and dry cleaners, automotive and small engine repair and sales, fueling/service stations, and funeral homes.

Industrial - Any person or property who discharges, causes, or permits the direct or indirect discharge of nondomestic wastewater into the treatment works. All nondomestic wastes discharged by an industrial user shall be considered industrial waste. Multiple-Dwelling: A building containing three or more dwelling units, discharging domestic wastes.

Significant Industrial - A user defined as a significant industrial user pursuant to the rules and regulations of the Middlesex County Utilities Authority.

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges shall be prorated to the date of establishment or discontinuance of service.

[8] All rates on this schedule will increase by 3% on 8/12/2025, and 8/12/2026 by the terms of the Agreement of Sale between the Borough of Bound Brook and New Jersey-American Water Company, Inc.

RATE SCHEDULE 20-A

GENERAL METERED AND FLAT RATE SERVICE[9]

APPLICABILITY

Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Somerville and the portion of the Township of Bridgewater served by the Somerville System. Those who receive volume-based water service billings from NJAWC will receive volume-based wastewater service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, and the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 20-B.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

WASTEWATER USAGE CHARGE

The volume of wastewater discharged is assumed to equal water meter registration. Monthly Wastewater Usage Charges shall be determined based upon winter quarter consumption (detailed below), but in no case less than 2,493 gallons per month.

Customer Location	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Somerville	All	$0.34759	$3.4759
Bridgewater	All	0.48128	4.8128

FLAT RATE SERVICE CHARGE

Customer Location	Rate Per Month
Somerville	$32.00
Bridgewater	$40.33

CALCULATION OF WINTER QUARTER CONSUMPTION

Winter quarter consumption shall be determined based on an initial water meter reading taken in December of one year with the concluding meter reading taken approximately 90 days thereafter in March of the following year.

The monthly Wastewater Usage Charge shall be determined as follows:

Meters read in January, February and March

The Wastewater Usage Charge for each respective month shall be determined by multiplying the applicable monthly usage times applicable volumetric charges, but in no case less than 2,493 gallons per month, multiplied by applicable volumetric charges.

Meters read in April through December

The Wastewater Usage Charge for each month April through December shall be based on the Monthly Usage Constant, equal to one-third of the winter quarter consumption, but in no case less than 2,493 gallons per month, multiplied by applicable volumetric charges.

In the case of new customers, the volume of wastewater discharged shall be determined as follows:

New Customers in an Existing or New Dwelling or Premises for Which Actual Full Period Winter Quarter Usage History is Available: Determination of the monthly use constant shall be based on the last known full period winter quarter usage at that property.

Existing or New Customers in an Existing or New Dwelling or Premises for Which No Full Period Winter Quarter Usage History is Available: Monthly Wastewater Usage Charges will be calculated at the minimum usage of 2,493 gallons per month.

TERMS OF PAYMENT

Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Fixed Service Charges shall be prorated to the date of establishment or discontinuance of service.

[9] The rates on this schedule will increase by 3% on October 4th in 2025, 2026, and 2027, and by 4% on October 4th in 2028 and 2029 by the terms of the Agreement of Sale between the Borough of Somerville and New Jersey-American Water Company, Inc.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 67

RATE SCHEDULE 20-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable for general residential, commercial, industrial and municipal wastewater service to customers in the Borough of Somerville and the portion of the Township of Bridgewater served by the Somerville System.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or Flat Rate Service Charge any other Charge as set forth in Rate Schedule 20-A:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.52139	$5.2139

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

TERMS OF PAYMENT

See Rate Schedule for applicable customer class.

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C. 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERM

Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 68

RATE SCHEDULE 21-A
GENERAL METERED AND FLAT RATE SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial, and municipal wastewater service to customers in the Environmental Dispoal Corp. ("EDC") Service Area. Those who receive volume-based water service billings from NJAWC will receive volume-based wastewater service billings; all others will receive flat rate billings for unmetered service. The Company may require a water meter to be installed by any wastewater customer utilizing a well or other private water system at the property owner's expense.

CHARACTER OF SERVICE
Continuous (unmetered), except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
All wastewater service customers shall pay a fixed service charge as indicated below, in addition to the Wastewater Usage Charge, if any.

	Rate Per Month
Non-Exempt:	$39.97

WASTEWATER USAGE CHARGE – GENERAL METERED WASTEWATER CUSTOMERS
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$1.03990	$10.3990

FLAT RATE SERVICE CHARGE

	Rate Per Month
Non-Exempt	$81.57

TERMS OF PAYMENT
Valid bills for service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable Flat Rate Service Charges shall be prorated to the date of establishment or discontinuance of service.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 69

RATE SCHEDULE 22-A
GENERAL METERED SERVICE

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service provided in Salem City and the Township of Mannington. The charge for wastewater service shall consist of the total of the Fixed Service Charge and the Wastewater Usage Charge.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, if any, as follows:

	Non-Exempt
Fixed Service Charge per customer per month.	$56.88

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. Charges shall be based on water consumption as indicated by water meter readings on a monthly basis.

Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
All	$0.88500	$8.8500

SPECIAL SURCHARGES

Item	Additional Cost
Per pound of BOD_5	$0.26000
Per pound of suspended solids	$0.16000
Septage rate per gallon	$0.08000

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 70

RATE SCHEDULE 23-A
GENERAL METERED SERVICE[10]

APPLICABILITY
Applicable for general residential, commercial, industrial and municipal wastewater service provided in the Borough of Manville. The charge for wastewater service shall consist of the total of the Fixed Service Charge, the Wastewater Usage Charge, and the Purchased Wastewater Treatment Adjustment Clause (PSTAC) Charge, as defined under the Standard Terms and Conditions in this tariff, shown on Rate Schedule 23-B.

CHARACTER OF SERVICE
Continuous, except as limited by the "Standard Terms and Conditions."

FIXED SERVICE CHARGE
All wastewater service customers shall pay a Fixed Service Charge in addition to the Wastewater Usage Charge, if any, as follows:

	Non-Exempt
Fixed Service Charge per customer per month.	$7.20

WASTEWATER USAGE CHARGE
The volume of wastewater discharged is assumed to equal water meter registration. See Standard Terms and Conditions – Wastewater, Sheet No. 23, for an explanation of how Monthly Wastewater Usage Charges are calculated.

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$0.17136	$1.7136

TERMS OF PAYMENT
Valid bills for wastewater service furnished under this schedule will be rendered monthly in arrears and are due twenty (20) days from the date of the postmark on the envelope in which the bill was transmitted or electronic transmission date for customers on electronic billing. All bills shall list a due date.

Whenever service is established or is discontinued, all applicable fixed charges shall be prorated to the date of establishment or discontinuance of service.

[10] The rates on this schedule will increase by 2% in 2025, 3% in 2026, 2027 and 2028, and 4% in 2029 and 2030 by the terms of the Agreement of Sale between the Borough of Manville and New Jersey-American Water Company, Inc.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

NEW JERSEY-AMERICAN WATER COMPANY, INC.
B.P.U. No. 8 – Wastewater

Original Sheet: No. 71

RATE SCHEDULE 23-B

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC)

APPLICABILITY

Applicable to all Wastewater Service customer classes including general residential, commercial, industrial and municipal wastewater service in the Borough of Manville. The PSTAC charge, as defined under the Standard Terms and Conditions in this tariff, is designed to recover the cost of purchased wastewater treatment and disposal costs associated with the normal operations of the Company and allow the Company to achieve a zero or near-zero deferred balance each April 1st on its purchased wastewater treatment and disposal costs.

CHARACTER OF SERVICE

Continuous, except as limited by the "Standard Terms and Conditions."

PURCHASED WASTEWATER TREATMENT ADJUSTMENT CLAUSE (PSTAC) CHARGE

In addition to all other charges for general metered service, the following charges per one hundred gallons and per one thousand gallons for all sales will be made to recover purchased wastewater treatment and disposal costs not included in the Wastewater Usage Charge or any other Charge as set forth in Rate Schedule 23-A of the current Tariff:

	Gallons Per Month	Rate Per 100 Gallons	Rate Per 1,000 Gallons
Non-Exempt	All	$ 0.51380	$5.1380

FILING

The Company shall endeavor to make an annual PSTAC filing no later than December 1st of each year, proposing a PSTAC rate or percentage to be effective on or about the following April 1st.

The notice of filing and of public hearing in the annual PSTAC proceedings shall include the specific rate change proposed to be implemented on April 1st. The notice shall also include the impact of such potential increases on a benchmark bill.

The annual PSTAC filing shall contain, but not be limited to, the following:

1. A reconciliation of actual versus estimated costs and revenues from the last Board approved PSTAC charge for purchased wastewater treatment and disposal;
2. Projected rates supported by projected volumes, revenues, and projected purchased wastewater treatment and disposal costs;
3. Deferred balances and the timeframe over which they are proposed to be collected or returned;
4. A written explanation of the circumstances that caused the deferred balances in (3) above;
5. A written explanation of any significant activities or trends which may affect costs for the prospective period; and
6. Updated tariff sheets to reflect any change to the PSTAC rate.

The benchmark bill shall be the average residential wastewater customer bill for a twelve-month period.

PROVISIONS

Interest shall be passed onto customers through the PSTAC rates at the beginning of each PSTAC Year succeeding any PSTAC year in which any net monthly purchased wastewater treatment and disposal costs over recovery has taken place. Any debit or credit balance in the separate deferred revenue or separate cost of wastewater treatment accounts shall be determined monthly. Monthly interest shall be calculated on the average of the current and prior month's ending cumulative deferred revenue or cost of wastewater treatment balances. Interest on such wastewater treatment costs shall be calculated utilizing the rate of return on rate base utilized to set rates in the Company's last preceding base rate case, and shall be changed from time to time, consistent with N.J.A.C., 14:9-7, et seq.

The clause shall be subject to deferred accounting, consistent with N.J.A.C. 14:9-7, et seq.

TERMS OF PAYMENT

See Rate Schedule for applicable customer class.

TERM

Continuous until wastewater service to the customer is permanently discontinued.

CONDITIONS

Subject to the "Standard Terms and Conditions" except as otherwise set forth in this Schedule.

Issued: _____ Effective: _____

By: Mark K. McDonough, President
1 Water Street, Camden, NJ 08102
Filed pursuant to Order of the Board of Public Utilities entered in
Docket No. WR2401____ dated _____.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF NEW JERSEY AMERICAN WATER COMPANY FOR APPROVAL OF INCREASED TARIFF RATES AND CHARGES FOR WATER AND WASTEWATER SERVICE, CHANGE IN DEPRECIATION RATES, AND OTHER TARIFF MODIFICATIONS	:	**AGREEMENT OF NON-DISCLOSURE** BPU DOCKET NO. WR2401_____

It is hereby AGREED, by and among New Jersey-American Water Company ("Petitioner"), the Staff of the New Jersey Board of Public Utilities ("Board Staff"), and Division of Rate Counsel ("Rate Counsel") (collectively, the "Parties"), who have agreed to execute this Agreement of Non-Disclosure of Information Claimed to be Confidential ("Agreement") and to be bound thereby effective upon execution and delivery thereof, that:

WHEREAS, in connection with the above-captioned proceeding before the Board of Public Utilities (the "Board"), Petitioner and/or another party ("Producing Party") may be requested or required to provide petitions, pre-filed testimony, other documents, analyses and/or other data or information regarding the subject matter of this proceeding that the Producing Party may claim constitutes or contains confidential, proprietary or trade secret information, or which otherwise may be claimed by the Producing Party to be of a market-sensitive, competitive, confidential or proprietary nature (hereinafter sometimes referred to as "Confidential Information" or "Information Claimed to be Confidential"); and

WHEREAS, the Parties wish to enter into this Agreement to facilitate the exchange of information while recognizing that under Board regulations at N.J.A.C. 14:1-12.1 et seq., a request for confidential treatment shall be submitted to the Board's Custodian of Records ("Custodian") who is to rule on requests made pursuant to the Open Public Records Act ("OPRA"), N.J.S.A. 47:1A-1 et seq., unless such information is to be kept confidential pursuant

to court or administrative order (including, but not limited to, an Order by an Administrative Law Judge sealing the record or a portion thereof pursuant to N.J.A.C. 1:1-14.1, and the parties acknowledge that an Order by an Administrative Law Judge to seal the record is subject to modification by the Board), and also recognizing that a request may be made to designate any such purportedly confidential information as public through the course of this administrative proceeding; and

WHEREAS, the Parties acknowledge that unfiled discovery materials are not subject to public access under OPRA; and

WHEREAS, the Parties acknowledge that, despite each Party's best efforts to conduct a thorough pre-production review of all documents and electronically stored information ("ESI"), some work product material and/or privileged material ("Protected Material") may be inadvertently disclosed to another Party during the course of this proceeding; and

WHEREAS, the undersigned Parties desire to establish a mechanism to avoid waiver of privilege or any other applicable protective evidentiary doctrine as a result of the inadvertent disclosure of Protected Material;

NOW, THEREFORE, the Parties hereto, intending to be legally bound thereby, DO HEREBY AGREE as follows:

1. The inadvertent disclosure of any document or ESI which is subject to a legitimate claim that the document or ESI should have been withheld from disclosure as Protected Material shall not waive any privilege or other applicable protective doctrine for that document or ESI or for the subject matter of the inadvertently disclosed document or ESI if the Producing Party, upon becoming aware of the disclosure, promptly requests its return and takes reasonable precautions to avoid such inadvertent disclosure.

2. Except in the event that the receiving party or parties disputes the claim, any documents or ESI which the Producing Party deems to contain inadvertently disclosed protected material shall be, upon written request, promptly returned to the Producing Party or destroyed at the Producing Party's option. This includes all copies, electronic or otherwise, of any such documents or ESI. In the event that the Producing Party requests destruction, the receiving party shall provide written confirmation of compliance within thirty (30) days of such written request. In the event that the receiving party disputes the Producing Party's claim as to the protected nature of the inadvertently disclosed material, a single set of copies may be sequestered and retained by and under the control of the receiving party until such time as the Producing Party has received final determination of the issue by the Board or an Administrative Law Judge, provided that the Board has not modified or rejected an order by the Administrative Law Judge.

3. Any such protected material inadvertently disclosed by the Producing Party to the receiving party pursuant to this Agreement shall be and remain the property of the Producing Party.

4. Any Information Claimed to be Confidential that the Producing Party produces to any of the other Parties in connection with the above-captioned proceeding and pursuant to the terms of this Agreement shall be specifically identified and marked by the Producing Party as Confidential Information when provided hereunder. If only portions of a document are claimed to be confidential, the Producing Party shall specifically identify which portions of that document are claimed to be confidential. Additionally, any such Information Claimed to be Confidential shall be provided in the form and manner prescribed by the Board's regulations at N.J.A.C. 14:1-12 et seq., unless such information is to be kept confidential

pursuant to court or administrative order. However, nothing in this Agreement shall require the Producing Party to file a request with the Custodian for a confidentiality determination under N.J.A.C. 14:1-12 et seq. with respect to any Information Claimed to be Confidential that is provided in discovery and not filed with the Board.

5. With respect to documents identified and marked as Confidential Information, if the Producing Party's intention is that not all of the information contained therein should be given protected status, the Producing Party shall indicate which portions of such documents contain the Confidential Information in accordance with the Board's regulations at N.J.A.C. 14:1-12.2 and 12.3. Additionally, the Producing Party shall provide to all signatories of this Agreement full and complete copies of both the proposed public version and the proposed confidential version of any information for which confidential status is sought.

6. With respect to all Information Claimed to be Confidential, it is further agreed that:

(a) Access to the documents designated as Confidential Information, and to the information contained therein, shall be limited to the Party signatories to this Agreement and their identified attorneys, employees, and consultants whose examination of the Information Claimed to be Confidential is required for the conduct of this particular proceeding.

(b) Recipients of Confidential Information shall not disclose the contents of the documents produced pursuant to this Agreement to any person(s) other than their identified employees and any identified experts and consultants whom they may retain in connection with this proceeding, irrespective of whether any such expert is retained specially and is not expected to testify, or is called to testify in this proceeding. All consultants or experts of any Party to this Agreement who are to receive copies of documents produced pursuant to this

Agreement shall have previously executed a copy of the Acknowledgement of Agreement attached hereto as "Attachment 1", which executed Acknowledgement of Agreement shall be forthwith provided to counsel for the Producing Party, with copies to counsel for Board Staff and the Rate Counsel.

(c) No other disclosure of Information Claimed to be Confidential shall be made to any person or entity except with the express written consent of the Producing Party or their counsel, or upon further determination by the Custodian, or order of the Board, the Government Records Council or of any court of competent jurisdiction that may review these matters.

7. The undersigned Parties have executed this Agreement for the exchange of Information Claimed to be Confidential only to the extent that it does not contradict or in any way restrict any applicable Agency Custodian, the Government Records Council, an Administrative Law Judge of the State of New Jersey, the Board, or any court of competent jurisdiction from conducting appropriate analysis and making a determination as to the confidential nature of said information, where a request is made pursuant to OPRA, N.J.S.A. 47:1A-1 et seq. Absent a determination by any applicable Custodian, Government Records Council, an Administrative Law Judge, the Board, or any court of competent jurisdiction that a document(s) is to be made public, the treatment of the documents exchanged during the course of this proceeding and any subsequent appeals is to be governed by the terms of this Agreement.

8. In the absence of a decision by the Custodian, Government Records Council, an Administrative Law Judge, or any court of competent jurisdiction, the acceptance by the undersigned Parties of information which the Producing Party has identified and marked as Confidential Information shall not serve to create a presumption that the material is in fact

entitled to any special status in these or any other proceedings. Likewise, the affidavit(s) submitted pursuant to N.J.A.C. 14:1-12.8 shall not alone be presumed to constitute adequate proof that the Producing Party is entitled to a protective order for any of the information provided hereunder.

9. In the event that any Party seeks to use the Information Claimed to be Confidential in the course of any hearings or as part of the record of this proceeding, the Parties shall seek a determination by the trier of fact as to whether the portion of the record containing the Information Claimed to be Confidential should be placed under seal. Furthermore, if any Party wishes to challenge the Producing Party's designation of the material as Confidential Information, such Party shall provide reasonable notice to all other Parties of such challenge and the Producing Party may make a motion seeking a protective order. In the event of such challenge to the designation of material as Confidential Information, the Producing Party, as the provider of the Information Claimed to be Confidential, shall have the burden of proving that the material is entitled to protected status. However, all Parties shall continue to treat the material as Confidential Information in accordance with the terms of this Agreement, pending resolution of the dispute as to its status by the trier of fact.

10. Confidential Information that is placed on the record of this proceeding under seal pursuant to a protective order issued by the Board, an Administrative Law Judge, provided that the Board has not modified or rejected an order by the Administrative Law Judge, or any court of competent jurisdiction shall remain with the Board under seal after the conclusion of this proceeding. If such Confidential Information is provided to appellate courts for the purposes of an appeal(s) from this proceeding, such information shall be provided, and shall continue to remain, under seal.

11. This Agreement shall not:

(a) Operate as an admission for any purpose that any documents or information produced pursuant to this Agreement are admissible or inadmissible in any proceeding;

(b) Prejudice in any way the right of the Parties, at any time, on notice given in accordance with the rules of the Board, to seek appropriate relief in the exercise of discretion by the Board for violations of any provision of this Agreement.

12. Within forty five (45) days of the final Board Order resolving the above-referenced proceeding, all documents, materials and other information designated as "Confidential Information," regardless of format, shall be destroyed or returned to counsel for the Producing Party. In the event that such Board Order is appealed, the documents and materials designated as "Confidential Information" shall be returned to counsel for the Producing Party or destroyed within forty-five (45) days of the conclusion of the appeal.

Notwithstanding the above return requirement, Board Staff and Rate Counsel may maintain in their files copies of all pleadings, briefs, transcripts, discovery and other documents, materials and information designated as "Confidential Information," regardless of format, exchanged or otherwise produced during these proceedings, provided that all such information and/or materials that contain Information Claimed to be Confidential shall remain subject to the terms of this Agreement. The Producing Party may request consultants who received Confidential Information who have not returned such material to counsel for the Producing Party as required above to certify in writing to counsel for the Producing Party that the terms of this Agreement have been met upon resolution of the proceeding.

13. The execution of this Agreement shall not prejudice the rights of any Party to seek relief from discovery under any applicable law providing relief from discovery.

14. The Parties agree that one original of this Agreement shall be created for each of the signatory parties for the convenience of all. The signature pages of each original shall be executed by the recipient and transmitted to counsel of record for Joint Petitioners, who shall send a copy of the fully executed document to all counsel of record. The multiple signature pages shall be regarded as, and given the same effect as, a single page executed by all Parties.

IN WITNESS THEREOF, the undersigned Parties do HEREBY AGREE to the form and execution of this Agreement.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

By:_____
Bruce V. Miller, Esq.
Cullen and Dykman

Date:

MATTHEW J. PLATKIN
ATTORNEY GENERAL OF NEW JERSEY

By:_____
[ ]
Deputy Attorney General

Date:

BRIAN O. LIPMAN
DIRECTOR
DIVISION OF RATE COUNSEL

By:_____

Date:

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF NEW JERSEY AMERICAN WATER COMPANY FOR APPROVAL OF INCREASED TARIFF RATES AND CHARGES FOR WATER AND WASTEWATER SERVICE, CHANGE IN DEPRECIATION RATES, AND OTHER TARIFF MODIFICATIONS	:	**AGREEMENT OF NON-DISCLOSURE** BPU DOCKET NO. WR2401_____

ACKNOWLEDGMENT OF AGREEMENT

The undersigned is an attorney, employee, consultant and/or expert witness for the Division of Rate Counsel or an intervenor who has received, or is expected to receive, Confidential Information provided by Petitioner or by another party (Producing Party) which has been identified and marked by the Producing Party as "Confidential Information." The undersigned acknowledges receipt of the Agreement of Non-Disclosure of Information Claimed to be Confidential and agrees to be bound by the terms of the Agreement.

Dated: By:_____

(Name, Title and Affiliation)

NOTICE OF FILING OF
PROPOSED RATE INCREASE
AND PUBLIC HEARING

ALL PARTIES ARE INVITED TO ATTEND AND
PRESENT THEIR VIEWS

IN THE MATTER OF THE PETITION OF NEW JERSEY-AMERICAN WATER COMPANY, INC. FOR APPROVAL OF INCREASED TARIFF RATES AND CHARGES FOR WATER AND WASTEWATER SERVICE, CHANGE IN DEPRECIATION RATES, AND OTHER TARIFF MODIFICATIONS

OAL DOCKET NO. PUC XXXXX-XXXX
BPU DOCKET NO. WR2401XXXX

TO OUR CUSTOMERS:

PLEASE TAKE NOTICE that on January 19, 2024, New Jersey-American Water Company, Inc., (the "Company") filed with the Board of Public Utilities ("Board"), pursuant to N.J.S.A. 48:2-21, N.J.S.A. 48:2-21.1, and N.J.A.C. 14:1-5.12, a petition ("Petition") seeking to increase rates for water and wastewater service and to implement other tariff revisions. These changes were proposed to become effective for service rendered on or after February 21, 2024, or at such later date as may be determined by the Board. Based on the Company's total projected operating revenues for the twelve months ending March 31, 2025, the new rates proposed herein will yield additional operating revenues of $161.7 million or 16.89%. The total projected operating revenues include the revenue being recovered through the Distribution System Improvement Charge ("DSIC") and Wastewater System Improvement Charge ("WSIC") previously approved by this Board, and revenues recovered through the PWAC/PSTAC.

PLEASE TAKE FURTHER NOTICE that the New Jersey Office of Administrative Law (OAL) has scheduled virtual public comment hearings for the purpose of receiving comments from the public regarding the Company's Petition. Members of the public are invited to participate by telephone and express their views on the proposed rate increase. Such comments will be made a part of the final record in the proceeding.

PLEASE TAKE FURTHER NOTICE that virtual public comment hearings on the Company's petition have been scheduled as follows:

[Date TBD]

4:30 PM

Call in numbers (callers can use any phone number): _____

Upon calling in, the caller will be prompted to enter the meeting ID of _____ and press the pound or hashtag button (#)

Press the pound or hashtag button (#) a second time (in response to the second electronic prompt)

The caller will then be prompted to enter the password for the public meeting of _____ and press the pound or hashtag button (#)

The caller will then be entered into the waiting room where the OAL IT staff will admit the caller into the public hearing. The caller should mute their phone to prevent background noise. Failure to mute your own line may cause OAL IT staff to mute the caller and the caller would have to disconnect and call back in to participate in the public discussion portion

5:30 PM

Call in numbers (callers can use any phone number): _____

Upon calling in, the caller will be prompted to enter the meeting ID of _____ and press the pound or hashtag button (#)

Press the pound or hashtag button (#) a second time (in response to the second electronic prompt)

The caller will then be prompted to enter the password for the public meeting of _____ and press the pound or hashtag button (#)

The caller will then be entered into the waiting room where the OAL IT staff will admit the caller into the public hearing. The caller should mute their phone to prevent background noise. Failure to mute your own line may cause OAL IT staff to mute the caller and the caller would have to disconnect and call back in to participate in the public discussion portion

Administrative Law Judge _____ from the Office of Administrative Law will preside over the virtual public comment hearings. Members of the public are invited to participate and express their views on the proposed rates. Such comments will be made a part of the final record in the proceeding.

Whether or not you attend the virtual public hearings, written comments may be submitted no later than _____, to the Hon. _____, Office of Administrative Law, P.O. Box 049, Trenton, New Jersey 08625-0049 and/or the Hon. Sherri L. Golden, Secretary, Board of Public Utilities, 44 S. Clinton Avenue, 1st Floor, Trenton, NJ 08625-0350, or emailed to board.secretary@bpu.nj.gov. Please include OAL Docket No. _____ and BPU Docket No. _____ in your written comments. Written comments will be provided the same weight as statements made at the hearings.

IN ORDER TO ENCOURAGE FULL PARTICIPATION IN THIS OPPORTUNITY FOR PUBLIC COMMENT, PLEASE SUBMIT ANY REQUESTS FOR NEEDED ACCOMMODATIONS, INCLUDING INTERPRETERS OR MOBILITY ASSISTANCE, TO THE COMPANY 48 HOURS PRIOR TO THIS HEARING TO DENISE FREE, SENIOR DIRECTOR OF COMMUNICATIONS AND EXTERNAL AFFAIRS, NEW JERSEY-AMERICAN WATER COMPANY, INC. AT (856) 955-4874 or DENISE.FREE@AMWATER.COM.

The average residential water customer using 5,640 gallons per month will see their bill increase from $70.70 to $82.00, an increase of $11.30 or 15.98% per month. The actual percentage increase to specific customers will vary according to the applicable rate schedule and level of the customer's usage. The changes proposed in the Petition will result in the changes indicated in the chart below.

The following comparisons of average present and proposed rates will permit customers to determine the approximate net effect upon them of the proposed increases and adjustments in rates. Any assistance required by customers in this regard will be furnished by the Company upon request. Complete information about the present and proposed rates for every class of customer is available on the Company's website at www.newjerseyamwater.com by first selecting Customer Service and then Rates Information. Please note that the Board, in its discretion, may apply all or any portion of whatever rate increase the Board may ultimately find

just and reasonable to any class or classes of customers or to any rate schedule or schedules, or in a manner different than what the Company has proposed in its filing. Accordingly, the final rates and charges to be determined by the Board in this proceeding may be different than what the Company has described herein.

		Rates		Change	
Customer Class	**Usage**	**Current Bill***	**Proposed Bill**	**Amount**	**Percentage**
General Metered Service: All except SA-1F, 1G, 1H	5,640 gal/mo.	$70.70	$82.00	$11.30	15.98%
SA-1F (Roxbury)	5,640 gal/mo.	46.38	54.61	8.23	17.73%
SA-1G (Egg Harbor City)	5,640 gal/mo.	73.65	78.91	5.26	7.14%
Manasquan Resale	Various	Various	Various	Various	25.82%
Optional Industrial Wholesale	Various	Various	Various	Various	26.00%
Sales for Resale – CD	Various	Various	Various	Various	25.84%
Sales for Resale – SOS	Various	Various	Various	Various	26.01%
Private Fire Protection	Various	Various	Various	Various	17.29%
Public Fire Protection	Various	Various	Various	Various	8.45%
Sewer					
Ocean City	16,920 gal/summer	$82.52	$93.32	$10.80	13.09%
Statewide Collection Avg.	5,640 gal/mo.	74.54	81.02	6.48	8.69%
Former AWWM/Pottersville	5,640 gal/mo.	95.71	124.15	28.44	29.71
Jensen's Run	5,640 gal/mo.	74.59	98.65	24.06	32.26%
Haddonfield	5,640 gal/mo.	29.58	44.47	14.89	50.34%
Mount Ephraim	1,991 gal/mo.	9.11	13.22	4.11	45.08%
Long Hill	5,640 gal/mo	124.79	128.59	3.74	2.99%
Egg Harbor City	5,640 gal/mo.	53.13	61.43	8.30	15.62%
Bound Brook	5,640 gal/mo.	41.10	42.33	1.23	3.00%
Somerville System	5,640 gal/mo.	49.01	49.01	0.00	0.00%
EDC System	2,707 gal/mo.	68.95	68.12	(0.83)	-1.21%

*Rates include the Purchased Water Adjustment Clause (PWAC) and Purchased Wastewater (Sewer) Treatment Adjustment Clause (PSTAC) as approved by the Board under BPU Docket Number WR23110791, the fully implemented Distribution System Improvement Charge (DSIC) of $3.90 for a 5/8" meter expected to be approved by the Board under BPU Docket No. WR22030230, effective April 29, 2024, and the fully implemented Wastewater System Improvement Charge (WSIC) of $2.85, effective December 30, 2023. Currently, the DSIC is $2.82 for a 5/8" meter, effective October 30, 2023.

In addition to actual rate changes, the Company is proposing other changes and additions to its Tariff, some of which would apply to all customers and others that would apply only to specified customers. These changes include, but are not limited to, changes to various rate schedules and standard terms and conditions.

Notice of the petition was served on the clerk, executive or administrator of each municipality and county in the service area of the Company. Further information and copies of the petition may be obtained at the Board of Public Utilities' Offices located at 44 South Clinton

Avenue, 1st Floor, Trenton, New Jersey 08625-0350. Any members of the public who wish to inspect the petition at the Board should contact the Board's Division of Case Management at (609) 913-6298 or board.secretary@bpu.nj.gov. Additionally, the petition and applicable attachments as well as the Public Hearing Notice for this proceeding can be viewed on the Company's website at www.newjerseyamwater.com by first selecting Customer Service and then Your Water and Wastewater Rates.

Any relief determined by the Board of Public Utilities to be just and reasonable may be applied by the Board of Public Utilities in such manner as it may deem appropriate.

BY: MARK K. McDONOUGH
President

NEW JERSEY-AMERICAN WATER COMPANY, INC
1 Water Street
Camden, NJ 08102

New Jersey-American Water Company, Inc.

Revenue Requirement Computation

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule RR**

Witness: Jamie D. Hawn **Page 1 of 1**

Line No.			Reference Schedule	Revenue Requirement
1				
2	Proposed Rate Base		15	$5,066,727,126
3				
4	Rate of Return Required		16	7.8988%
5				
6	Utility Operating Income Under Proposed Rates			$400,210,642
7				
8	Utility Operating Income at Post-Test Year Present Rates		4	$290,695,241
9				
10	Utility Operating Income Deficiency			$109,515,401
11				
12	Gross Revenue Conversion Factor[1]			1.47668
13				
14	Revenue Increase Requested			$161,719,726
15				
16				
17	[1] Gross Revenue Conversion Factor Calculation			Gross-up Factor
18				100.00000%
19	Less: Uncollectible Expense		7	0.41279%
20	Less: Utility Assessment Fee		12	0.26328%
21	Less: GRAFT Tax		11	13.60335%
22	Sub-total	Statutory Rate		85.72058%
23	Less: FIT	21.00%		18.00132%
24	Revenue Income Percent			67.71926%
25	Revenue Gross-up Factor			1.47668

New Jersey-American Water Company, Inc.

Comparative Balance Sheet

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 1**

Witness: Jamie D. Hawn

Line No.		Account Title	December 31, 2022	December 31, 2021	December 31, 2020
1					
2	Assets and Other Debits				
3					
4		Utility Plant			
5	101-106	Utlity Plant	$7,130,441,110	$6,663,885,656	$6,291,439,295
6	108	Accumulated Depreciation (Cr.)	(1,477,934,637)	(1,460,391,560)	(1,375,052,731)
7	110	Accumulated Amortization. (Cr.)	(12,016,544)	(9,712,182)	(7,544,061)
8	114-115	Utility Plant Acquisition Adjustments (net)	3,215,097	3,464,062	(8,589,301)
9					
10		Net Utility Plant	$5,643,705,026	$5,197,245,976	$4,900,253,202
11					
12		Other Property & Investments			
13	121	Nonutility Property	$594,145	$594,145	$594,145
14	123	Investment in Assoc. Companies	43,955,329	43,955,329	43,986,506
15	124-125	Utility and Other Investments	247,102	325,251	396,516
16					
17		Total Other Property and Investments	$44,796,576	$44,874,725	$44,977,167
18					
19		Current and Accrued Assets			
20	131	Cash	$3,181,377	$2,733,198	$2,323,659
21	132-133	Special Deposits	2,180,000	2,230,000	8,600
22	141	Customer Accounts Receivable	83,033,537	86,384,950	69,226,373
23	142	Other Accounts Receivable	12,018,467	11,496,056	8,793,332
24	143	Accum. Prov. for Uncollect. Accts. (Cr.)	(17,449,194)	(20,000,140)	(7,147,098)
25	145	Accts. Rec. from Assoc. Companies	20,250,138	20,010,846	112,342,262
26	151-161	Materials and Supplies	23,975,067	14,923,698	12,073,238
27	162	Prepayments	10,587,572	9,477,710	6,904,983
28	173	Accrued Utility Revenue	46,439,347	41,485,441	37,197,238
29	174	Misc. Current and Accrued Assets	642,828	670,743	720,324
30					
31		Total Current and Accrued Assets	$184,859,139	$169,412,502	$242,442,911
32					
33		Deferred Debits			
34	181	Unamort. Debt Disc. and Expense	$19,655,429	$20,859,670	$22,292,615
35	183	Preliminary Survey and Investigation Charges	2,059,993	2,514,573	125,000
36	186	Miscellaneous Deferred Debits	64,171,378	71,904,450	57,416,821
37	190	Accumulated Deferred Income Taxes	0	236,312	0
38					
39		Total Deferred Debits	$85,886,800	$95,515,005	$79,834,436
40					
41		Total Assets and Other Debits	$5,959,247,541	$5,507,048,208	$5,267,507,716
42					
43					

New Jersey-American Water Company, Inc.

Comparative Balance Sheet

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 1**

Witness: Jamie D. Hawn **Page 2 of 2**

Line No.	Account Title		December 31, 2022	December 31, 2021	December 31, 2020
1					
2	Equity Capital and Liabilities				
3		Equity Captial			
4	201	Common Stock Issued	$86,974,200	$86,974,200	$86,974,200
5	211	Other Paid-In Capital	1,341,587,784	1,200,754,765	1,081,858,617
6	214-215	Retained Earnings	858,182,519	795,044,258	728,870,634
7					
8		Total Equity Capital	$2,286,744,503	$2,082,773,223	$1,897,703,451
9					
10		Long-Term Debt			
11	221-222	Bonds & Long Term debt	$1,877,712,261	$1,748,217,170	$1,588,027,050
12	224	Other Long-Term Debt	498,045	6,901,275	6,961,019
13					
14		Total Long-Term Debt	$1,878,210,306	$1,755,118,445	$1,594,988,069
15					
16		Current and Accrued Liabilities			
17	231	Accounts Payable	$132,821,545	$113,902,785	$92,849,399
18	233	Accts. Payable to Assoc. Companies	4,927,037	4,814,676	7,792,581
19	234	Notes Payable to Assoc. Companies	301,132,733	205,289,893	347,918,451
20	236	Taxes Accrued	(6,916,615)	218,515	966,164
21	237	Interest Accrued	12,956,239	12,121,942	11,800,758
22	241	Misc. Cur. and Accrued Liabilities	35,362,439	33,683,702	28,896,361
23					
24		Total Current and Accrued Liabilities	$480,283,378	$370,031,513	$490,223,714
25					
26		Deferred Credits			
27	252	Customer Advances for Construction	$138,394,905	$121,255,523	$101,557,262
28	253	Other Deferred Credits	327,966,781	384,488,203	449,232,226
29	255	Accumulated Deferred Investment Tax Credits	7,084,986	7,415,934	7,746,971
30					
31		Total Deferred Credits	$473,446,672	$513,159,660	$558,536,459
32					
33		Operating Reserves			
34	265	Miscellaneous Operating Reserves	$26,639,294	$23,057,814	$13,423,851
35					
36	271-272	Contributions in Aid of Construction			
37		(net of accumulated amort.)	$244,817,825	$247,043,134	$247,590,512
38					
39	281-283	Accumulated Deferred Income Taxes	$569,105,563	$515,864,419	$465,041,660
40					
41		Total Equity Capital and Liabilities	$5,959,247,541	$5,507,048,208	$5,267,507,716
42					
43					
44					
45					

New Jersey-American Water Company, Inc.

Comparative Income Statement

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 2**

Witness: Jamie D. Hawn **Page 1 of 1**

Line No.	Account Title	December 31, 2022	December 31, 2021	December 31, 2020
1				
2	Utility Operating Income			
3	400 Operating Revenues	$908,835,903	$825,905,826	$796,476,133
4				
5	Operating Expenses			
6	401 Operation Expense	$242,178,318	$228,232,685	$224,840,286
7	402 Maintenance Expense	36,583,166	39,750,276	31,357,818
8	403 Depreciation Expense	155,260,386	149,052,551	139,874,903
9	406 Amortization of UPAA	269,824	368,094	368,094
10	407 Amortization Expense	473,399	1,379,517	946,307
11	408 Taxes Other Than Income Taxes	120,749,497	116,507,471	110,383,116
12	409 Income Taxes	9,771,966	(688,198)	14,162,167
13	410 Provision for Deferred Income Taxes	37,892,113	15,773,177	27,932,903
14	411 Provision for Deferred Income Taxes - Credit	0	0	0
15	412 Investment Tax Credits	(330,948)	(331,037)	(371,253)
16	Total Operating Expenses	$602,847,721	$550,044,536	$549,494,342
17	Net Operating Revenue	$305,988,182	$275,861,290	$246,981,791
18				
19	Total Utility Operating Income	$305,988,182	$275,861,290	$246,981,791
20				
21	Other Income			
22	415 Revenues from Merchandising, Jobbing and Contract Work	$288,603	$290,009	$300,963
23	416 Costs of Merchandising, Jobbing and Contract Work	(18,323)	1,258	(8,978)
24	419 Interest and Dividend Income	285,764	294,416	363,336
25	421 Nonutility Income	25,570	116,258	46,472
26	Total Other Income	$581,614	$701,941	$701,794
27				
28	Gross Income	$306,569,796	$276,563,231	$247,683,585
29				
30	Miscellaneous Income Deductions			
31	426 Miscellaneous Nonutility Expenses	$254,568	$497,371	$325,454
32	409-412 Taxes - Income & Other than Income for Other Income & Deductions	0	0	0
33	Total Miscellaneous Income Deductions	$254,568	$497,371	$325,454
34	Income Before Interest Charges	$306,315,229	$276,065,860	$247,358,131
35				
36	Interest Charges			
37	427 Interest Expense	$67,827,279	$59,861,955	$63,828,135
38	428 Amortization of Debt Discount and Expense	3,135,155	3,248,322	2,621,189
39	429 Amortization of Premium on Debt	0	0	0
40	420 AFUDC - Interest Charges to Construction-Credit	(11,404,689)	(10,190,405)	(10,463,785)
41	Total Interest Charges	$59,557,746	$52,919,872	$55,985,539
42				
43	Net Income	$246,757,483	$223,145,988	$191,372,592
44				
45	Dividends Paid			
46	437 Preferred Stock	$0	$0	$0
47	438 Common Stock	183,828,669	157,458,092	139,715,355
48	Income to Retained Earnings	$62,928,814	$65,687,896	$51,657,237

New Jersey-American Water Company, Inc.

Balance Sheet

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 3**

Witness: Jamie D. Hawn **Page 1 of 2**

Line No.	Account Title		Balance As Of November 30, 2023
1			
2	Assets and Other Debits		
3			
4		Utility Plant	
5	101-106	Utlity Plant	$7,566,621,403
6	108	Accumulated Depreciation (Cr.)	(1,519,368,486)
7	110	Accumulated Amortization. (Cr.)	(14,087,370)
8	114-115	Utility Plant Acquisition Adjustments (net)	2,986,879
9			
10		Net Utility Plant	$6,036,152,426
11			
12		Other Property & Investments	
13	121	Nonutility Property	$594,145
14	123	Investment in Assoc. Companies	43,955,329
15	124-125	Utility and Other Investments	143,808
16			
17		Total Other Property and Investments	$44,693,282
18			
19		Current and Accrued Assets	
20	131	Cash	$3,560,153
21	132-133	Special Deposits	1,800,000
22	141	Customer Accounts Receivable	78,098,578
23	142	Other Accounts Receivable	18,381,198
24	143	Accum. Prov. for Uncollect. Accts. (Cr.)	(11,504,483)
25	145	Accts. Rec. from Assoc. Companies	4,875,101
26	151-161	Materials and Supplies	29,229,323
27	162	Prepayments	(746,694)
28	173	Accrued Utility Revenue	47,142,173
29	174	Misc. Current and Accrued Assets	2,779,148
30			
31		Total Current and Accrued Assets	$173,614,497
32			
33		Deferred Debits	
34	181	Unamort. Debt Disc. and Expense	$20,570,744
35	183	Preliminary Survey and Investigation Charges	1,444,538
36	186	Miscellaneous Deferred Debits	80,580,897
37			
38		Total Deferred Debits	$102,596,179
39			
40		Total Assets and Other Debits	$6,357,056,384
41			
42			

New Jersey-American Water Company, Inc.

Balance Sheet

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 3**

Witness: Jamie D. Hawn **Page 2 of 2**

Line No.	Account Title		Balance As Of November-23
1			
2	Liabilities and Other Credits		
3		Equity Capital	
4	201	Common Stock Issued	$86,974,200
5	204	Preferred Capital Stock	0
6	211	Other Paid-In Capital	1,501,956,196
7	214-215	Retained Earnings	981,239,146
8			
9		Total Equity Capital	$2,570,169,542
10			
11		Long-Term Debt	
12	221-222	Bonds & Long Term debt	$2,017,963,265
13	224	Other Long-Term Debt	6,483,662
14			
15		Total Long-Term Debt	$2,024,446,927
16			
17		Current and Accrued Liabilities	
18	231	Accounts Payable	$144,257,120
19	233	Accts. Payable to Assoc. Companies	2,005,993
20	234	Notes Payable to Assoc. Companies	247,886,326
21	236	Taxes Accrued	(25,247,269)
22	237	Interest Accrued	22,874,532
23	241	Misc. Cur. and Accrued Liabilities	38,975,064
24			
25		Total Current and Accrued Liabilities	$430,751,766
26			
27		Deferred Credits	
28	252	Customer Advances for Construction	$150,355,433
29	253	Other Deferred Credits	287,671,611
30	255	Accumulated Deferred Investment Tax Credits	6,774,214
31			
32		Total Deferred Credits	$444,801,258
33			
34		Operating Reserves	
35	265	Miscellaneous Operating Reserves	$28,935,480
36			
37	271-272	Contributions in Aid of Construction (net of accumulated amort.)	$249,916,625
38			
39	281-283	Accumulated Deferred Income Taxes	$608,034,786
40			
41		Total Equity Capital and Liabilities	$6,357,056,384
42			

New Jersey-American Water Company, Inc.

Operating Income Statement

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 4**

Witness: Jamie D. Hawn **Page 1 of 1**

Line No.		Reference Schedule	Test Year 12 Mos. Ending June 30, 2024	Post-Test Year ending March 31, 2025 - Present Rates Adjustments	Post-Test Year Amount	Post-Test Year ending March 31, 2025 - Proposed Rates Revenue Deficiency	Post-Test Year Amount
1		(1)	(2)	(3)	(4)	(5)	(6)
2							
3	Operating Revenues *	5	$975,698,764	($42,623,334)	$933,075,430	$161,719,726	$1,094,795,156
4							
5	Operating Expenses						
6	Operation & Maintenance Expense *	6	$293,520,792	($30,536,986)	$262,983,806	$667,563	$263,651,369
7	Depreciation & Amortization Expense	8	172,962,650	28,967,097	201,929,746	0	201,929,746
8	Taxes Other Than Income Taxes	10	135,415,466	4,089,413	139,504,879	22,425,074	161,929,953
9							
10	Total Operating Expenses Before Income Taxes		$601,898,908	$2,519,524	$604,418,432	$23,092,637	$627,511,069
11							
12	Utility Operating Income Before FIT		$373,799,856	($45,142,857)	$328,656,999	$138,627,089	$467,284,088
13	Federal Income Taxes	14	58,949,945	(20,988,188)	37,961,758	29,111,689	67,073,447
14							
15	Utility Operating Income		$314,849,911	($24,154,669)	$290,695,241	$109,515,400	$400,210,641
16							
17	Rate Base	15			$5,066,727,126		$5,066,727,126
18							
19	Rate of Return	16			5.7373%		7.8988%
20							
21							
22	* Test year revenues and expenses include PWAC/PSTAC and DSIC/WSIC amounts; PWAC/PSTAC were removed on a Post-Test Year basis.						
23							
24							

New Jersey-American Water Company, Inc.

Statement of Operating Revenue

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX

Witness: Heath Brooks

Exhibit No. P-2, Schedule 5

Line No.		Test Year Present Rates @ June 30, 2024	Post-Test Year Adjustments	(Col. (1)+(2)) Post-Test Year Present Rates @ March, 31, 2025	Increase	(Col. (3)+(4)) Post-Test Year Proposed Rates @ March, 31, 2025	(Col. (4)/(3)) Percent Increase
1		(1)	(2)	(3)	(4)	(5)	(6)
2							
3	Total Water Service Revenues:						
4	Metered Service	$783,018,255	$38,262,182	$821,280,437	$146,127,785	$967,408,222	18.00%
5	Private Fire Protection Service	32,572,923	345,021	32,917,944	5,693,009	38,610,953	17.00%
6	Public Fire Protection Service	33,552,245	84,428	33,636,673	2,843,900	36,480,573	8.00%
7	Revenues From Water Sales	$849,143,423	$38,691,631	$887,835,054	$154,664,694	$1,042,499,748	17.00%
8							
9	Other Operating Revenues	$3,930,753	$593,150	$4,523,903	$0	$4,523,903	0.00%
10							
11	Total Water Operating Revenues	$853,074,176	$39,284,781	$892,358,957	$154,664,694	$1,047,023,650	17.00%
12							
13							
14	Revenues From Wastewater Sales	$40,988,073	($282,462)	$40,705,610	$7,055,032	$47,760,643	17.00%
15	Other Operating Revenues	10,863	0	10,863	0	10,863	0.00%
16							
17	Total Wastewater Operating Revenues	$40,998,936	($282,462)	$40,716,474	$7,055,032	$47,771,506	17.00%
18							
19	Total Company Operating Revenues						
20	Water and Wastewater Service	$894,073,112	$39,002,319	$933,075,430	$161,719,726	$1,094,795,156	17.00%
21							

New Jersey-American Water Company, Inc.

Statement of Operation and Maintenance Expense

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 6**

Witness: Michael B. McKeever **Page 1 of 1**

Line No.		Reference Schedule	Test Year ending June 30, 2024 Total Water	Test Year ending June 30, 2024 Total Wastewater	Test Year ending June 30, 2024 Total Company	Adjustments Total Water	Adjustments Total Wastewater	Adjustments Total Company	Post-Test Year ending March 31, 2025 Total Water	Post-Test Year ending March 31, 2025 Total Wastewater	Post-Test Year ending March 31, 2025 Total Company
1		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2	Purchased Water	6-2	$40,567,900	$0	$40,567,900	($39,807,299)	$0	($39,807,299)	$760,601	$0	$760,601
3	Power	6-3	20,266,637	1,071,363	21,338,000	1,145,142	(63,335)	1,081,807	21,411,779	1,008,027	22,419,807
4	Chemicals	6-4	26,021,635	519,032	26,540,667	(1,622,459)	(134,109)	(1,756,568)	24,399,176	384,923	24,784,099
5	Waste Disposal	6-5	6,859,367	23,375,384	30,234,751	110,508	(21,406,269)	(21,295,761)	6,969,875	1,969,114	8,938,989
6	Salaries and Wages	6-6	49,013,110	1,899,231	50,912,342	7,050,479	7,794	7,058,274	56,063,590	1,907,026	57,970,616
7	Pensions	6-7	(5,630,776)	(28,286)	(5,659,062)	7,387,735	88,049	7,475,784	1,756,959	59,763	1,816,722
8	Group Insurance	6-8	2,023,756	256,357	2,280,112	1,510,506	(136,138)	1,374,369	3,534,262	120,219	3,654,481
9	Other Benefits	6-9	3,829,564	159,189	3,988,753	805,664	(1,520)	804,144	4,635,228	157,669	4,792,897
10	Support Services	6-10	50,563,680	452,899	51,016,579	2,077,633	14,457	2,092,090	52,641,313	467,356	53,108,669
11	Rents	6-11	446,473	48,977	495,450	70,838	(39,785)	31,053	517,311	9,192	526,503
12	Transportation	6-12	3,384,426	103,885	3,488,312	303,587	(83,925)	219,662	3,688,014	19,960	3,707,974
13	Uncollectible Accounts Expense	7	3,338,848	29,643	3,368,491	344,721	138,431	483,152	3,683,569	168,074	3,851,643
14	Customer Accounting	6-14	6,070,306	56,447	6,126,753	1,843,635	24,097	1,867,732	7,913,941	80,544	7,994,485
15	Regulatory Expense	6-15	583,686	5,182	588,868	(168,431)	(1,487)	(169,918)	415,255	3,695	418,950
16	Insurance Other Than Group	6-16	10,140,428	100,337	10,240,765	493,893	(5,924)	487,968	10,634,320	94,413	10,728,733
17	Engineered Coating of Steel Structures	6-17	6,386,174	0	6,386,174	2,866,826	0	2,866,826	9,253,000	0	9,253,000
18	Property Sales	6-18	(91,476)	0	(91,476)	81,726	0	81,726	(9,750)	0	(9,750)
19	Other Operating Expenses	6-19	36,850,413	4,847,001	41,697,414	3,739,694	(443,579)	3,296,115	40,590,107	4,403,422	44,993,529
20	Acquisition Expenses*	6-20	0	0	0	1,279,841	1,992,018	3,271,859	1,279,841	1,992,018	3,271,859
21	Total Post-Test Year O&M Expense - Present Rates		$260,624,151	$32,896,642	$293,520,792	($10,485,761)	($20,051,226)	($30,536,986)	$250,138,390	$12,845,416	$262,983,806
22											
23											
24	Post-Test Year Adjustment to Uncollectible Accounts Expense								$586,444	$81,119	$667,563
25											
26	Total Post-Test Year O&M Expense - Proposed Rates								$250,724,834	$12,926,535	$263,651,369
27											

New Jersey-American Water Company, Inc.

Uncollectible Expense

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 7**

Witness: Michael B. McKeever

Line No.		Post-Test Year ending March 31, 2025 - Present Rates			Post-Test Year ending March 31, 2025 - Proposed Rates		
		Total Water	Total Wastewater	Total Company	Total Water	Total Wastewater	Total Company
1							
2	Post-Test Year Revenues - Present Rates	$892,358,957	$40,716,474	$933,075,430	$1,034,427,091	$60,368,066	$1,094,795,156
3							
4	Average Write-Off Ratio[1]	0.41%	0.41%	0.41%	0.41%	0.41%	0.41%
5							
6	Post-Test Year Uncollectible Expense at Present Rates	$3,683,569	$168,074	$3,851,643	$4,270,013	$249,193	$4,519,206
7							
8	Adjustment - Present Rate to Proposed Rates				$586,444	$81,119	$667,563
9							
10							
11							
12	[1]Calculation of the Average Write Off Ratio - based on three -year average						
13	*12 months ended*	June 30, 2021	June 30, 2022	June 30, 2023	3-Year Average		
14	Net Write-Offs	$1,419,369	$3,481,626	$5,856,267	$3,585,754		
15	Billed Revenues	$805,496,994	$849,632,429	$950,859,121	$868,662,848		
16	Average Write-Off Ratio	0.18%	0.41%	0.62%	0.41%		
17							

New Jersey-American Water Company, Inc.

Summary of Depreciation and Amortization

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 8**

Witness: Jamie D. Hawn

Line No.		Reference Schedule	Test Year ending June 30, 2024 Total Water	Test Year ending June 30, 2024 Total Wastewater	Test Year ending June 30, 2024 Total Company	Adjustments Total Water	Adjustments Total Wastewater	Adjustments Total Company	Post-Test Year ending March 31, 2025 - Proposed Rates Total Water	Post-Test Year ending March 31, 2025 - Proposed Rates Total Wastewater	Post-Test Year ending March 31, 2025 - Proposed Rates Total Company
1											
2	Depreciation	9	$164,912,670	$7,708,954	$172,621,623	$17,932,433	$3,275,542	$21,207,974	$182,845,102	$10,984,496	$193,829,598
3	Amort. Of Plant Acquisition Adj.	15-9	266,510	3,314	269,824	1,678	(1,678)	0	268,188	1,636	269,824
4	Amort. Of Regulatory Asset Other		70,576	627	71,203	0	0	0	70,576	627	71,203
5	Amort. Of Pension / OPB Deferral	8-5	0		0	7,208,869	245,212	7,454,081	7,208,869	245,212	7,454,081
6	Amort. Of WIPA Transacation Costs	8-6	0	0	0	150,055	137,260	287,315	150,055	137,260	287,315
7	Amort. Of Energy Efficiency Program Costs	8-7	0	0	0	17,726	0	17,726	17,726	0	17,726
8											
9	Total Depreciation and Amortization		$165,249,755	$7,712,894	$172,962,650	$25,310,761	$3,656,336	$28,967,097	$190,560,517	$11,369,230	$201,929,746
10											
11											
12											

New Jersey-American Water Company, Inc.

Statement of Depreciation

Total Company

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 9**

Witness: Jamie D. Hawn **Page 1 of 6**

Line No.	Utility Account	NARUC Account	Description	Rate	UPIS Balance @ Nov. 30, 2023	Net Plant Adds @ June 30, 2024	Net Plant Adds @ Dec. 31, 2024	(Col. 2+3+4) UPIS Balance @ Dec. 31, 2024	(Col. 1x5) Post-Test Year Expense
				(1)	(2)	(3)	(4)	(5)	(6)
1	304100	304.2	Struct & Imp-Supply	2.73%	$77,030,877	$4,768,458	$2,189,051	$83,988,386	$2,289,731
2	305000	305.2	Collect & Impound Reservoirs	1.45%	22,162,969	0	0	22,162,969	320,832
3	306000	306.2	Lake, River & Other Intakes	2.51%	16,303,320	0	3,860,254	20,163,575	505,242
4	307000	307.2	Wells & Springs	1.91%	65,446,207	0	3,142,290	68,588,497	1,310,342
5	308000	308.2	Infiltratn Galleries & Tunne	1.06%	9,745,367	0	0	9,745,367	103,039
6	309000	309.2	Supply Mains	1.18%	33,678,431	0	(319)	33,678,112	396,123
7	339200	339.2	Other P/E-Supply	5.77%	642,192	0	0	642,192	37,047
8	304200	304.2	Struct & Imp-Pumping	1.13%	97,100,264	0	(14)	97,100,250	1,093,859
9	310000	310.2	Power Generation Equip	2.07%	53,323,395	0	0	53,323,395	1,104,985
10	310200	311.2	Boiler Plant Equip P	3.28%	299,607	0	0	299,607	9,817
11	311200	311.2	Pump Eqp Electric	2.29%	157,761,783	0	(214)	157,761,569	3,614,453
12	311300	311.2	Pump Eqp Diesel	2.38%	7,363,549	0	0	7,363,549	175,490
13	311400	311.2	Pump Eqp Hydraulic	2.41%	14,614,374	0	0	14,614,374	352,335
14	311500	311.2	Pump Eqp Other	2.05%	13,502,583	0	9,640,842	23,143,424	473,354
15	311530	311.3	Pumping Equipment WT	2.93%	264,622	0	0	264,622	7,745
16	311540	311.4	Pumping Equipment TD	2.04%	30,072	0	0	30,072	614
17	304300	304.3	Struct & Imp-Treatment	1.28%	365,241,520	0	(12,308)	365,229,212	4,670,795
18	304310	304.3	Struct & Imp-Treatment-Handl	0.91%	7,835,773	0	0	7,835,773	71,350
19	320100	320.3	WT Equip Non-Media	1.49%	539,375,516	14,877,159	37,117,914	591,370,588	8,814,123
20	320200	320.3	WT Equip Filter Media	8.81%	29,141,824	0	0	29,141,824	2,568,745
21	339300	339.3	Other P/E-Treatment	1.33%	1,202,555	0	0	1,202,555	16,023
22	339400	339.3	Other P/E-WT Res Hand Equip	2.25%	5,901,344	0	0	5,901,344	133,045
23	304400	304.4	Struct & Imp-T&D	2.09%	23,182,665	0	0	23,182,665	483,901
24	330000	330.4	Dist Reservoirs & Standpipes	1.78%	41,051,083	0	0	41,051,083	732,486
25	330002	330.4	Tank Original Painting	1.62%	99,272	0	0	99,272	1,612
26	330100	330.4	Elevated Tanks & Standpipes	1.32%	73,297,935	0	(41)	73,297,894	966,218
27	330200	330.4	Ground Level Tanks	1.69%	14,326,051	0	0	14,326,051	242,487
28	330300	330.4	Below Ground Tanks	1.58%	5,440,221	0	0	5,440,221	85,936
29	330400	330.4	Clearwell	0.32%	85,696	0	0	85,696	276
30	331001	331.4	TD Mains Not Classified	1.49%	604,525,650	103,296,324	83,206,535	791,028,509	11,810,706
31	331100	331.4	TD Mains 4in & Less	1.49%	85,666,740	0	0	85,666,740	1,279,075
32	331200	331.4	TD Mains 6in to 8in	1.49%	1,240,748,498	0	0	1,240,748,498	18,525,395
33	331300	331.4	TD Mains 10in to 16in	1.49%	725,186,952	0	0	725,186,952	10,827,637
34	331400	331.4	TD Mains 18in & Grtr	1.49%	320,504,776	0	0	320,504,776	4,785,400
35	332000	331.4	Fire Mains	7.60%	2,151,489	0	0	2,151,489	163,529
36	333000	333.4	Services	2.28%	829,487,920	34,406,352	30,186,633	894,080,905	20,351,555
37	334100	334.4	Meters	9.55%	311,776,316	19,072,900	18,695,195	349,544,411	33,393,323
38	334200	334.4	Meter Installations	1.80%	196,544,444	0	0	196,544,444	3,546,350
39	334300	334.4	Meter Vaults	4.35%	74,525,050	0	0	74,525,050	3,239,210
40	335000	335.4	Hydrants	3.12%	205,396,449	12,705,159	10,900,847	229,002,455	7,145,737
41	336000	336.4	Backflow Prevention Devices	2.51%	485,390	0	0	485,390	12,172
42	339500	339.4	Other P/E-TD	0.86%	596,458	0	0	596,458	5,131
43	339600	339.1	Other P/E-CPS	3.82%	12,655,634	0	0	12,655,634	483,525
44	304500	304.5	Struct & Imp-General	3.99%	113,739,809	0	0	113,739,809	4,537,971
45	304510	304.5	Struct & Imp-Cap Lease	3.99%	11,022	0	0	11,022	440
46	304600	304.5	Struct & Imp-Offices	2.36%	66,022,040	0	0	66,022,040	1,556,255
47	304610	304.5	Struct & Imp-HVAC	2.65%	2,736,524	0	0	2,736,524	72,518
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New Jersey-American Water Company, Inc.

Statement of Depreciation

Total Company

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 9**

Witness: Jamie D. Hawn **Page 2 of 6**

Line No.	Utility Account	NARUC Account	Description	Rate	UPIS Balance @ Nov. 30, 2023	UPIS Balance @ June 30, 2024	Net Plant Adds @ Dec. 31, 2024	(Col. 2+3+4) UPIS Balance @ Dec. 31, 2024	(Col. 1x5) Post-Test Year Expense
				(1)	(2)	(3)	(4)	(5)	(6)
1	304700	304.5	Struct & Imp-Store,Shop,Gar	2.14%	$9,953,246	$0	$0	$9,953,246	$213,336
2	304800	304.5	Struct & Imp-Misc	0.14%	5,942,436	0	0	5,942,436	8,157
3	339100	339.1	Other P/E-Intangible	5.52%	6,106,023	0	0	6,106,023	336,839
4	340100	340.5	Office Furniture & Equip	15.35%	7,467,868	1,340,986	8,827,900	17,636,754	2,706,397
5	340200	340.5	Comp & Periph Equip	0.20%	9,459,224	0	0	9,459,224	18,548
6	340300	340.5	Computer Software	12.03%	148,042,460	26,469,401	0	174,511,861	20,997,140
7	340310	340.5	Comp Software Mainframe	0.00%	195,201	0	0	195,201	0
8	340400	340.5	Data Handling Equipment	0.00%	0	0	0	0	0
9	340500	340.5	Other Office Equipment	0.00%	6,939	0	0	6,939	0
10	341001	341.5	Trans Equip Not Classified	5.22%	6,360,268	0	0	6,360,268	162,532
11	341100	341.5	Trans Equip Lt Duty Trks	8.00%	23,992,987	4,320,211	3,388,400	31,701,598	1,243,174
12	341200	341.5	Trans Equip Hvy Duty Trks	6.46%	24,093,263	0	0	24,093,263	762,269
13	341300	341.5	Trans Equip Autos	4.61%	7,935,459	0	0	7,935,459	179,412
14	341400	341.5	Trans Equip Other	5.22%	9,043,538	0	0	9,043,538	231,394
15	342000	342.5	Stores Equipment	5.03%	1,763,717	0	0	1,763,717	88,675
16	343000	343.5	Tools,Shop,Garage Equip	4.43%	19,322,190	1,255,268	975,315	21,552,773	955,502
17	344000	344.5	Laboratory Equipment	1.08%	3,046,601	0	0	3,046,601	32,992
18	345000	345.5	Power Operated Equipment	3.64%	2,941,428	0	635,325	3,576,753	130,169
19	346000	346.5	Comm Equip Not Classified	8.75%	34,869,473	4,204,383	11,327,695	50,401,550	4,412,641
20	346100	346.5	Comm Equip Non-Telephone	5.65%	13,029,628	0	0	13,029,628	736,566
21	346190	346.5	Remote Control & Instrument	6.84%	42,500,951	0	0	42,500,951	2,905,457
22	346200	346.5	Comm Equip Telephone	0.11%	1,282,829	0	0	1,282,829	1,380
23	347000	347.5	Misc Equipment	4.41%	35,762,615	0	0	35,762,615	1,578,412
24	348000	348.5	Other Tangible Property	4.60%	1,146,298	0	1,296,975	2,443,273	112,349
25	354200	354.2	WW Struct & Imp Collection	2.72%	17,995,076	6,575,528	0	24,570,604	667,886
26	354300	354.3	WW Struct & Imp Pumping	2.59%	10,486,242	0	(2,391)	10,483,851	271,956
27	354400	354.4	WW Struct & Imp Treatment	1.70%	16,735,521	0	0	16,735,521	284,810
28	354500	354.7	WW Struct & Imp General	2.80%	5,028,655	0	0	5,028,655	140,812
29	354510	354.7	WW Struct & Imp Gen Leased	1.75%	888,532	0	0	888,532	15,552
30	355200	355.2	WW Pwr Gen Equip Collection	4.58%	940,598	0	(1,066)	939,532	43,049
31	355400	355.4	WW Pwr Gen Equip Treatment	5.25%	871,052	0	0	871,052	45,754
32	360000	360.2	WW Collection Sewers Forced	1.71%	14,784,552	0	964,052	15,748,604	268,671
33	361100	361.2	WW Collecting Mains	1.57%	219,990,670	3,729,737	7,742,974	231,463,381	3,638,425
34	361101	361.2	WW Collecting Mains Other	1.57%	8,897,734	0	0	8,897,734	139,865
35	362000	362.2	WW Special Coll Struct	1.78%	296,381	0	0	296,381	5,290
36	363000	363.2	WW Services Sewer	2.13%	66,038,073	2,543,889	2,309,066	70,891,028	1,513,241
37	364000	364.2	WW Flow Measuring Devices	2.91%	146,586	0	0	146,586	4,260
38	370000	370.3	WW Receiving Wells	2.83%	1,846,039	0	0	1,846,039	52,160
39	371100	371.3	WW Pump Equip Elect	3.70%	21,944,728	2,068,176	69,570	24,082,474	891,466
40	371200	371.3	WW Pump Equip Oth Pwr	2.37%	1,184,312	0	0	1,184,312	28,029
41	371300	371.3	WW Pump Equip Misc	4.90%	231,984	0	0	231,984	11,376
42	380000	380.4	WW TD Equipment	5.16%	20,080,905	9,461,461	14,797,706	44,340,072	2,288,174
43	380050	380.4	WW TD Equip Grit Removal	3.17%	36,894	0	0	36,894	1,170
44	380100	380.4	WW TD Equip Sed Tanks/Acc	3.44%	3,303,596	0	0	3,303,596	113,747
45	380200	380.4	WW TD Equip Sldge/Effl Rmv	4.17%	249,052	0	0	249,052	10,373
46	380250	380.4	WW TD Equip Sldge Dig Tnk	4.59%	4,791	0	0	4,791	220
47	380300	380.4	WW TD Equip Sldge Dry/Filt	3.27%	759,010	0	0	759,010	24,831
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New Jersey-American Water Company, Inc.

Statement of Depreciation

Total Company

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 9**

Witness: Jamie D. Hawn **Page 3 of 6**

Line No.	Utility Account	NARUC Account	Description	Rate	UPIS Balance @ Nov. 30, 2023	UPIS Balance @ June 30, 2024	Net Plant Adds @ Dec. 31, 2024	(Col. 2+3+4) UPIS Balance @ Dec. 31, 2024	(Col. 1x5) Post-Test Year Expense
				(1)	(2)	(3)	(4)	(5)	(6)
1	380350	380.4	WW TD Equip Sec Trmt Filt	4.14%	$3,456,316	$0	$0	$3,456,316	$143,150
2	380400	380.4	WW TD Equip Aux Effl Trmt	4.80%	493,914	0	0	493,914	23,711
3	380450	380.4	WW TD Equip Oth Sew Rem	3.94%	97,086	0	0	97,086	3,826
4	380500	380.4	WW TD Equip Chem Trmt Plt	4.46%	312,724	0	0	312,724	13,950
5	380600	380.4	WW TD Equip Oth Disp	3.55%	888,547	0	0	888,547	31,555
6	381000	381.4	WW Plant Sewers	1.62%	740,113	0	0	740,113	11,989
7	382000	382.4	WW Outfall Sewer Lines	1.72%	244,944	0	0	244,944	4,212
8	389100	389.1	WW Oth Plt & Misc Eqp Intang	4.18%	3,546,796	0	0	3,546,796	148,265
9	389200	389.2	WW Oth Plt & Misc Eqp Coll	5.02%	9,090	0	0	9,090	456
10	389600	389.1	WW Other P/E - CPS	41.36%	19,839	0	0	19,839	8,206
11	390000	390.7	WW Office Furniture & Equip	8.17%	20,678	0	0	20,678	1,689
12	390200	390.7	WW Computers & Peripheral	23.16%	127,346	0	0	127,346	29,488
13	390300	390.7	WW Computer Software	0.00%	0	0	0	0	0
14	391000	391.7	WW Trans Equipment	0.35%	727,863	0	0	727,863	1,264
15	391200	391.7	WW Trans Equip Hvy Dty Trks	0.00%	350,263	0	0	350,263	0
16	393000	393.7	WW Tool Shop & Garage Equip	3.25%	898,977	180,440	81,016	1,160,433	37,769
17	394000	394.7	WW Laboratory Equipment	3.54%	113,823	0	0	113,823	4,025
18	395000	395.7	WW Power Operated Equip	2.12%	535,338	0	0	535,338	11,359
19	396000	396.7	WW Communication Equip	7.07%	2,161,561	884,429	1,861,506	4,907,496	347,107
20	397000	397.7	WW Misc Equipment	3.32%	1,286,369	0	0	1,286,369	42,655
21	398000	398.7	WW Other Tangible Plant	1.63%	75,354	0	0	75,354	1,225
22	3XXXXX	0	Capitalized Vehicle Depreciation	0.00%	0	965,882	832,369	1,798,251	0
23	Acq 1	0	Acquisition - Salem City Water	2.58%	0	10,000,000	0	10,000,000	258,010
24	Acq 2	0	Acquisition - Salem City Wastewater	2.19%	0	8,000,000	0	8,000,000	175,175
25	Acq 3	0	Acquisition - Manville Wastewater	2.19%	0	6,500,000	0	6,500,000	142,330
26									
27			Total Depreciable Plant		$7,311,324,794	$277,626,143	$254,033,077	$7,842,984,012	$202,033,808
28									
29			Non Depreciable UPIS		$37,790,820	$0	($1,008)	$37,789,812	$0
30									
31			Amortization of CAC and CIAC		($6,847,365)	($104,565)	($52,282)	$0	($7,004,212)
32									
33			Cost of Removal Liability Amortization		$0	$0	$0	$0	($1,200,000)
34									
35			Total Post-Test Year Depreciation Expense						$193,829,596
36									
37									

New Jersey-American Water Company, Inc.

Statement of Depreciation

Total Water

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 9**

Witness: Jamie D. Hawn **Page 4 of 6**

Line No.	Utility Account	NARUC Account	Description	Rate	UPIS Balance @ Nov. 30, 2023	UPIS Balance @ June 30, 2024	Net Plant Adds @ Dec. 31, 2024	(Col. 2+3+4) UPIS Balance @ Dec. 31, 2024	(Col. 1x5) Post-Test Year Expense
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2	305000	305.20	Collect & Impound Reservoirs	1.45%	22,162,969	-	-	22,162,969	320,832
3	306000	306.20	Lake, River & Other Intakes	2.51%	16,303,320	-	3,860,254	20,163,575	505,242
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7	339200	339.20	Other P/E-Supply	5.77%	642,192	-	-	642,192	37,047
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12	311300	311.20	Pump Eqp Diesel	2.38%	7,363,549	-	-	7,363,549	175,490
13	311400	311.20	Pump Eqp Hydraulic	2.41%	14,614,374	-	-	14,614,374	352,335
14	311500	311.20	Pump Eqp Other	2.05%	13,502,583	-	9,640,842	23,143,424	473,354
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18	304310	304.30	Struct & Imp-Treatment-Handl	0.91%	7,835,773	-	-	7,835,773	71,350
19	320100	320.30	WT Equip Non-Media	1.49%	539,375,516	14,877,159	37,117,914	591,370,588	8,814,123
20	320200	320.30	WT Equip Filter Media	8.81%	29,141,824	-	-	29,141,824	2,568,745
21	339300	339.30	Other P/E-Treatment	1.33%	1,202,555	-	-	1,202,555	16,023
22	339400	339.30	Other P/E-WT Res Hand Equip	2.25%	5,901,344	-	-	5,901,344	133,045
23	304400	304.40	Struct & Imp-T&D	2.09%	23,182,665	-	-	23,182,665	483,901
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25	330002	330.40	Tank Original Painting	1.62%	99,272	-	-	99,272	1,612
26	330100	330.40	Elevated Tanks & Standpipes	1.32%	73,297,935	-	(41)	73,297,894	966,218
27	330200	330.40	Ground Level Tanks	1.69%	14,326,051	-	-	14,326,051	242,487
28	330300	330.40	Below Ground Tanks	1.58%	5,440,221	-	-	5,440,221	85,936
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32	331200	331.40	TD Mains 6in to 8in	1.49%	1,240,748,498	-	-	1,240,748,498	18,525,395
33	331300	331.40	TD Mains 10in to 16in	1.49%	725,186,952	-	-	725,186,952	10,827,637
34	331400	331.40	TD Mains 18in & Grtr	1.49%	320,504,776	-	-	320,504,776	4,785,400
35	332000	331.40	Fire Mains	7.60%	2,151,489	-	-	2,151,489	163,529
36	333000	333.40	Services	2.28%	829,487,920	34,406,352	30,186,633	894,080,905	20,351,555
37	334100	334.40	Meters	9.55%	311,776,316	19,072,900	18,695,195	349,544,411	33,393,323
38	334200	334.40	Meter Installations	1.80%	196,544,444	-	-	196,544,444	3,546,350
39	334300	334.40	Meter Vaults	4.35%	74,525,050	-	-	74,525,050	3,239,210
40	335000	335.40	Hydrants	3.12%	205,396,449	12,705,159	10,900,847	229,002,455	7,145,737
41	336000	336.40	Backflow Prevention Devices	2.51%	485,390	-	-	485,390	12,172
42	339500	339.40	Other P/E-TD	0.86%	596,458	-	-	596,458	5,131
43	339600	339.10	Other P/E-CPS	3.82%	12,655,634	-	-	12,655,634	483,525
44	304500	304.50	Struct & Imp-General	3.99%	113,739,809	-	-	113,739,809	4,537,971
45	304510	304.50	Struct & Imp-Cap Lease	3.99%	11,022	-	-	11,022	440
46	304600	304.50	Struct & Imp-Offices	2.36%	66,022,040	-	-	66,022,040	1,556,255
47	304610	304.50	Struct & Imp-HVAC	2.65%	2,736,524	-	-	2,736,524	72,518
48	304700	304.50	Struct & Imp-Store,Shop,Gar	2.14%	9,953,246	-	-	9,953,246	213,336
49	304800	304.50	Struct & Imp-Misc	0.14%	5,942,436	-	-	5,942,436	8,157
50									

New Jersey-American Water Company, Inc.

Statement of Depreciation

Total Water

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 9**

Witness: Jamie D. Hawn **Page 5 of 6**

Line No.	Utility Account	NARUC Account	Description	Rate	UPIS Balance @ Nov. 30, 2023	UPIS Balance @ June 30, 2024	Net Plant Adds @ Dec. 31, 2024	(Col. 2+3+4) UPIS Balance @ Dec. 31, 2024	(Col. 1x5) Post-Test Year Expense
				(1)	(2)	(3)	(4)	(5)	(6)
1	339100	339.1	Other P/E-Intangible	5.52%	$6,106,023	$0	$0	$6,106,023	$336,839
2	340100	340.5	Office Furniture & Equip	15.35%	7,467,868	1,340,986	8,827,900	17,636,754	2,706,397
3	340200	340.5	Comp & Periph Equip	0.20%	9,459,224	0	0	9,459,224	18,548
4	340300	340.5	Computer Software	12.03%	148,042,460	26,469,401	0	174,511,861	20,997,140
5	340310	340.5	Comp Software Mainframe	0.00%	195,201	0	0	195,201	0
6	340400	340.5	Data Handling Equipment	0.00%	0	0	0	0	0
7	340500	340.5	Other Office Equipment	0.00%	6,939	0	0	6,939	0
8	341001	341.5	Trans Equip Not Classified	5.22%	6,360,268	0	0	6,360,268	162,532
9	341100	341.5	Trans Equip Lt Duty Trks	8.00%	23,992,987	4,320,211	3,388,400	31,701,598	1,243,174
10	341200	341.5	Trans Equip Hvy Duty Trks	6.46%	24,093,263	0	0	24,093,263	762,269
11	341300	341.5	Trans Equip Autos	4.61%	7,935,459	0	0	7,935,459	179,412
12	341400	341.5	Trans Equip Other	5.22%	9,043,538	0	0	9,043,538	231,394
13	342000	342.5	Stores Equipment	5.03%	1,763,717	0	0	1,763,717	88,675
14	343000	343.5	Tools,Shop,Garage Equip	4.43%	19,322,190	1,255,268	975,315	21,552,773	955,502
15	344000	344.5	Laboratory Equipment	1.08%	3,046,601	0	0	3,046,601	32,992
16	345000	345.5	Power Operated Equipment	3.64%	2,941,428	0	635,325	3,576,753	130,169
17	346000	346.5	Comm Equip Not Classified	8.75%	34,869,473	4,204,383	11,327,695	50,401,550	4,412,641
18	346100	346.5	Comm Equip Non-Telephone	5.65%	13,029,628	0	0	13,029,628	736,566
19	346190	346.5	Remote Control & Instrument	6.84%	42,500,951	0	0	42,500,951	2,905,457
20	346200	346.5	Comm Equip Telephone	0.11%	1,282,829	0	0	1,282,829	1,380
21	347000	347.5	Misc Equipment	4.41%	35,762,615	0	0	35,762,615	1,578,412
22	348000	348.5	Other Tangible Property	4.60%	1,146,298	0	1,296,975	2,443,273	112,349
23	3XXXXX	0	Capitalized Vehicle Depreciation	0.00%	0	953,223	821,518	1,774,741	0
24	Acq 1	0	Acquisition - Salem City Water	2.58%	0	10,000,000	0	10,000,000	258,010
25									
26			Total Depreciable Plant		$6,882,476,869	$237,669,823	$226,199,794	$7,346,346,485	$190,389,285
27									
28			Non Depreciable UPIS		$35,867,088	$0	($864)	$35,866,224	$0
29									
30			Amortization of CAC and CIAC		($6,187,336)	($104,565)	($52,282)	$0	($6,344,183)
31									
32			Cost of Removal Liability Amortization		$0	$0	$0	$0	($1,200,000)
33									
34			Total Post-Test Year Depreciation Expense						$182,845,102

New Jersey-American Water Company, Inc.

Statement of Depreciation

Total Wastewater

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 9**

Witness: Jamie D. Hawn **Page 6 of 6**

Line No.	Utility Account	NARUC Account	Description	Rate	UPIS Balance @ Nov. 30, 2023	UPIS Balance @ June 30, 2024	Net Plant Adds @ Dec. 31, 2024	(Col. 2+3+4) UPIS Balance @ Dec. 31, 2024	(Col. 1x5) Post-Test Year Expense
				(1)	(2)	(3)	(4)	(5)	(6)
1	354200	354.2	WW Struct & Imp Collection	2.72%	$17,995,076	$6,575,528	$0	$24,570,604	$667,886
2	354300	354.3	WW Struct & Imp Pumping	2.59%	10,486,242	-	(2,391)	10,483,851	271,956
3	354400	354.4	WW Struct & Imp Treatment	1.70%	16,735,521	-	-	16,735,521	284,810
4	354500	354.7	WW Struct & Imp General	2.80%	5,028,655	-	-	5,028,655	140,812
5	354510	354.7	WW Struct & Imp Gen Leased	1.75%	888,532	-	-	888,532	15,552
6	355200	355.2	WW Pwr Gen Equip Collection	4.58%	940,598	-	(1,066)	939,532	43,049
7	355400	355.4	WW Pwr Gen Equip Treatment	5.25%	871,052	-	-	871,052	45,754
8	360000	360.2	WW Collection Sewers Forced	1.71%	14,784,552	-	964,052	15,748,604	268,671
9	361100	361.2	WW Collecting Mains	1.57%	219,990,670	3,729,737	7,742,974	231,463,381	3,638,425
10	361101	361.2	WW Collecting Mains Other	1.57%	8,897,734	-	-	8,897,734	139,865
11	362000	362.2	WW Special Coll Struct	1.78%	296,381	-	-	296,381	5,290
12	363000	363.2	WW Services Sewer	2.13%	66,038,073	2,543,889	2,309,066	70,891,028	1,513,241
13	364000	364.2	WW Flow Measuring Devices	2.91%	146,586	-	-	146,586	4,260
14	370000	370.3	WW Receiving Wells	2.83%	1,846,039	-	-	1,846,039	52,160
15	371100	371.3	WW Pump Equip Elect	3.70%	21,944,728	2,068,176	69,570	24,082,474	891,466
16	371200	371.3	WW Pump Equip Oth Pwr	2.37%	1,184,312	-	-	1,184,312	28,029
17	371300	371.3	WW Pump Equip Misc	4.90%	231,984	-	-	231,984	11,376
18	380000	380.4	WW TD Equipment	5.16%	20,080,905	9,461,461	14,797,706	44,340,072	2,288,174
19	380050	380.4	WW TD Equip Grit Removal	3.17%	36,894	-	-	36,894	1,170
20	380100	380.4	WW TD Equip Sed Tanks/Acc	3.44%	3,303,596	-	-	3,303,596	113,747
21	380200	380.4	WW TD Equip Sldge/Effl Rmv	4.17%	249,052	-	-	249,052	10,373
22	380250	380.4	WW TD Equip Sldge Dig Tnk	4.59%	4,791	-	-	4,791	220
23	380300	380.4	WW TD Equip Sldge Dry/Filt	3.27%	759,010	-	-	759,010	24,831
24	380350	380.4	WW TD Equip Sec Trmt Filt	4.14%	3,456,316	-	-	3,456,316	143,150
25	380400	380.4	WW TD Equip Aux Effl Trmt	4.80%	493,914	-	-	493,914	23,711
26	380450	380.4	WW TD Equip Oth Sew Rem	3.94%	97,086	-	-	97,086	3,826
27	380500	380.4	WW TD Equip Chem Trmt Plt	4.46%	312,724	-	-	312,724	13,950
28	380600	380.4	WW TD Equip Oth Disp	3.55%	888,547	-	-	888,547	31,555
29	381000	381.4	WW Plant Sewers	1.62%	740,113	-	-	740,113	11,989
30	382000	382.4	WW Outfall Sewer Lines	1.72%	244,944	-	-	244,944	4,212
31	389100	389.1	WW Oth Plt & Misc Eqp Intang	4.18%	3,546,796	-	-	3,546,796	148,265
32	389200	389.2	WW Oth Plt & Misc Eqp Coll	5.02%	9,090	-	-	9,090	456
33	389600	389.1	WW Other P/E - CPS	41.36%	19,839	-	-	19,839	8,206
34	390000	390.7	WW Office Furniture & Equip	8.17%	20,678	-	-	20,678	1,689
35	390200	390.7	WW Computers & Peripheral	23.16%	127,346	-	-	127,346	29,488
36	390300	390.7	WW Computer Software	0.00%	-	-	-	-	-
37	391000	391.7	WW Trans Equipment	0.35%	727,863	-	-	727,863	1,264
38	391200	391.7	WW Trans Equip Hvy Dty Trks	0.00%	350,263	-	-	350,263	-
39	393000	393.7	WW Tool Shop & Garage Equip	3.25%	898,977	180,440	81,016	1,160,433	37,769
40	394000	394.7	WW Laboratory Equipment	3.54%	113,823	-	-	113,823	4,025
41	395000	395.7	WW Power Operated Equip	2.12%	535,338	-	-	535,338	11,359
42	396000	396.7	WW Communication Equip	7.07%	2,161,561	884,429	1,861,506	4,907,496	347,107
43	397000	397.7	WW Misc Equipment	3.32%	1,286,369	-	-	1,286,369	42,655
44	398000	398.7	WW Other Tangible Plant	1.63%	75,354	-	-	75,354	1,225
45	3XXXXX	0	Capitalized Vehicle Depreciation	0.00%	-	12,659	10,851	23,510	-
46	Acq 2	0	Acquisition - Salem City Wastewater	2.19%	-	8,000,000	-	8,000,000	175,175
47	Acq 3	0	Acquisition - Manville Wastewater	2.19%	-	6,500,000	-	6,500,000	142,330
48									
49			Total Depreciable Plant		$428,847,926	$39,956,319	$27,833,283	$496,637,528	$11,644,525
50									
51			Non Depreciable UPIS		$1,923,732	($144)	$144	$1,923,732	$0
52									
53			Amortization of CAC and CIAC		($660,030)	$0	$0	$0	($660,030)
54									
55			Cost of Removal Liability Amortization		$0	$0	$0	$0	$0
56									
57			Total Post-Test Year Depreciation Expense						$10,984,496
58									
59									
60									

New Jersey-American Water Company, Inc.

Summary of Taxes Other than Income

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX

Witness: Michael B. McKeever

Exhibit No. P-2, Schedule 10

Line No.		Reference Schedule	Test Year ending June 30, 2024 Total Water	Test Year ending June 30, 2024 Total Wastewater	Test Year ending June 30, 2024 Total Company	Adjustments Total Water	Adjustments Total Wastewater	Adjustments Total Company	Post-Test Year ending March 31, 2025 - Present Rates Total Water	Post-Test Year ending March 31, 2025 - Present Rates Total Wastewater	Post-Test Year ending March 31, 2025 - Present Rates Total Company	Adjustments Total Water	Adjustments Total Wastewater	Adjustments Total Company	Post-Test Year ending March 31, 2025 - Proposed Rates Total Water	Post-Test Year ending March 31, 2025 - Proposed Rates Total Wastewater	Post-Test Year ending March 31, 2025 - Proposed Rates Total Company
1																	
2	Property Taxes	10-3	$6,716,502	$96,763	$6,813,266	($84,714)	($7,141)	($91,856)	$6,631,788	$89,622	$6,721,410	$0	$0	$0	$6,631,788	$89,622	$6,721,410
3	Payroll Taxes	10-4	3,590,243	145,016	3,735,259	814,919	4,827	819,746	4,405,162	149,843	4,555,005	0	0	0	4,405,162	149,843	4,555,005
4	Gross Receipts and Franchise Tax	11	120,297,903	1,362,258	121,660,161	(766,317)	4,073,467	3,307,150	119,531,586	5,435,725	124,967,311	19,375,076	2,624,225	21,999,301	138,906,662	8,059,950	146,966,612
5	Utility Assessment	12	2,356,865	26,838	2,383,703	(7,470)	80,360	72,890	2,349,395	107,198	2,456,593	374,035	51,738	425,773	2,723,430	158,936	2,882,366
6	Water Monitoring Tax	13	679,238	0	679,238	(18,518)	0	(18,518)	660,720	0	660,720	0	0	0	660,720	0	660,720
7	Other Taxes		137,259	6,581	143,840	0	0	0	137,259	6,581	143,840	0	0	0	137,259	6,581	143,840
8	Total Taxes Other Than Income		$133,778,010	$1,637,455	$135,415,466	($62,100)	$4,151,513	$4,089,413	$133,715,910	$5,788,969	$139,504,879	$19,749,111	$2,675,963	$22,425,074	$153,465,021	$8,464,932	$161,929,953
9																	

New Jersey-American Water Company, Inc.

Gross Receipts and Franchise Tax

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 11**

Witness: Michael B. McKeever

Line No.		Post-Test Year ending March 31, 2025 - Present Rates			Adjustments			Post-Test Year ending March 31, 2025 - Proposed Rates		
		Total Water	Total Wastewater	Total Company	Total Water	Total Wastewater	Total Company	Total Water	Total Wastewater	Total Company
1										
2										
3	Total Revenues (Exhibit P-2, Schedule 4)	$892,358,957	$40,716,474	$933,075,430	$142,068,134	$19,651,592	$161,719,726	$1,034,427,091	$60,368,066	$1,094,795,156
4	Less:									
5	Sales to Exempt Utilities	(11,367,273)	0	(11,367,273)	0	0	0	(11,367,273)	0	(11,367,273)
6	Other Operating Revenues	(4,523,903)	(10,863)	(4,534,766)	0	0	0	(4,523,903)	(10,863)	(4,534,766)
7										
8	Basis for Gross Receipts and Franchise Tax (a)	$876,467,781	$40,705,610	$917,173,391	$142,068,134	$19,651,592	$161,719,726	$1,018,535,915	$60,357,202	$1,078,893,117
9										
10	Gross Receipts Tax Rate[1] (b)	8.4375%	8.4375%	8.4375%	8.4375%	8.4375%	8.4375%	8.4375%	8.4375%	8.4375%
11	Post-Test Year Gross Receipts Tax Amount (a*b)=(c)	$73,951,969	$3,434,536	$77,386,505	$11,986,999	$1,658,103	$13,645,102	$85,938,968	$5,092,639	$91,031,607
12										
13	*Franchise Tax Calculation*									
14	Miles of Main (Public) %[2] (d)	92.4511%	87.4000%	92.2269%	92.4511%	87.4000%	91.8373%	92.4511%	87.4000%	92.1685%
15	Basis for Franchise Tax (a*d)=(e)	$810,304,307	$35,576,700	$845,881,007	$131,343,585	$17,175,490	$148,519,075	$941,647,893	$52,752,190	$994,400,083
16										
17	Franchise Tax Rate[3] (f)	5.625%	5.625%	5.625%	5.625%	5.625%	5.625%	5.625%	5.625%	5.625%
18	Post-Test Year Franchise Tax Amount (e*f)=(g)	$45,579,617	$2,001,189	$47,580,806	$7,388,077	$966,121	$8,354,198	$52,967,694	$2,967,311	$55,935,005
19										
20	Total Post-Test Year GRAFT Amount (c+g)=(h)	$119,531,586	$5,435,725	$124,967,311	$19,375,076	$2,624,224	$21,999,300	$138,906,662	$8,059,950	$146,966,612
21										
22	Test Year Expense	$120,297,903	$1,362,258	$121,660,161		Post-Test Year - Under Present Rates		$119,531,586	$5,435,725	$124,967,311
23										
24	Post-Test Year Adjustment	($766,317)	$4,073,467	$3,307,150		Post-Test Year Proposed Adjustment		$19,375,076	$2,624,225	$21,999,301
25										
26	Post-Test Year GRAFT Tax Rate (h/a)=(i)	**13.6379%**	**13.3537%**	**13.6253%**				**13.6379%**	**13.3538%**	**13.6220%**
27										

28 [1] Tax Rate reflects a combined rate of 8.4375% (Gross Receipts Tax of 7.5% and Surtax of 0.9375%).

29 [2] Reflects percent of miles of main in public streets, 92.45% overall for Water and 87.40% overall for Wastewater.

30 [3] Tax Rate reflects a combined rate of 5.625% (Franchise Tax of 5% and Surtax of 0.625%).

New Jersey-American Water Company, Inc.

Utility Assessments

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX

Witness: Michael B. McKeever

Exhibit No. P-2, Schedule 12

Line No.		Post-Test Year ending March 31, 2025 - Present Rates			Adjustments			Post-Test Year ending March 31, 2025 - Proposed Rates		
		Total Water	Total Wastewater	Total Company	Total Water	Total Wastewater	Total Company	Total Water	Total Wastewater	Total Company
1										
2	Total Revenues (Exhibit P-2, Schedule 4)	$892,358,957	$40,716,474	$933,075,430	$142,068,134	$19,651,592	$161,719,726	$1,034,427,091	$60,368,066	$1,094,795,156
3										
4	Assessment Rates:									
5	Board of Public Utilities	$0.002130	$0.002130					$0.002130	$0.002130	
6	Division of Rate Counsel	0.000502	0.000502					0.000502	0.000502	
7	Total Assessment Rate	$0.002633	$0.002633	$0.002633				$0.002633	$0.002633	$0.002633
8										
9	Post-Test Year Assessment Expense	$2,349,395	$107,198	$2,456,593	$374,035	$51,738	$425,773	$2,723,430	$158,936	$2,882,366
10										
11	Test Year Expense	$2,356,865	$26,838	$2,383,703		Post-Test Year - Under Present Rates		$2,349,395	$107,198	$2,456,593
12										
13	Post-Test Year Adjustment	($7,470)	$80,360	$72,890		Post-Test Year Proposed Adjustment		$374,035	$51,738	$425,773
14										
15										
16										
17										
18										
19										

New Jersey-American Water Company, Inc.

Water Monitoring Tax

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX

Witness: Michael B. McKeever

Exhibit No. P-2, Schedule 13

Line No.		Post-Test Year ending March 31, 2025 - Present Rates			Adjustments			Post-Test Year ending March 31, 2025 - Proposed Rates		
		Total Water	Total Wastewater	Total Company	Total Water	Total Wastewater	Total Company	Total Water	Total Wastewater	Total Company
1										
2	Total Gallons Metered Systems (thousand gallons)	83,433,661	0	83,433,661	0	0	0	83,433,661	0	83,433,661
3	Less:									
4	Gallons purchased by consumer for resale	(17,361,622)	0	(17,361,622)	0	0	0	(17,361,622)		(17,361,622)
5										
6	Taxable Gallons (thousand gallons)	66,072,039	0	66,072,039	0	0	0	66,072,039	0	66,072,039
7										
8	Water Monitoring Tax Rate	$0.01	$0.00	$0.01	$0.01	$0.00	$0.01	$0.01	$0.00	$0.01
9										
10	Post-Test Year Water Monitoring Tax	$660,720	$0	$660,720	$0	$0	$0	$660,720	$0	$660,720
11										
12	Test Year Expense	$679,238	$0	$679,238		Post-Test Year - Under Present Rates		$660,720	$0	$660,720
13										
14	Post-Test Year Adjustment	($18,518)	$0	($18,518)		Post-Test Year Proposed Adjustment		$0	$0	$0
15										
16										
17										
18										

New Jersey-American Water Company, Inc.

Federal Income Tax Calculation

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX

Witness: Michael B. McKeever

Exhibit No. P-2, Schedule 14

Line No.		Reference Schedule	Post-Test Year ending March 31, 2025 - Present Rates Total Water	Total Wastewater	Total Company	Post-Test Year ending March 31, 2025 - Proposed Rates Total Water	Total Wastewater	Total Company
1								
2	Operating revenue		$892,358,957	$40,716,474	$933,075,430	$1,034,427,091	$60,368,066	$1,094,795,156
3								
4	Less:							
5	Operation and maintenance expense	6	$250,138,390	$12,845,416	$262,983,806	$250,724,833	$12,926,536	$263,651,369
6	Depreciation expense	8	182,845,102	10,984,496	193,829,598	182,845,102	10,984,496	193,829,598
7	Non-Tax Amortizations	8	7,627,112	384,108	8,011,220	7,627,112	384,108	8,011,220
8	Taxes other than income	10	133,715,910	5,788,969	139,504,879	153,465,021	8,464,932	161,929,953
9	Interest charges	14-43	88,196,042	5,364,466	93,560,508	88,196,042	5,364,466	93,560,508
10	Permanent book/tax differences		(382,533)	0	(382,533)	(382,533)	0	(382,533)
11	Excess tax depreciation over book	15-20	170,489,699	10,882,321	181,372,020	170,489,699	10,882,321	181,372,020
12								
13	Total deductions		$832,629,722	$46,249,775	$878,879,497	$852,965,276	$49,006,858	$901,972,134
14								
15	Taxable income		$59,729,235	($5,533,302)	$54,195,933	$181,461,815	$11,361,207	$192,823,022
16								
17	Tax Rate		21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
18								
19	Federal income tax (current)		$12,543,139	($1,161,993)	$11,381,146	$38,106,981	$2,385,854	$40,492,835
20								
21								
22	Deferred federal income tax:							
23	Excess tax depreciation over book	15-20	$170,489,699	$10,882,321	$181,372,020	$170,489,699	$10,882,321	$181,372,020
24	Tax rate		21.00%	21.00%	21.00%	21.00%	21.00%	21.00%
25	Net		$35,802,837	$2,285,287	$38,088,124	$35,802,837	$2,285,287	$38,088,124
26	Reverse South Georgia adjustment	15-20	($458,735)	$0	($458,735)	($458,735)	$0	($458,735)
27								
28	Deferred F.I.T. (accel.depr.)		$35,344,102	$2,285,287	$37,629,389	$35,344,102	$2,285,287	$37,629,389
29								
30	Deferred federal income tax:							
31	Amortization of excess deferred tax-TCJA	15-21	($12,485,560)	$0	($12,485,560)	($12,485,560)	$0	($12,485,560)
32	Amortization of ITC	15-18	(309,273)	(10,595)	(319,868)	(309,273)	(10,595)	(319,868)
33	Amortization of flow through tax-prior	15-20	1,756,651	0	1,756,651	1,756,651	0	1,756,651
34								
35								
36	Total Federal Income Tax		$36,849,058	$1,112,699	$37,961,758	$62,412,900	$4,660,546	$67,073,447
37								
38	Notes:							
39	(1) Interest synchronization calculation:							
40	Rate Base	15	$4,776,216,895	$290,510,231	$5,066,727,126	$4,776,216,895	$290,510,231	$5,066,727,126
41	Weighted Cost of Debt	16	1.8466%	1.8466%	1.8466%	1.8466%	1.8466%	1.8466%
42								
43	Interest Charges		$88,196,042	$5,364,466	$93,560,508	$88,196,042	$5,364,466	$93,560,508
44								
45								
46								

New Jersey-American Water Company, Inc.

Statement of Rate Base

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX

Witness: Jamie D. Hawn

Exhibit No. P-2, Schedule 15

Line No.		Reference Schedule	November 30, 2023 Total Water	November 30, 2023 Total Wastewater	November 30, 2023 Total Company	Test Year at June 30, 2024 Total Water	Test Year at June 30, 2024 Total Wastewater	Test Year at June 30, 2024 Total Company	Post-Test Year at December 31, 2024 Total Water	Post-Test Year at December 31, 2024 Total Wastewater	Post-Test Year at December 31, 2024 Total Company
1											
2											
3	Utility plant in service	15-3	$6,918,343,957	$430,771,657	$7,349,115,614	$7,156,013,780	$470,727,976	$7,626,741,756	$7,382,212,710	$498,561,115	$7,880,773,825
4	Accum depreciation & amtz UPIS	15-4	(1,450,408,630)	(100,074,323)	(1,550,482,953)	(1,494,459,303)	(98,462,699)	(1,592,922,001)	(1,524,012,408)	(95,936,900)	(1,619,949,308)
5											
6	Net utility plant		$5,467,935,327	$330,697,334	$5,798,632,661	$5,661,554,477	$372,265,277	$6,033,819,755	$5,858,200,302	$402,624,215	$6,260,824,517
7	Add:										
8	Cash working capital		$116,300,000	$0	$116,300,000	$116,300,000	$0	$116,300,000	$116,300,000	$0	$116,300,000
9	Utility plant acquisition adj.	15-9	1,664,246	27,713	1,691,959	1,577,708	26,758	1,604,466	1,503,533	25,940	1,529,473
10	Prepayments	15-10	3,123,425	27,794	3,151,219	3,123,425	27,794	3,151,219	3,123,425	27,794	3,151,219
11	Materials & supplies	15-11	26,892,923	239,306	27,132,228	26,892,923	239,306	27,132,228	26,892,923	239,306	27,132,228
12											
13	Sub-total		$147,980,594	$294,813	$148,275,406	$147,894,056	$293,858	$148,187,913	$147,819,881	$293,040	$148,112,920
14	Deduct:										
15	Customer advances for constr.	15-15	$97,523,033	$11,529,895	$109,052,928	$101,036,371	$11,529,895	$112,566,266	$104,047,804	$11,529,895	$115,577,699
16	Contributions in aid of constr.	15-15	201,062,708	38,287,166	239,349,874	197,364,973	37,893,332	235,258,304	194,167,166	37,555,760	231,722,925
17	MTBE & Alum. sulfate settlements	15-17	4,051,768	2,633,214	6,684,982	3,967,471	2,578,430	6,545,901	3,895,217	2,531,472	6,426,689
18	Pre-1971 I.T.C.	15-18	208,251	12,902	221,154	202,068	12,622	214,690	196,767	12,382	209,149
19	Consolidated FIT	17	15,682,976	0	15,682,976	15,682,976	0	15,682,976	15,682,976	0	15,682,976
20	Deferred FIT (accel. depr.)	15-20	628,976,094	39,163,285	668,139,379	660,654,871	42,856,534	703,511,406	685,880,883	45,717,838	731,598,720
21	Excess ADIT-TCJA liability	15-21	239,597,397	14,918,566	254,515,962	232,173,866	15,061,067	247,234,932	225,932,476	15,059,677	240,992,152
22											
23	Sub-total		$1,187,102,227	$106,545,027	$1,293,647,255	$1,211,082,595	$109,931,880	$1,321,014,476	$1,229,803,288	$112,407,023	$1,342,210,311
24											
25	Total rate base		$4,428,813,693	$224,447,119	$4,653,260,813	$4,598,365,938	$262,627,255	$4,860,993,193	$4,776,216,895	$290,510,231	$5,066,727,126
26											

New Jersey-American Water Company, Inc.

Weighted Cost of Capital

Total Company

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 16**

Witness: Jamie D. Hawn

Post-Test Year at December 31, 2024

Line No.	Type of Capital	Reference Schedule	Balance Outstanding	Ratios	Cost Rate	Weighted Cost Rate	Pre-tax Rate of Return
1							
2	Long-Term Debt	16-2	$2,166,905,507	43.7000%	4.2256%	1.8466%	1.8466%
3							
4	Preferred Stock		0	0.0000%		0.0000%	0.0000%
5							
6	Common Equity		2,791,885,127	56.3000%	10.7500%	6.0523%	7.6611%
7							
8			$4,958,790,635	100.0000%		7.8988%	9.5076%
9							
10							

New Jersey-American Water Company, Inc.
Consolidated Tax Adjustment

New Jersey-American Water Company, Inc.
Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 17**
Witness: Jamie D. Hawn **Page 1 of 1**
CONFIDENTIAL

CONFIDENTIAL Exhibit P-2, Schedule 17 has been filed with the Records Custodian of the BPU and will be provided to Staff and Rate Counsel upon execution of an Agreement of Non-Disclosure

New Jersey-American Water Company, Inc.

Schedule of Payments to Affliated Companies

New Jersey-American Water Company, Inc.

Docket No. WR2XXXXXXX **Exhibit No. P-2, Schedule 18**

Witness: Michael B. McKeever **Page 1 of 1**

Line No.	Affiliated Companies	12 Months Ended June 30, 2023
1		
2	American Water Works Company, Inc. ("AWK")	$0
3		
4	American Water Capital Corporation ("AWCC")	$62,410,728
5		
6	American Water Works Service Company, Inc. ("AWWSC")	$82,182,054
7		
8		

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Mark K. McDonough

January 19, 2024

Exhibit P-3

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

PAGE

NEW JERSEY-AMERICAN WATER COMPANY, INC.

I. INTRODUCTION, SUMMARY AND PRESENTATION OF WITNESSES

1. Q. Please state your name and business address.

A. My name is Mark McDonough and my business address is 1 Water Street, Camden, New Jersey 08102.

2. Q. By whom are you employed and in what capacity?

A. I am the President of New Jersey-American Water Company, Inc. ("New Jersey-American Water," "NJAWC" or the "Company").

3. Q. What are your responsibilities in this position?

A. As President of NJAWC, I am responsible for all aspects of its business, including financial, operations, production, distribution, customer service, engineering and capital investment planning, employee relations, environmental, and regulatory affairs. I lead a team of dedicated professionals who are devoted to providing safe and reliable service to approximately 668,000 water and fire service customers and 64,200 wastewater service customers in about 200 communities in 18 counties throughout the State of New Jersey. My goal is to ensure that all activities of the Company are carried out in compliance with all local, state and federal laws and regulations, and standards of good business practice.

4. Q. Please describe your educational background and business experience.

A. I hold a Bachelor of Science degree from the University of Delaware, a Master of Science degree from the American University and a Juris Doctor from the Antonin

Scalia Law School of George Mason University. I am admitted to practice law in the States of New Jersey and Maine.

I have over 18 years of experience in the water industry. I joined American Water as a Corporate Counsel for American Water Enterprises Group in 2005 working with the Military Services Group on federal contracts for the provision of water and wastewater services to the United States Department of Defense. I have also served as the Deputy General Counsel and Division General Counsel to American Water Enterprises. In 2016, I was appointed the Chief Compliance Officer for American Water and oversaw the compliance and ethics program enterprise-wide. In 2018, I was named President of the Military and Contract Services Group, where I was responsible for all water and wastewater services contracts with the United States Department of Defense and various municipal clients, including the Cities of Camden and North Brunswick, New Jersey. I held that position until April of 2021, when I was named President of New Jersey-American Water Company. Prior to coming to American Water, I worked as a trial attorney in private practice in Maine and New Jersey from 1998 to 2005. Between 1988 and 1996, I worked as a Special Agent with the Office of Inspector General at the United States General Services Administration, the National Railroad Passenger Corporation, and the United States Department of Energy. My focus was on complex fraud investigations and environmental and financial crime.

5. Q. Have you previously testified in regulatory proceedings?

A. Yes, I submitted testimony in the Company's 2022 rate case in BPU Docket No. WR22010019.

6. Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony in this proceeding is to describe the reasons why the Company is seeking the relief requested in this filing, including the request to increase base rates and implement other regulatory tariff changes. Specifically, I will explain the primary reasons for the proposed revenue increase, the Company's regulatory proposals and how our cost recovery proposals in this case will support the efficient use of water and investment in our system. I believe that it is important that the Board of Public Utilities ("Board" or "BPU") and all our stakeholders understand the Company's contributions to the State of New Jersey in providing water and wastewater service -- critical services that are vital to our health, welfare and economic well-being.

7. Q. Please identify NJAWC's witnesses in this case and a provide brief summary of their testimonies.

A. In addition to my Direct Testimony, the following witnesses provide testimony in support of the Company's Request:

Thomas Shroba:	will testify on the Company's operations, its commitment to water quality, environmental compliance, safety, improving water efficiency, as well as the Company's proposed staffing levels and compensation philosophy.
Donald C. Shields:	will testify on the Company's capital investment planning process, the need to recover capital expenditures incurred since the Company's last rate case, the plan for the engineered coating of steel structures, and some of the

NEW JERSEY-AMERICAN WATER COMPANY, INC.

	risks and challenges for water and wastewater utilities associated with increased identification and regulation of contaminants and with increased climate variability.
Michael B. McKeever:	will testify on the Company's compensation and benefits, Service Company expenses, other operations and maintenance ("O&M"), general and income taxes and deferral requests for pension and other post-employment benefits expenses, and for production costs.
Jamie D. Hawn:	will testify on the Company's revenue requirement, rate base, capital structure, acquisitions, depreciation and amortization, and proposed tariff modifications.
Charles B. Rea:	will testify on NJAWC's affordability analyses for water and wastewater service, the Company's proposal to offer a universal affordability tariff, the Company's analysis of residential, commercial, and public authority customers' water consumption and long-term trends in water usage, and the proposed Revenue Decoupling Mechanism.
Heath J. Brooks:	will testify on NJAWC's cost of service study, the proposed rate design for both water and wastewater service and the determination of Post-Test Year revenues at present and proposed rates.
Ann E. Bulkley:	will testify on the reasonableness of the Company's cost of equity and its capital structure.
Patrick L. Baryenbruch:	will testify on the reasonableness of Service Company costs.
Robert V. Mustich	will testify on the reasonableness of the Company's compensation program and benchmarks the Company's compensation expense against national and regional peer groups.
Harold Walker, III	will testify on the Company's cash working capital and the lead/lag study.
Larry E. Kennedy:	will present the Company's depreciation studies for water and wastewater.

II. REASONS FOR RELIEF REQUESTED

8. Q. When were NJAWC's current rates approved?

A. The Board approved NJAWC's base rates in its Order effective August 24, 2022, in Docket No. WR22010019. Those rates were based on a test year ended June 30, 2022. The test year in this case is the 12 months ending June 30, 2024.

9. Q. What amount of rate relief is the Company seeking in this case?

A. NJAWC is seeking an increase of $161.7 million in annual revenue over present rates. The proposed increase will provide the Company with an opportunity to recover its cost of service and earn a reasonable return on the capital invested in the system. NJAWC is fully committed to continued investment in the Company's operations at the level and in the manner necessary to continue to provide safe and reliable service for our customers over the long term and is simply seeking the revenues to support doing so.

10. Q. Why is the Company filing this rate case?

A. New Jersey-American Water has provided service to our customers for over 130 years. Our customers rely on the Company to provide them with safe and reliable water and wastewater services. Providing these services, however, requires us to make ongoing, significant capital investments, as well as to incur a substantial amount of O&M expenses. This filing is primarily driven by the capital investment required to maintain and improve our infrastructure. As Company witness Mr. Donald Shields explains, the Company's investments in water and wastewater utility plant and equipment since the last base rate case through the end of the test year in this case, 12 months ending June

30, 2024 ("Test Year") and the six months post-test year ending December 31, 2024 ("Post-Test Year" or "PTY"), total over $1.3 billion.

11. Q. The basis of this case, then, is fundamentally about investment in New Jersey infrastructure, is that correct?

A. Yes. As with our previous rate filings, the Company's proposed revenue increase is driven by investment in New Jersey's infrastructure, making up approximately 68% of the request in this case. NJAWC has managed its operations responsibly and effectively and will continue to uphold its commitment to make the investments needed to provide safe and reliable water and wastewater services to our customers at reasonable rates. The benefits of our infrastructure investment are not only vital to the health and welfare of our customers and the state, but they improve our economy and provide much needed jobs because every $1 million we spend in capital is expected to create or sustain approximately 16 jobs in New Jersey.[1] These investments include improving the resiliency of the Company's distribution system and treatment plants, treatment changes to maintain regulatory compliance, technology investments that will integrate with existing systems to enhance service to customers, and management of source of supply and system demands. As noted, the Company will have invested over $1.3 billion in capital improvements since the effective date of rates in the Company's last rate case. By doing so, the Company has created or sustained over 20,000 jobs during that time period.

[1] For every $1 million spent, 15.5 jobs are created (6.1 direct jobs and 9.4 indirect jobs). https://uswateralliance.org/wp-content/uploads/2023/09/Economic-Impact-of-Investing-in-Water-Infrastructure_VOW_FINAL_pages_0.pdf

12. Q. Are there other factors contributing to the requested rate relief in this case?

A. Yes, there are, but none approaches the magnitude of our capital investment program as a driver to file this case. In addition to O&M expenses driven by recent high levels of inflation and supply chain disruptions, the Company's cost of capital has increased due, as Ms. Bulkley explains, to the rise in interest rates driven by the Federal Reserve Board's anti-inflation campaign which has increased the cost of debt and equity. Unfortunately, the high inflation we've seen and supply chain disruptions recently experienced have adversely affected all businesses and the Company is no exception. Nevertheless, as Messrs. Shields and Shroba testify, our smart investments have helped to contain costs and, as Mr. Rea explains, kept our services affordable. Furthermore, although the Company is seeking an increase in O&M expenses, as Company witness Hawn explains, New Jersey-American Water's O&M expense per customer is not much higher than it was more than a decade ago. In 2014, the O&M expense per customer was $298. If that cost were increased at the rate of inflation, it would be $401 per customer in this proceeding rather than the proposed $358 per customer, or over $31 million more of annual O&M expense than that proposed by the Company in this case. More importantly, given that generally each dollar of O&M expense that is avoided permits NJAWC to invest approximately $8 in plant, the O&M savings that the Company has been able achieve over inflation over that 10-year period translates into over $1.5 billion of investment with no additional rate impact on customers. This is a testament to the Company's expert planning and prudent stewardship of financial resources.

13. Q. Please describe the importance of the Company's capital investment program.

A. As Mr. Shields explains in his testimony, the Company's capital investment plan can be divided into two distinct areas: recurring projects ("RPs" or "RP") and investment projects ("IPs" or "IP"). IPs represent investments made to meet environmental or water quality regulations, infrastructure resiliency, capacity expansion or rehabilitation, or replacement of aging facilities. These projects allow the Company to meet the service demands of the community, maintain regulatory compliance and reduce asset failure. Moreover, as Mr. Shields further explains, many of New Jersey-American Water's capital projects are necessary to anticipate and meet the needs of new environmental, health and safety regulations and to address the effects of climate variability. There are a host of emerging compounds that must be addressed, including perfluorooctanoic acid ("PFOA"), 1,4-dioxane, and hexavalent chromium (chromium (VI)). Mr. Shields estimates that these new requirements will require investments of over $500 million before the end of 2027. These investments are not negotiable because our customers rely on New Jersey-American Water to keep current with investment needs so that we can anticipate and treat water to achieve ever-tightening water quality standards and to anticipate situations that might disrupt water or wastewater service reliability. Similarly, we must also address the effect of climate variability on our system and its reliability, as revisions to the Safe Drinking Water Act now require all water systems serving populations greater than 3,300 people to complete Risk & Resiliency Assessments for affected systems in accordance with

compliance deadlines.[2] Mr. Shields describes some of these projects in his testimony. I would simply point out their importance in recent years when the record-producing flood resulting from Hurricane Ida was held back by the recently completed flood wall at our Raritan-Millstone Water Treatment Plant, and our newly installed backup generators worked to maintain power at several of our facilities during widespread power grid failures after Tropical Storm Isaias. These carefully planned investments kept millions of people in the region with safe drinking water and reliable sanitation. Even as recently as this December when a nor'easter dumped several inches of rain on the state and our waterways surged, the investments we made enabled our teams to prepare our critical facilities for the worst, with the goal of sustaining operations for the millions of people who rely on us. This is a responsibility we take seriously, and it's the investments we are committed to making that help us continue to keep the water flowing for the people we serve. We must also constantly work to modernize our system. Nationwide, water system pipeline replacement rates are in the range of 0.45% per year, which translates to a replacement cycle of approximately 200 years. Mr. Shields describes how through heightened focus on this issue, we have significantly improved our pipeline replacement rate over the last few years, from near industry average levels in 2011 to a five-year average rate of 0.85% from 2018-2022 (latest full year available). In this regard, RPs are critical investments for both the Company and our customers as these investments support the backbone of NJAWC's water and wastewater systems by increasing both system resiliency and reliability.

[2] See https://www.epa.gov/waterresilience/awia-section-2013

14. Q. You mentioned that investments made also help the Company's employees to work more efficiently and productively. Please explain.

A. Mr. Shroba's testimony chronicles the many ways our investments have allowed us to work smarter and more efficiently. In the following section involving Water Efficiency, I will explain some of the ways capital spending is employed to allow our people to work smarter and more efficiently and discuss the various programs and initiatives we follow to maintain a safe and productive workplace.

15. Q. Is the Company seeking to recover its full employee compensation costs?

A. Yes, we are. There is approximately $13 million of the Company's market-based total compensation costs that historically has not been recognized in rates even though this practice is now well established in both the utility industry and other industries as well. Nevertheless, the Company must pay these costs to remain competitive in the job market in order to attract and retain skilled employees. The testimony of Messrs. Mustich and Shroba establish that New Jersey-American Water's market-based compensation is designed to keep the organization focused on delivering clean, safe, reliable and affordable service while increasing efficiency, decreasing waste, and boosting overall productivity. It is not appropriate to ignore the market based total compensation paid by the Company to its employees, which is in line with industry norms and is at, or below, the median for companies and utilities of similar size in the region with which NJAWC must compete to attract and retain a talented workforce. The Company's market-based total compensation is a manifestly just, reasonable and

prudent expense required to operate our business and it should be reflected fully in rates.

16. Q. Is the attraction and retention of dedicated and talented employees important to the Company's customers?

A. Yes, it is of critical importance. New Jersey-American Water has consistently been ranked by J.D. Power as being either the number one or number two highest rated in residential customer satisfaction for large Northeast water utilities.[3] Such an achievement is not possible without the efforts of dedicated and talented employees who focus on providing exceptional service and reliability to our customers. Instilling the drive for excellence exhibited by this recognition is a key objective of the Company's performance compensation philosophy and it translates directly into benefits to our customers.

17. Q. Is the Company requesting recovery for all its post-test year capital additions?

A. Yes. As demonstrated by Mr. Shields, the Company has a track record of delivering its planned capital investment consistently and in line with projections on a year-to-year basis. All these capital additions are important components of continuing to provide safe and reliable service to our customers. Because these investments will be completed by the time new rates go into effect or shortly thereafter, the Company should have the ability to recover its costs for these investments.

[3] https://www.jdpower.com/business/press-releases/2023-us-water-utility-residential-customer-satisfaction-study. New Jersey-American Water ranked only slightly below the municipally-owned New York City system.

18. Q. Is New Jersey-American Water proposing a Revenue Decoupling Mechanism ("RDM") in this case?

A. Yes, we are. Mr. Rea describes in his testimony the need for a revenue decoupling mechanism that will harmonize revenue actually collected with the revenue requirement and associated fixed costs approved by the Board in this case. Because approximately 67% of the Company's water service revenues will be collected through volumetric charges while approximately 95% of the Company's costs are fixed costs, which do not vary depending on how much water our customers use, if water sales are less than the levels used to set rates, the Company's revenues will be less than the authorized level in this proceeding. As a result, the Company's ability to recover the costs that the Board determines to be prudent will be diminished. The proposed RDM will improve the likelihood that the Company collects the revenue necessary to operate our system and make the investments needed to continue to provide safe and adequate service.

III. IMPROVING WATER EFFICIENCY

19. Q. Please explain the concept of water efficiency.

A. Water efficiency means using improved practices and technologies to deliver safe, reliable and adequate water service more effectively. The Company's water efficiency efforts include supply-side practices, such as reducing non-revenue water losses, using more efficient motors and pumps, pursuing purchasing economies and employing GIS technology, as well as demand-side strategies, such as rate design and public education programs. For example, the leak detection programs described in detail by Mr. Shroba

can reduce the amount of water, pressure, and energy required to deliver the same amount of water to consumers and the more efficient pumps and motors he describes reduce power costs; the expanded use of technology helps our crews to be more efficient in locating water and wastewater facilities and quickly access system and customer information on a real-time basis. Improving efficiency saves customers money in the long run, enhances the economy, and protects the environment.

20. Q. How is the concept of water efficiency relevant to this case?

A. Improving water efficiency requires achieving a cost-effective mix of prudent investments and improved operations and maintenance management capabilities targeting safety, customer satisfaction, environmental compliance, sustainability, asset performance and operational efficiency. New Jersey-American Water continually strives to develop and implement efficiency measures that deliver steady or improved levels of service to consumers while mitigating cost increases. As discussed in the Direct Testimony of witnesses Messrs. Shields and Shroba, the investments we are making to better serve our customers are primarily in non-revenue producing investments – replacing aging infrastructure, compliance with environmental regulations, and efficiency investments. Mr. Shields, for example, discusses how replacing inefficient equipment can reduce our energy costs. Mr. Shroba notes how the Company's use of GIS technology and MapCall makes our employees more efficient, also helping to contain costs and improve customer satisfaction. As we plan our investments, however, we know how important it is to balance the need for system improvements with what our customers pay for water and wastewater service.

Consequently, the Company continually strives to find more efficient and cost-effective ways to operate and maintain its business. Our intense focus on controlling expenses produces direct benefits to our customers.

21. Q. Can regulation support New Jersey-American Water's efforts to improve water efficiency?

A. Yes, it can. Our ratemaking proposals are intended to support efforts to improve water efficiency. As mentioned above and explained in the Direct Testimonies of Company Witnesses Shroba and Shields, NJAWC is requesting approval of new rates that reflect the Company's total market-based employee compensation costs and the recognition of its capital investment through the post test-year period. The Company's ratemaking proposals support the more efficient use of water, more effective maintenance of our system, and more efficient investment in our system.

Ultimately, it is our customers who will benefit because these ratemaking tools will: allow New Jersey-American Water to anticipate and plan for a consistency in regulatory oversight necessary to attract capital; properly match cost incurrence with cost recovery; support the Company's continued efforts to use market-based total compensation to drive efficiencies and improve our service to customers; and support more consistent planning and deployment of the most efficient resources. Removing barriers to improving efficiency and needed investment is also in our customers' interests because, over time, it reduces the cost of providing water and wastewater service to customers and promotes the sustainability of our natural resources.

22. Q. What is the Company's ultimate goal with regard to water efficiency?

A. Our goal is to provide quality water and wastewater services as efficiently as possible, and by doing so, to increase the value of the services that we provide our customers.

IV. VALUE OF WATER AND AFFORDABILITY

23. Q. In general, why is NJAWC's proposed rate increase reasonable and appropriate?

A. NJAWC's proposed rate increase is reasonable and appropriate because, as I previously discussed, it is driven primarily by the need to make the. investments necessary to keep our water and wastewater service safe and reliable. Such investments cannot be avoided indefinitely and are in the long-term best interests of our customers. If such investment is not made, our customers will be adversely impacted in the long run as costs will increase even more. For example, when mains are not replaced in a timely fashion, or equipment neglected, our costs rise, as unanticipated main breaks create water quality issues, unexpected expenses, and disruption to our communities. Similarly, equipment in need of replacement makes workers less efficient and can create safety issues.

24. Q. Have you evaluated the impact of your proposed rate increase on customers?

A. Yes, we have. As Ms. Hawn explains, under our proposal the water bill for the average customer using 5,640 gallons per month, would increase $11.30 from the current charge of $70.70 to $82.00, an increase of $0.38 per day. Even at the proposed rates, the cost for our water service remains a good value. Proposed water costs would approximate $2.73 per day, or only $.0145 per gallon for an average customer.

25. Q. Has the Company performed a more in-depth analysis of the affordability of service under the proposed rates?

A. Yes. Mr. Rea has conducted a detailed analysis of the affordability of our historical and proposed rates demonstrating that the proposed rate increase has not adversely affected the range of affordability of our service over the past decade. Mr. Rea relates the median household income ("MHI") in our service territory to our utility bills over time. Even with the rate increases necessitated to continue to provide safe, reliable and efficient service over the long term, Mr. Rea demonstrates that our water and wastewater service remains affordable to the vast majority of our customers. His testimony demonstrates that, even with the proposed increase, New Jersey-American Water's services are, and remain, affordable for most of our customers as our water rates have held steady in the bill to income ("BTI") range of 0.6%-0.8% of MHI since 2012 and are expected to be 0.71% under the Company's proposed rates. The BTI percentage under our rate proposal is well below the 2.0-2.5% range of a BTI ratio that is generally considered "affordable." The data similarly shows that the BTI Ratios for the Company's wastewater customers have come down from 2021 levels and have held steady from 2019 to 2023 between 0.7% and 0.8% of MHI. The BTI Ratio at the median income level is expected to be 0.77% under the Company's proposed rates in this case.

26. Q. Is this trend in affordability reflective of the value of service that NJAWC's customers enjoy from the Company?

A. Yes. This trend in affordability is a result of the long-term investment and management practices of the Company and is a positive reflection of the fact that the investment strategies the Company has undertaken over time and the way that the Company has proactively managed the system is in the long-term best interests of our customers. As Mr. Shields explains, the Company has or will invest over $1.3 billion since its last base rate case. Nevertheless, the Company's service has remained affordable, largely due to the Company's ability to manage its O&M expense and its targeted and timely infrastructure investments. . The combination of proactive investment, steady O&M, and strong and improving affordability demonstrates that the Company's management of the business and investment in the business delivers a high-value service to customers at affordable rates, which is in the long-term best interest of our customers.

27. Q. How does New Jersey-American Water maintain the affordability of its water and wastewater services?

A. An important way that we maintain affordability is by continuously seeking to improve our business processes and making investments that improve operational efficiencies, and we have been very successful in doing so, as witnessed by the cost containment in O&M expenses discussed previously. As Mr. Shields and Mr. Shroba explain in their testimony, we use targeted investments to permit us to work smarter and more efficiently and leverage the power of our organization both to share learning on best practices and to purchase equipment and supplies at advantageous terms. All of these help us manage and contain cost increases.

28. Q. What else is New Jersey-American Water doing to maintain the affordability of its services for its customers?

A. In addition to delivering our services in the most efficient, cost-effective ways to benefit all of our customers, New Jersey-American Water also offers several targeted customer assistance programs to help our most vulnerable customers. As Mr. Rea discusses in his Direct Testimony, the Company currently has a low-income discount tariff for water and wastewater service. Through this program, the Company provides a discount to the customer's monthly bill which is set equal to the customer's applicable water Fixed Service Charge. If the customer is also provided wastewater service by the Company, the customer is also eligible for a wastewater service discount equal to the water service discount amount, in an amount not to exceed the wastewater service charge. In this filing, the Company is proposing a Universal Affordability Tariff for water service that includes multiple tiers of discounts based on different levels of household income stated as multiples of the federal poverty level ("FPL"). The tariff offers discounts on both the basic 5/8" meter charge and the volumetric charges for water service and would offer discounts on fixed and volumetric charges for wastewater service. As explained by Mr. Rea, the Company's proposed tiered discounts under this tariff will provide customers at each interval of FPL the opportunity to have "basic water and/or wastewater service" (i.e., service that is necessary and reasonable to meet basic household needs for drinking, cooking, cleaning, sanitation, and general health requirements and that does not include seasonal discretionary water use) under 2% of household income.

The Company also makes programs available to customers that attenuate the impact of rate increases on them, contributing to the affordability of our rates. NJAWC's residential customers have the option of paying bills under the Company's budget billing plan, and the Company offers its customers flexible payment arrangements through installment agreements if they are financially unable to pay a past due water service bill. NJAWC also assists customers who are experiencing financial hardship through the Company's Help to Others ("H2O") Program. The H2O Program is available to customers with an annual income at or below 300% of the federal poverty guidelines and is composed of two main components: grants and a discount on the service charge. The grant component is an emergency bill-paying assistance program funded by NJAWC's shareholders and donations from customers who want to help other customers in need. The service charge discount component, funded through rates, provides eligible customers up to a 100% discount on their monthly fixed service charge for water and is also available for our wastewater customers.

V. CUSTOMER COMMITMENT AND COMMUNITY INVOLVEMENT

29. Q. Please describe the Company's commitment to its customers.

A. Customers are a top priority for the Company. As I mentioned previously, our focus on customers is validated as New Jersey-American Water is consistently named Number One or Number Two in residential customer satisfaction for large, Northeast water utilities by J.D. Power. Whether it's helping to ensure their health and safety through the work we do and how we do it, striving to provide service in the most cost-effective manner possible over the long term, or undertaking key initiatives to better

serve them, customers are and will continue to be our key focus. This is evidenced throughout the testimony provided in this case.

30. Q. Does New Jersey-American Water play an active role in the communities that it serves?

A. Yes. New Jersey-American Water is a responsible corporate citizen and is known for its community involvement and volunteerism. Our management team encourages our employees and their families to be active volunteers in the communities we serve.

NJAWC believes that community investment starts with our employees. NJAWC values community service and we encourage our employees to be equally invested in the communities we serve through various charitable endeavors and volunteer activities. NJAWC gives back to the community by supporting innovative, environmental grant programs that improve, protect or restore drinking water supplies and surrounding watersheds. We believe in investing in innovative programs that align with our core business of water and wastewater service and are committed to working with community partners to develop sustainable solutions to local environmental issues. As an organization, NJAWC focuses community giving in four key areas: (1) water and the environment; (2) water and healthy living; (3) environmental education; and (4) community sustainability. In 2022,[4] we provided more than $1.52 million to communities through general charitable contributions, grants, sponsorships and

[4] 2022 is the most recent year for which the Company has a full year's information on the generosity of our employees. Information for 2023 will not be available until early Spring 2024.

programming support to more than 80 organizations. The following is an overview of the activities the Company and its employees' support:

- Each September, our employees participate in our AmerICANs in Action Month of Service – helping neighbors, participating in different community volunteer projects and providing hours of volunteer service to local community-based organizations in need of assistance. In 2022, our employees spent 2,780 hours volunteering their time with local community organizations, not just in September, but throughout the year.
- Through the American Water Charitable Foundation (the "Foundation"), NJAWC and American Water support employees in their own charitable endeavors, provide support for targeted disaster relief efforts and provide funding for higher level initiatives related to clean water, conservation, education and sustainability. The Foundation donated more than $260,000 through the Employee Volunteer and Matching Gift and Building Better Communities programs in 2022 – and continues to make a difference every day. Since 2012, the American Water Charitable Foundation has matched over $2.1 million to public charities that are important to our employees. This includes more than 46,000 hours of volunteer time; and
- During the last ten years, American Water and its employees have donated $4 million to United Way efforts across the country.

31. Q. How else does the Company help support the communities it serves?

A. In 2021, New Jersey-American Water piloted a new workforce development program in partnership with the Camden non-profit Hopeworks. The concept of the new Water Utility Pipeline ("Water UP!") training program is to connect individuals from underserved communities we serve with transformative career opportunities in the water industry. We launched this 11-week program in Camden with eight young adults who learned job skills training through hands-on experiences with our employees in the field, as well as other business essentials. Since then, we have hosted two additional Water UP! Cohorts – one in Plainfield in 2022 and one in Lawnside in 2023. The most recent program was held in partnership with Rowan College of South Jersey and funded by a grant from the New Jersey Governor's Office of Climate Action, the Green Economy & the New Jersey Department of Environmental Protection's the Building our Resilient, Inclusive, and Diverse Green Economy (BRIDGE) Initiative.

The goal is to create a career path for the participants to qualify for entry level utility jobs, with the potential of career placement at the end of the program either within New Jersey-American Water, another American Water subsidiary, or with another company that does business in the utility space. To date, 30 adults have graduated from the program. We plan to continue hosting this training program, as well as others, in additional communities where we operate, to continue to create opportunities for young people and to help build a future pipeline of water utility workers.

32. Q. In what other activities has New Jersey-American Water partnered with the communities it serves?

NEW JERSEY-AMERICAN WATER COMPANY, INC.

A. Through community giving, in-kind donations, partnerships and volunteering, NJAWC demonstrates our commitment to programs that address community-specific needs. We work with a number of community-based partners throughout our service areas to positively impact the overall quality of life where our employees, customers and neighbors live and work. It takes more than a one-time grant or volunteer effort to make a lasting difference – so we seek out and support organizations that understand how to best meet the needs of the community.

A few examples of how we take an active part in the communities we serve include:

- Environmental Grant Program: Providing grants of $1,000 to $10,000 for community-based projects that improve, restore and protect our source water and surrounding watersheds.
- Speakers' Bureau: Offering our water industry experts to speak at conferences, industry events, organizations and schools, with presentations on the water and wastewater treatment process, source water protection, conservation, and careers in the water and wastewater industry, which can be tailored for audiences of all ages. Our education outreach also includes tours of our treatment facilities for middle and high school students in our service areas, to educate them about the science of water treatment and careers in the industry.
- First Responder Grant Program: Providing grants of up to $2,000 each to assist volunteer emergency service organizations in our service areas with the purchase of protective gear, lifesaving equipment, tools, training and related

activities/materials to support volunteer firefighter and emergency responder operations.

- Community Events: Contributing to community events, activities and organizations that benefit the growth, sustainability, and protection of our service areas, either through small sponsorships or monetary donations, a visit from our H2O On the Go Water Education Van, and/or hosting a table with information for customers.
- Inclusion, Diversity & Equity Grant Program: Offered for the first time in 2023, the ID&E Grant Program provides funding of $2,500 to nonprofit organizations seeking to develop and implement programs, training and community-related projects that aim to promote and foster inclusion and diversity in communities we serve. This program is funded by the American Water Charitable Foundation as part of its State Strategic Grant Program.

33. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Thomas Shroba

January 19, 2024

Exhibit P-4

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

Page

NEW JERSEY-AMERICAN WATER COMPANY, INC.

I. INTRODUCTION

1. Q. Please state your name and business address.

A. My name is Thomas Shroba. My business address is 1 Water Street, Camden, NJ 08102.

2. Q. By whom are you employed and in what capacity?

A. I am employed by New Jersey-American Water Company, Inc. ("New Jersey-American Water", "NJAWC", or the "Company") as Vice President of Operations.

3. Q. What are your responsibilities in this position?

A. As Vice President of Operations, I am responsible for leading New Jersey-American Water's operations (production, distribution, field services, construction), water quality/environmental compliance, operational risk management (safety), and business performance (collectively, "Operations") functions. I lead the Company's Operations team by providing goals and directions that strive to increase cost effectiveness, performance, customer service and service quality.

4. Q. Please describe your educational background and business experience.

A. Please refer to Appendix A for a summary of my educational background and business experience.

5. Q. Have you previously testified in regulatory proceedings?

A. Yes, I submitted direct and rebuttal testimony for New Jersey-American Water in BPU Docket Nos. WR17090985, WR19121516, and WR22010019.

6. Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to provide an overview of New Jersey-American Water's operations and discuss our commitment to water quality and environmental compliance, health and safety, and customer service, and our continuing efforts to improve water efficiency. My testimony also supports the Company's proposed staffing levels and explains our compensation philosophy.

II. OVERVIEW OF OPERATIONS AND FACILITIES

7. Q. As Vice President of Operations, are you generally familiar with New Jersey-American Water's operations and the facilities and property that the Company maintains to serve customers?

A. Yes.

8. Q. Please describe New Jersey-American Water's operations.

A. NJAWC is the state's largest water utility. As of December 31, 2023, NJAWC provides service to approximately 668,000 water and fire service customers and 64,200 wastewater service customers in approximately 200 communities in 18 counties throughout the State of New Jersey.[1] The tan, green, red and orange shaded areas in the service area map attached as Schedule TS-1 represent the

[1] NJAWC also provides water to 30 additional communities through bulk purchase water agreements.

franchise territory served by NJAWC. New Jersey-American Water's customers are served by field operations employees who report to eight operations centers located in Short Hills, Shrewsbury, Egg Harbor Township, Lawnside, Plainfield, Belle Mead, Howell, and Washington (Warren County). The operations center locations are also shown on Schedule TS-1. The operations centers are organized into four geographically based management areas (Regions). Also included on Schedule TS-1 are the regulated wastewater systems owned by NJAWC.

In addition to providing direct water and wastewater service to its customers, NJAWC also provides regional water supply and "sale for resale" water service to approximately 47 other entities throughout the state. The areas shaded in grey shown on Schedule TS-1 are served by NJAWC through bulk purchase water agreements. The Company has been, and will continue to be, committed to providing regional water supply solutions that are consistent with sound business planning and the water needs identified and coordinated through state and local planning efforts.

9. Q. Please provide an overview of the water assets and facilities of the Company, including sources of water supply, treatment facilities, pumping equipment and distribution system property.

A. NJAWC currently owns, operates, and provides service through thirty-two (32) separate public community water systems in the areas previously described. Each of the water systems includes its own source of supply, production, treatment, storage and distribution facilities. The Company operates seven surface water

treatment plants, 121 groundwater production and treatment facilities, and five raw water reservoirs with a combined capacity of 6.2 billion gallons. The average water production budget for 2022 was 287 million gallons per day ("MGD"). Within the NJAWC operations structure, the Production Department is responsible for the operations and maintenance of the sources of supply, reservoirs, treatment plants and treated water storage facilities.

In addition to these Company-owned surface water and groundwater sources of supply, NJAWC also purchases both raw water and finished (treated) water from several other water suppliers including, but not limited to the following: the Passaic Valley Water Commission ("PVWC"); the Morris County Municipal Utilities Authority ("MCMUA"); the Montclair Water Bureau; the New Jersey Water Supply Authority ("NJWSA"); and the City of Newark. The Company has 89 emergency interconnections with neighboring water purveyors to enhance reliability of NJAWC and other water systems.

10. Q. Please provide an overview of the Company's wastewater assets and facilities.

A. NJAWC currently owns and operates 29 wastewater collection systems, 22 of which also have wastewater treatment facilities. These wastewater treatment facilities incorporate membrane, sequence batch reactor or conventional activated sludge treatment technologies. 10 of the collection systems -- Lakewood, Howell (Adelphia section), Ocean City, Washington Borough (Port Colden Mall), Haddonfield, Elk Township, Egg Harbor City, Somerville Borough , Bound Brook Borough and Mt. Ephraim -- convey collected wastewater to regional wastewater

treatment facilities owned and operated by the Ocean County Utilities Authority, the Cape May County Municipal Utilities Authority, the Washington Borough Municipal Utilities Authority, the Raritan Valley Sewage authority and the Camden County Municipal Utilities Authority, respectively. A statewide wastewater management team is responsible for the remaining 22 wastewater collection and treatment systems.

11. Q. How does NJAWC manage the operations and maintenance of its water and wastewater systems?

A. Field Operations is responsible for operating and maintaining transmission and distribution assets, utility service lines, fire services, metering facilities and wastewater collection assets. In addition, Field Operations provides field-level service to customers including meter reading, service requests, and field-related collections activities. Finally, Field Operations works with the Engineering Department and new customers to provide new and replacement services and to coordinate the construction of certain new and replacement or rehabilitated distribution and wastewater collection assets.

12. Q. Please describe the work performed by the Company's Customer and Operations Support group.

A. NJAWC Operations also include a Customer and Operations Support group that is based out of our Howell, New Jersey office. This team has several responsibilities including the following: operational performance reporting, management of customer inquiries and complaints, and liaison for the Board of Public Utilities

("Board" or "BPU") contacts; special billing and collections coordination; customer service processes; employee skills training; state project management; fleet services; and liaison with the American Water national customer service center.

13. Q. Please explain Operations' role in promoting safety and a safe working environment at NJAWC.

A. Operations is responsible for administering the health and safety program, which includes the delivery of all Occupational Safety and Health Administration ("OSHA") required training, skills training and qualification of employees, physical security, cyber security, business continuity planning, and event management. We are supported by functional departments within American Water Works Service Company, Inc. ("Service Company"), such as Health & Safety, Learning & Development, Security, and Human Resources, to deliver core operations services. Safety and security metrics are tracked and reviewed monthly.

III. COMMITMENT TO WATER QUALITY AND ENVIRONMENTAL COMPLIANCE

14. Q. Please describe New Jersey-American Water's overall commitment to water quality and environmental compliance.

A. We are acutely aware that water is the only utility intended for customers to ingest, and that our customers rely on NJAWC to provide them with safe and reliable water and wastewater services. Water quality is of paramount importance to the health and well-being of our customers. Beyond health and safety, we know that

NJAWC's customers are also interested in the aesthetic qualities of the water we treat and deliver to them. We proactively look for ways to optimize treatment capabilities to continue to improve the overall quality of drinking water delivered to our customers and do so in a way that strives to create operational efficiencies that also benefit our customers. The Company's Water Quality and Environmental Compliance program is designed to support New Jersey-American Water's compliance with all drinking water quality, pollutant discharge elimination, residuals management, air pollution and hazardous materials laws and regulations.

15. Q. What specific environmental laws or regulations affect New Jersey-American Water?

A. New Jersey-American Water's operations are subject to approximately 12 major state and federal public health and environmental laws, the conformance with which is handled by the Company's Water Quality and Environmental Compliance ("WQ/EC") team. Those 12 major regulatory schemes are: (1) the federal Safe Drinking Water Act and its implementing regulations; (2) the New Jersey Safe Drinking Water Act and its implementing regulations; (3) the federal Clean Water Act and its implementing regulations; (4) the New Jersey Department of Environmental Protection ("NJDEP") Release Protection Program; (5) the federal Clean Air Act and its implementing regulations; (6) the Water Quality Accountability Act ("WQAA"); (7) the New Jersey lead service line replacement act, (8) the New Jersey Safe Dam Act; (9) the Delaware River Basin Commission regulations; (10) the New Jersey Solid and Hazardous Waste rules; (11) the federal

Resource Conservation and Recovery Act ("RCRA") and its implementing regulations; and (12) the federal Emergency Planning and Community Right-To-Know Act ("EPCRA"). NJAWC's Operations are also subject to other environmental laws, such as land use regulations, Green Acres, and the Highlands Water Protection and Planning Act.

16. Q. When the federal government has not pre-empted the field, does compliance with the federal law suffice for compliance with New Jersey law?

A. No, I am advised it does not. While there is some overlap between the state programs and federal requirements, state and local statutes and regulations can be more restrictive. New Jersey has: (1) more stringent diesel vehicle regulations than the federal Clean Air Act; (2) more stringent diesel backup generator requirements than federal regulations; (3) lower threshold quantities for hazardous materials and petroleum storage regulations; and (4) more stringent regulated drinking water contaminant standards.[2] For example, federal regulations currently set a maximum contaminant level ("MCL") for arsenic in drinking water of 10 ug/L (micrograms per liter, or parts per billion); however, the NJDEP MCL is 5 micrograms per liter, giving New Jersey the most protective arsenic drinking water standard in the nation. New Jersey also became the first state to create a binding standard for a perfluorinated compound, PFNA, setting a drinking water limit of 13 parts per trillion ("ppt"). The NJDEP was also at the forefront of per- and

[2] NJDEP has also implemented more stringent health advisory levels than the EPA for 17 volatile organic chemicals ("VOCs").

polyfluouralkyl substance drinking water standards, which at the time were the most stringent PFAS drinking water requirements in the United States. Another example is the Drinking Water Quality Institute's Final Recommendation for establishment of a 1,4-dioxane MCL equal to 0.33 parts per billion. Prior to NJDEP's official recognition of the recommended standard, NJAWC installed treatment to address this emerging compound. Installing an Advanced Oxidation Process at treatment facilities such as the Delaware River Regional Water Treatment Plant ("DRRWTP") will continue to protect public health well before regulations require routine monitoring for 1,4-dioxane.

A significant amount of work performed by the WQ/EC Team is ensuring that NJAWC keeps current with these more stringent requirements, and then designing and implementing compliance programs that minimize duplicative efforts while maintaining compliance with both the federal and state requirements. While there is little duplication in reporting requirements – typically a state agency is the primary enforcement agency for the major federal environmental laws – our operations are so pervasively regulated that the Company filed or prepared thousands of reports or other regulatory filings in 2023 to comply with the 12 different regulatory schemes outlined previously.

17. Q. Please describe New Jersey-American Water's water quality testing program under the Safe Drinking Water Act.

A. NJAWC routinely tests water in all of its Company-owned public water systems to determine if it is meeting the standards established by the federal and state

regulatory authorities. Our drinking water is tested both before and after treatment to confirm that it satisfies all chemical and bacteriological criteria. To help protect the public health, we have multiple barriers in the treatment process to help prevent contamination from reaching our customers. We test for the presence of synthetic organic chemicals, inorganic chemicals, VOCs, radionuclides, bacteria, disinfection byproducts, and all other contaminants that the regulators require us to monitor, at the frequency prescribed by the federal and state regulations and report the results of this testing to the NJDEP on a monthly, quarterly, annual, triennial, sexennial and novennial basis, in accordance with the regulations. In addition, we work with our customers to collect and analyze samples for compliance with the Lead and Copper Rule, as well as participate in the federal Unregulated Contaminant Monitoring Rule programs.

In 2022, New Jersey-American Water collected more than 50,000 water chemistry and routine bacteriological samples. Many additional samples are taken to assess process effectiveness, support pilot treatment studies, and monitor emerging contaminant threats. We also collect other bacteriological samples as needed in response to main breaks and similar emergencies. All four regions have a WQ/EC Lead who: (1) reviews regulatory documents and sampling history to determine the need and schedule for collecting specific samples; (2) coordinates with operators to verify wells and treatment plants are available for sampling based on maintenance and seasonal operating conditions, and then reconcile availability to the regulatory schedule; (3) orders sampling kits from our laboratories and prepares those kits for

operators to use in the field; (4) tracks the collection of samples by operators, the delivery of kits to laboratories, the analysis of the sample by the laboratory, and the receipt of laboratory results; (5) reviews laboratory results for compliance issues, then prepares the data for reporting to regulatory agencies; and (6) both the WQ/EC supervisor and licensed operator complete and submit an internal compliance certification form monthly to audit all regulatory sample requirements.

18. Q. Is water quality sampling the only task required to comply with the New Jersey and federal Safe Drinking Water Acts?

A. No. NJDEP also issues permits for each drinking water system, some of which contain other conditions relating to the operation of and recordkeeping for treatment plants and other facilities. The WQ/EC Team, in cooperation with Operations, works to ensure the Company is complying with those requirements and reports on our compliance as needed. In addition, there are various physical standards our facilities must meet. The WQ/EC Team inspects our facilities to confirm these physical standards are being met. The WQ/EC Team also coordinates with NJDEP to obtain regulatory approvals for the addition of new tanks, treatment plants and other facilities, or variances from approved treatment processes. The WQ/EC Team also oversees implementation of the Cross Connection Control Program to help avoid substances of an unknown quality being introduced into the distribution system by conditions on our customers' premises. Finally, the WQ/EC Team tracks the required levels of operator certifications necessary to comply with drinking

water regulations and coordinate with operations management to ensure we have proper operator staffing for our facilities.

19. Q. What new or pending environmental laws or regulations affect New Jersey-American Water?

A. In July 2021, P.L.2021, Ch.183 came into effect requiring water systems in New Jersey to identify all lead service lines[3], provide public notification regarding the presence of all lead service lines, and replace all lead service lines by 2031. This added to the teams' tracking and reporting efforts. In December 2021, the United States Environmental Protection Agency ("USEPA") finalized the Lead and Copper Rule Revisions,[4] which strengthens monitoring and standards for water systems with additional sampling and reporting requirements. NJDEP is also in the process of developing New Jersey specific requirements for the control of lead and copper, which would increase lead and copper monitoring and sampling, corrosion control, water quality parameter monitoring and treatment, source water monitoring and treatment, and public education. On March 14, 2023, the USEPA announced its proposal to develop National Primary Drinking Water Standards for 6 per- and polyfluoroalkyl substances ("PFAS"). Under this proposal, the USEPA would establish Maximum Contaminant Levels (MCLs) for PFOA and PFOS, as well as a combined Hazard Index for PFNA, PFBS, GenX, and PFHxS. On March 28,

[3] The legislation defines "lead service line" to include galvanized service lines.
[4] The USEPA has also recently issued the Lead and Copper Rule Improvements Draft as of December 6, 2023, the requirements of which the Company is still evaluating. *See* https://www.epa.gov/ground-water-and-drinking-water/proposed-lead-and-copper-rule-improvements

2023, the USEPA announced a Notice of Proposed Rulemaking that would strengthen the Consumer Confidence Report ("CCR") Rule. While the proposed rule changes are needed to help increase readability, understandability, and clarity of the reports, it also proposed to require systems serving 10,000 or more consumers to provide the reports biannually.

The ongoing regulatory changes have already added to the existing WQ/EC teams' and contractor workload. Compliance with the new regulations will continue to add to the workload moving forward. NJAWC continues to track and assess the workload to help ensure the WQ/EC Team is appropriately staffed and contractor resources are being utilized.

20. Q. Please describe NJAWC's program to comply with the National Pollutant Discharge Elimination System ("NPDES") with regard to its wastewater operations.

A. In New Jersey, the USEPA has delegated authority to issue NPDES permits ("NJPDES" permits when issued by New Jersey) to the New Jersey Department of Environmental Protection. NJAWC may partner with a contractor to: complete and submit NJPDES Permit Renewals or Modification Forms, and monthly Discharge Monitoring Reports ("DMR"), as required by each facility NPDES permit; collect, submit and oversee regulatory sample testing by an outside (third-party) laboratory for those samples required under each facility NPDES permit, but for which the local operations team is not certified to perform; and notify the NJDEP Hotline for

any event which violates, or could potentially violate, the facility's NPDES permit or applicable law.

21. Q. Is the effluent from New Jersey-American Water's wastewater operations regulated?

A. Yes, effluent from our wastewater operations is regulated under NJPDEP regulations. We monitor treated wastewater (effluent) prior to its discharge. Through a combination of physical, chemical, and biological treatment processes, the regulated constituents are removed or reduced to acceptable levels, and then discharged into the ground or appropriate waterway.

22. Q. Please describe how New Jersey-American Water manages compliance with applicable environmental laws and regulations.

A. The cornerstone of NJAWC's Water Quality and Environmental Compliance program are Environmental Management Plans ("EMPs"). An EMP is a compliance matrix that identifies a regulatory requirement, specifies the person responsible for NJAWC's compliance with that requirement, and contains information on the means the Company is using to achieve compliance. EMP reviews are conducted each quarter to ensure the information remains current. The EMPs contain the requirements for the regulatory schemes outlined previously, including specific permit conditions that regulators impose on individual equipment and facilities as well as general regulatory requirements.

23. Q. How else does New Jersey-American Water manage compliance with applicable environmental laws and regulations?

A. The Company uses a laboratory information management system ("LIMS") for managing some of the water quality data and sample reporting requirements. The LIMS sample scheduling feature provides a tool to streamline thousands of water sample tests annually and ensures that the results are tracked and reported as required by the environmental regulators. In addition, NJAWC uses MapCall, an internally-built product, to manage bacteriological sample collection, as well as other NJDEP, USEPA, and OSHA requirements, such as environmental permits, incidents, training, and lead and copper site requirements and forms. MapCall is accessible by mobile device, so samples can be collected in the field, permits can be referenced from a remote station, and any other documentation or training document can be pulled up at the time the work is being performed. Sample1View manages the scheduling, collection, analysis and reporting of bacteriological samples from utility-operated laboratories. Sample1View provides a combined view and reporting capability for bacteriological samples and the data from the LIMS system for a single view of compliance samples for a user-defined monitoring period. LIMS pre-populates state reports to enable all samples to be tracked from collection to upload in an Excel-based report. Together, these systems confirm all required samples are completed and submitted each month to help ensure environmental compliance.

24. Q. Please explain how these software systems can be used to support the Company's WQ/EC program.

A. The WQ/EC Team currently utilizes standard spreadsheet programs to track, analyze, and report the voluminous amount of data generated by the Company's operations. The amount of data the Company needs to collect grows as new regulatory requirements are added, such as for PFAS, and the additional rules the NJDEP has for cross-connection controls and the Lead and Copper rule ("LCR"). In addition, most of the regulatory schemes require NJAWC to maintain the data we collect and the reports we submit for 3 to 5 years.

The use of software systems such as LIMS, MapCall and Sample1View reduces the manual re-entry of data collected on paper forms or otherwise generated from diverse sources. They also consolidate the information into structured databases with querying and reporting tools, instead of managing it in multiple separate spreadsheets. This allows for better data analysis, which in turn supports better decision making in compliance and operating matters and makes mandatory reporting more efficient.

25. Q. Please describe NJAWC's program to manage cross connections.

A. In 2020 NJAWC enhanced its cross connection program. The enhanced cross connection program will help the Company protect its water systems and customers from the accidental introduction of contaminants by implementing a proactive program to help prevent water backflow into our networks. The NJAWC Cross Connection Control Program helps identify customers that pose an elevated risk to

distribution system water quality due to industrial or commercial use or who maintain an unapproved water supply pursuant to N.J.A.C. 7:10-10.2. In coordination with the NJDEP Physical Connection Permit Program, NJAWC's program helps ensure that the appropriate backflow prevention device is installed and tested at the appropriate frequency. The program leverages record reviews of water use surveys, plumbing sub-code permit information, State and County Well Permit data, and physical inspections to identify, prioritize and mitigate risk from the potential backflow of water from a service connection to the distribution system.

26. Q. Please describe NJAWC's efforts to protect and monitor source water.

A. NJAWC has established Source Water Protection Plans ("SWPPs"). Water Quality, Engineering, and Production teams at all surface water treatment facilities reviewed and added potential sources of significant contamination and prioritized land-, water- and transportation-based risks. Mitigation strategies were identified and assigned in the SWPPs. The plans are reviewed and updated annually, as needed. The SWPPs represent a proactive approach to lessening the likelihood and/or consequence of a source water contamination event across all regional operations and prescribe the actions to be taken if a contamination event is expected or observed.

IV. COMMITMENT TO SAFETY

27. Q. Please describe NJAWC's overall commitment to safety.

A. Protecting the health and safety of our employees and customers and the quality of the water we deliver is the top priority for our Company and is critical to our

success. Our co-workers', contractors', and customers' safety is of vital importance, and we focus on it every day. Our goal is to have every NJAWC employee get home in the same or better condition as when they came to work.

With the safety of our employees, customers, contractors, and the public in mind, we approach safety with a focus on continuous improvement through the implementation of proactive initiatives, plans, practices, and processes that complement and sustain a robust workplace safety program.

New Jersey-American Water is also committed to securing assets across our system and recognizes the importance of protecting our water sources, treatment plants, infrastructure, and data from malevolent acts, as demonstrated by our robust security and cyber security programs. In addition, the Company's emergency response program demonstrates New Jersey-American Water's recognition that rapid response and recovery from security incidents are critical to maintaining the water and wastewater systems.

28. Q. Is safety relevant to operational performance?

A. Yes. The Company considers safety to be a core value, as well as a strategy. We ask our employees to place safety first in everything they do. We have a strong commitment to our employees (and their families) to keep them, our customers and the public safe. A safe workplace increases employee morale, increases our commitment to one another, and, in the long run, makes for a more engaged and productive workforce.

A. New Jersey-American Water's Safety Approach, Plans and Programs

29. Q. Please describe NJAWC's safety program.

A. The Company's safety program includes multiple activities and initiatives to maintain compliance, support employee engagement, and help ensure the safety of our workforce, our customers, and the public. The Operations Leadership Team holds biweekly safety meetings to discuss ongoing programs and the progress of initiatives. Some of the ongoing programs include:

- Peer-to-Peer Safety Observations (BAPP Teams)
- Employee Injury Review Meetings
- Pre-Job Safety Briefing completion prior to every job
- NovaCare Employee Care Program
- OSHA compliance and NJAWC required Training
- Supervisor Jobsite and Facility Inspections and Feedback
- Near miss, incident investigations
- Certified Safe Worker Program
- Stop Work Authority
- Utility Mechanic, Field Service Representative, Foreman, Construction Inspector, Operator, and Maintenance Mechanic Training
- Fleet meetings which include vehicle safety items and design reviews for new vehicles
- Accident Prevention Committee meetings

30. Q. How does NJAWC investigate injuries to help prevent future incidents?

A. For incident investigations, New Jersey-American Water utilizes a "5-Why" investigation process coupled with an enterprise-wide online tool called TapRoot®

for more significant incidents. TapRoot is a systematic process for identifying root causes of safety incidents. The 5-Why investigations must be completed within 72 hours for every injury no matter how minor, vehicle incidents, and selected near misses. A TapRoot must be completed within seven days for all OSHA recordable injuries and SIF (serious injury/fatality) potential incidents. TapRoot is also used to investigate and identify the root causes of major accidents, everyday incidents, minor near-misses, quality issues, human errors, maintenance problems, productivity issues, manufacturing mistakes, and environmental releases. The systematic TapRoot process is based on in-depth human factors and equipment reliability research. It is designed to help investigators maintain objectivity during their investigation.

The results of these investigations are then considered by the business to evaluate the incident and determine what safety process improvements may be appropriate going forward. American Water also maintains a security hotline that can be used to report a safety near miss or safety/security incident, request security system service, report or request an identification badge or report an operational event. Typically, near misses are submitted online through a link to MapCall. Employees have an 'app' on their phones that allows access in the field. They also have an option to send a text and photo to a centralized resource to enter into MapCall.

31. Q. How do you promote safety with your contractors?

A. NJAWC utilizes internal and external inspectors to help ensure our contractors are complying with all regulations and maintaining safe work environments. Our

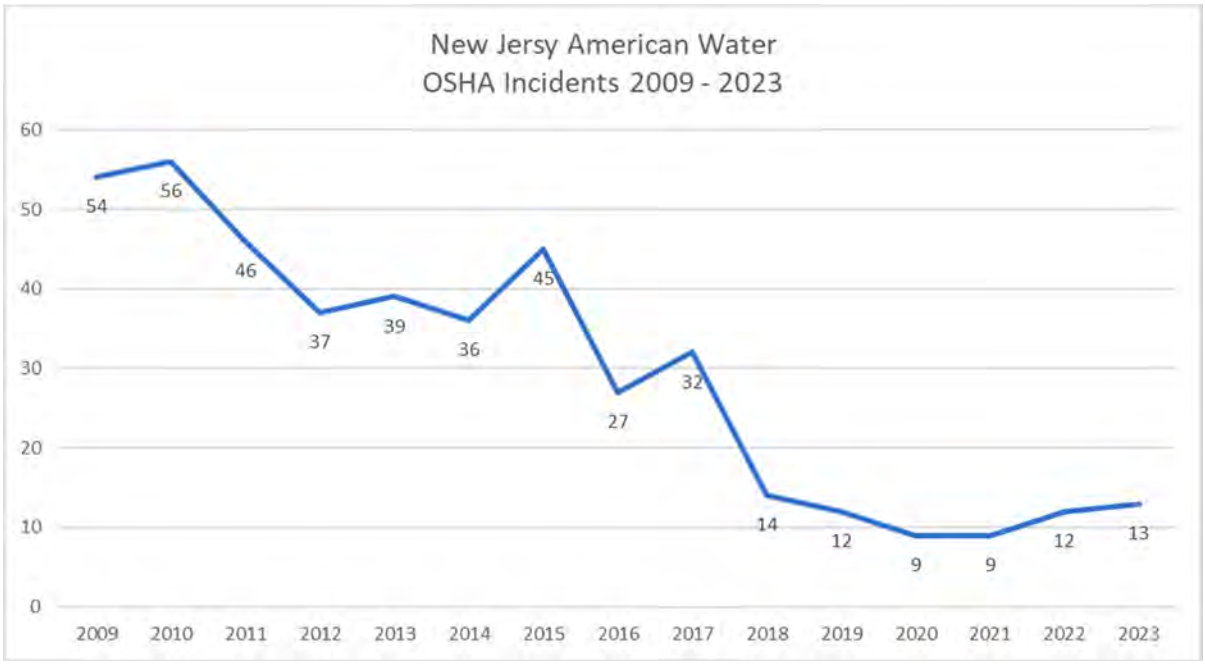
inspectors have extensive safety backgrounds and have been selected based on their safety expertise as well as their engineering knowledge. Annual meetings are held with all contractors to refresh them on NJAWC safety program requirements and introduce any new requirements added since the previous year.

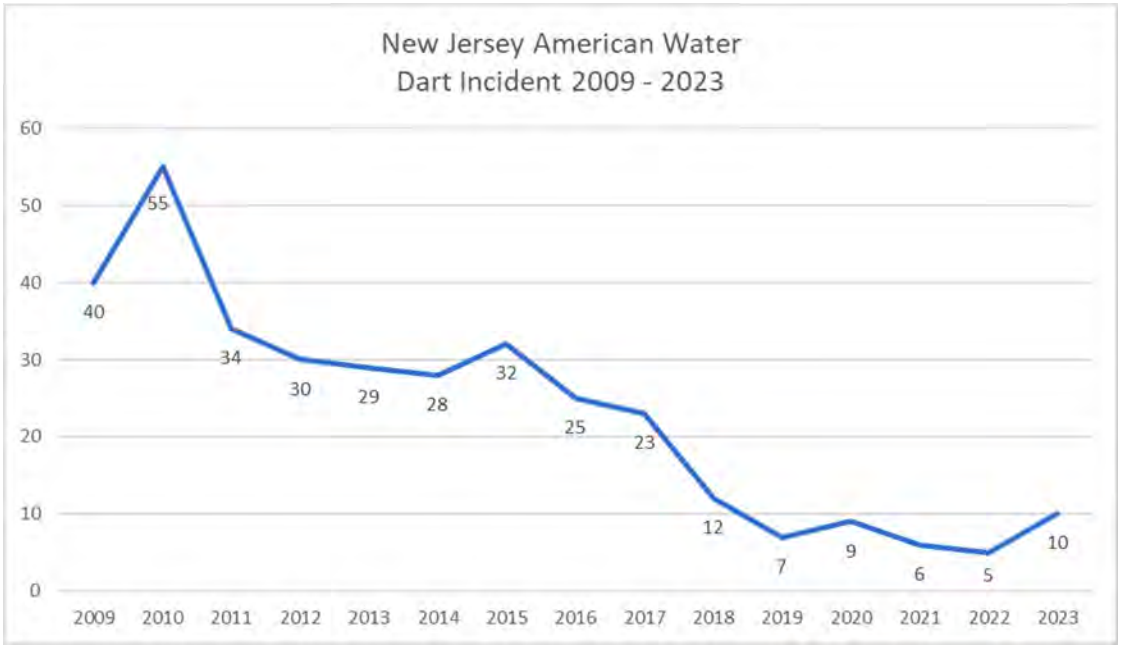
ISN is a safety prequalification program utilized by NJAWC for all contractors. Contractors must register with ISN and provide their safety documentation. ISN, with the oversight of NJAWC safety professionals, ensures contractors have all required programs and practices in place. Contractor safety includes everything from paperwork in the contractor's office to performance in the field. The ISN system helps manage New Jersey-American Water's risk and our contractors' performance by: having an ISN representative verify the contractors' data; centralizing contractor data into an easy-to-use, online database; providing contractor statistics on health, safety and environmental issues; giving contractors a personalized customer service representative to answer their questions and assist them through the process; and validating that regulatory forms and statistics are submitted properly and accurately.

32. Q. How have NJAWC's safety initiatives improved the Company's OSHA recordable injury rate?

A. New Jersey-American Water has experienced a reduction in OSHA recordable incidents since making safety a core value and strategy in 2009. As the tables below demonstrate, there has been dramatic improvement in both the OSHA recordable incident rate ("ORIR") and severity of the injuries (measured by the days away,

restricted or transferred ("DART") rate) since the implementation of our various programs and initiatives:





33. Q. Has NJAWC experienced a reduction in workers compensation claims due to the safety program and initiatives?

A. Yes, the number of claims has steadily decreased. For example, the Company has experienced 32 claims year-to-date in 2023, compared to the pre-pandemic years of 2018 and 2019 where the average number of claims was 46 claims per year.

34. Q. How do the safety programs benefit employees?

A. Employees receive direct benefits from strong safety, security, and emergency response programs. Training provides the employee with the ability to identify hazards; and incident and reporting processes allow employees to report and assist in identifying root cause and causal factors so actions can be taken to prevent accidents from occurring. The primary benefit to employees is reduction of risk of injury on the job. In addition, a safe workplace increases employee morale, increases our commitment to one another, and in the long run, makes for a more engaged and productive workforce.

35. Q. How do safety programs benefit customers?

A. Customers benefit because the Company, through strong health and safety programs, has enhanced productivity and decreased absenteeism. This means that crews operate with a full staff and can fix problems more quickly, reducing any service down time to the customer. In addition, a strong safety culture also reduces safety-related incidents, resulting in lower insurance and workers compensation costs.

36. Q. How do safety programs provide an overall public benefit?

A. The public benefits from NJAWC's safety and security programs because they help us provide safe water and wastewater services. Our safe operations and compliance with occupational safety regulations provide the public with the confidence that the Company operates in a safe and secure manner. In addition, NJAWC crews operate daily in public areas and must protect their worksites from hazards as well as help shield the public from exposure to these hazards.

B. Physical Security and Cybersecurity

37. Q. What is New Jersey-American Water doing to address physical security?

A. New Jersey-American Water has taken a comprehensive approach to addressing physical security. Physical security consists of cameras, badge readers and cyber keys that monitor situations and are programmed to limit access to secure areas, including offices, shops, well sites, and treatment, pump and lift stations. New Jersey-American Water uses standards from the American Water Works Association ("AWWA") and the American Society for Industrial Security ("ASIS"). The Company has strategically placed cameras at critical infrastructure, (e.g., tank and well sites) and secure work locations (e.g., offices and shops). Cameras are connected to a secure line that provides video output to the local operations control rooms and American Water's central security and reliability control room.

Identification badges are issued for the purpose of facility access control at New Jersey-American Water. NJAWC's policy limits access to all Company-owned and

leased property to authorized persons in the conduct of official activities as approved by the local management. All employees must wear and visibly display the identification badge while on any NJAWC property, while on Company business, and while representing the Company publicly or privately. Unauthorized entries are registered as an alarm that is received by the local operations control room and American Water's Integrated Operations Center.

Electronic lock technologies are integrated at several of the Company's largest districts, with plans to expand throughout NJAWC's operations. Keys and locks are programmable with access permissions for each key holder. In addition, a key can be assigned a start and end date, and depending on the work, it can be programmed to allow access to one set of locks from 8 a.m. to 6 p.m. on weekdays and to another set of locks only from 10 a.m. to 4 p.m. on weekends. Setting short-term expiration dates is an excellent way to minimize risk due to lost or stolen keys, and programmed access further ensures the security of our facilities.

38. Q. How is cybersecurity being addressed?

A. Cybersecurity technology solutions are vital to reliable and resilient water and wastewater systems. For that reason, cybersecurity is core to the American Water vision of resiliency and sustainability. As we continue to implement intelligent water and wastewater systems, we ensure that industry-leading cyber controls are designed, built and integrated into all aspects of the technology. These controls help protect our existing systems and enable the implementation of secure innovation.

Safeguarding the integrity of Company information and systems while enhancing the customer experience is our cybersecurity mission.

The Company's cybersecurity program is consistent with industry best practices, including the National Institute of Standards and Technology ("NIST") Cybersecurity Framework and the AWWA Process Control System Security Guidance for the Water Sector.

American Water has established a close working relationship with the New Jersey Cybersecurity and Communications Integration Cell and performs all required reporting in accordance with the Water Quality Accountability Act. The Company also participates with other utilities in monthly meetings with the BPU to discuss cybersecurity issues and to share intelligence and experiences with the Board.

C. Emergency Response

39. Q. Provide an overview of the Company's emergency response program.

A. Emergency response and recovery is a critical aspect in the operation of water and wastewater systems. NJAWC maintains response plans, agency and industry emergency contacts and attends public and industry specific conferences on emergency response and preparedness in order to continually enhance and sustain Company readiness for various types of emergencies. Integration of the various responders, communications, and flows of information during an emergency or natural disaster is critical. NJAWC follows the National Incident Management

System ("NIMS") and Incident Command System ("ICS") protocols and procedures.

40. Q. How does the American Water Operations Security team and the Integrated Operations Center support the Company's security programs?

A. American Water Operations Security supports the business in the overall management of physical and cyber security systems at facilities across the country. This includes developing procedures, guidelines and training related to our security systems and processes. Operations Security also conducts internal security reviews and partners with the federal Department of Homeland Security ("DHS") on external security assessments, using the results to develop improvement initiatives and further enhance security controls of company assets and systems. In addition, the Operations Security team provides technical support and guidance to identify potential security vulnerabilities and develop appropriate solutions.

Staffed 24 hours a day, seven days a week, the Integrated Operations Center ("IOC") located in the corporate office in Camden, New Jersey monitors security cameras, alarms and incoming calls. In addition, they have access to the electronic lock technologies and can view lock and key activity. The IOC also monitors American Water security and technology systems; continuously tracks weather alerts, security threats and intelligence; and serves as a key collaboration point for operations, leadership and functional teams.

The IOC also reviews safety and security situation reports that are entered online through the security portal, which can also be used to report safety near-miss activities, safety or injury incidents, and security incidents. Additionally, the IOC has an event information hotline that is used to provide key information about facility closing and other information when an event has been declared (e.g., hurricane, snow emergency).

The Company has access to Operational Security and the IOC for assistance in the response to and recovery from an emergency event and in restoring service as quickly as possible.

41. Q. How else does American Water support the Company's security efforts?

A. American Water has developed security awareness training for physical and cybersecurity risks, incident response and emergency preparedness. This training reinforces the shared responsibility for security with all employees, contractors and visitors, and supports a safe and secure work environment. Although the Company works hard to prevent incidents from happening, it must also be prepared for their occurrence. Preparedness exercises are a powerful way to bring solid planning and years of experience to bear on the new and diverse challenges we face. American Water has led dozens of preparedness exercises across the business, while also participating in regional and national level exercises with state and federal partners.

42. Q. How does New Jersey-American Water prepare for emergencies?

A. NJAWC has established a business continuity framework, bringing functional and operational teams together for the purpose of reducing risk and enhancing resiliency. As part of the framework, the Company has adopted the nationally recognized ICS, which enables unified emergency response and close, effective coordination with emergency management in the communities we serve.

Each NJAWC district maintains an emergency response plan utilizing the NJDEP format that is reviewed annually. The emergency response plan includes: mutual aid information and procedures; system descriptions; critical system components; event management process; security; incident command system; plan development, maintenance and training; actions plans for various emergency scenarios; emergency contact lists; emergency equipment lists; sampling protocol; and other site-specific data.

Emergency response drills are conducted annually and include large system outages, contamination events, natural disasters, cybersecurity events, and environmental spills. Drills are coordinated by Operations and include on-site mock drills, tabletop exercises and after-action reporting.

43. Q. How do customers benefit from the Company's emergency response program?

A. Emergency response planning is a process that helps the Company explore vulnerabilities, make improvements, and establish procedures to follow during an emergency. It also encourages strategic partnerships and knowledge sharing

between utilities and government agencies. Preparing and practicing a response plan can save lives, prevent illness, enhance system security, minimize property damage, and maximize the resiliency of the water and wastewater service we provide to our customers. The benefits of emergency response planning were fully realized during a chemical spill event on the Delaware River. A manufacturing plant in Bristol, Pennsylvania released a surfactant chemical into a tributary of the Delaware River that had potential to impact the approximately 130,000 customers served by New Jersey American Water's Delaware River Water Treatment Plant and other neighboring purveyors along the river. The Company enacted a business continuity plan and protocols to manage the event in coordination with NJDEP, PADEP, United States Coast Guard, Delaware River Basin Commission ("DRBC"), and several state and county emergency management organizations. New Jersey American Water sampled the river, treatment systems, and distribution system over more than a four-day period to ensure the continued delivery of safe drinking water that met or surpassed state and federal standards. Through the Company's emergency response planning, partnerships with government agencies, utilities, and suppliers, and investment in our water treatment plants, not a single customer was without water throughout the event.

V. OPERATING AND MAINTENANCE EXPENSE

44. Q. What level of O&M expense is the Company seeking in this case?

A. NJAWC is seeking recovery of approximately $263.7 million in O&M expense which represents annualized expense levels through the post-test year. As NJAWC

witness Hawn explains, the Company has managed to keep the rate of increases in O&M expense below that of inflation. For example, our O&M cost per customer was $298 in 2014. If that cost were increased at the rate of inflation, it would be $401 per customer in this proceeding rather than the proposed $358 per customer, or over $31 million more of annual O&M expense than that proposed by the Company in this case. This demonstrates that the Company has been successful in controlling its O&M costs per customer over the past decade or so and is continuing to do so. The requested increases in O&M expense over these periods supported the Company's efforts to continue providing high quality water and wastewater service in the most cost-effective way to our customers in the long-term.

45. Q. Why is the Company seeking an increase in O&M expense in this case?

A. The Company is requesting an increase in O&M expense in order to continue providing high quality water and wastewater service in the most cost-effective way to our customers over the long term. The Direct Testimony of NJAWC witness Michael McKeever discusses NJAWC's specific O&M pro forma adjustments in this case. The requested increase in O&M expense is driven by increases in employee related expenses, increases in the cost of insurance other than group insurance, and increases in our production costs. Our production costs include the chemicals we use to treat water, power, water diversion fees, and waste disposal. Some of the increases in costs for chemicals and waste disposal are driven by new water and wastewater contaminant standards. The increases in insurance and production costs are not unique to NJAWC but rather are national phenomena. As

discussed later in my testimony, NJAWC mitigates these increases by leveraging the buying power and expertise of the Service Company.

VI. IMPROVING WATER EFFICIENCY

46. Q. What is water efficiency?

A. In simple terms, water efficiency means using improved practices and technologies to deliver safe, reliable and adequate water service more effectively. NJAWC's water efficiency efforts cover a wide range and include supply-side practices, such as leak detection and our geographic information system ("GIS"), as well as demand-side strategies, such as rate design and public education programs. From an operations perspective, improving water efficiency requires operational excellence, which in turn entails achieving a cost-effective mix of prudent investments and improved operations and maintenance management capabilities targeting safety, customer satisfaction, environmental compliance, sustainability, asset performance and operational efficiency. Proactive investment in these improved capabilities improves efficiency in the delivery of water and wastewater service, thus mitigating cost increases in the long run and helping keep rates affordable.

47. Q. Please describe New Jersey-American Water's efforts to improve water efficiency.

A. The Company strives to improve water efficiency through operational excellence, the use of technology, system maintenance, and efforts to manage costs as efficiently as possible to provide a more cost-effective level of service for our

customers over the long term. In addition, NJAWC uses various operational and efficiency reviews to further focus on improving customer service and efficiency of production and field operations. The Company also leverages the size and scale of American Water to improve transactional efficiencies through increased automation, the adoption of more effective business practices and a continuous improvement mindset.

A. Non-Revenue Water

48. Q. What is non-revenue water ("NRW")?

A. Non-revenue water is the difference between system delivery and water sales. Typically, NRW is measured as a volume or a percentage of system delivery based on a 12-month rolling average. Composed of several disparate elements, NRW is not just leakage; it also includes, among other things, water for firefighting, system flushing, theft, and meter inaccuracies.

49. Q. Please describe the Company's efforts to reduce its level of NRW.

A. In addition to utilizing its DSIC mechanism to accelerate the replacement of aging infrastructure in the Company's service territory, NJAWC addresses apparent and real NRW losses using various industry-endorsed processes and practices, including an annual water loss management plan, water audits, and leak detection methods that are described below.

50. Q. What is the Annual Water Loss Management Plan?

A. The Company's Annual Water Loss Management Plan incorporates water accountability and loss control processes and practices promulgated by the AWWA. The processes and practices are found in the 4th Edition of the AWWA Manual 36 publication, *Water Audits and Loss Control Programs*. Incorporated by reference is AWWA Water Audit software, currently versions 5.0 and 6.0, which includes an additional auditing capability which "grades" the validity of the water audit input data. The grading measure also provides guidance on the means to improve data collection and therefore the functionality of the water audit.

51. Q. Has NJAWC performed water audits throughout its system?

A. Yes. NJAWC has performed extensive water audits throughout its service territory. Beginning in 2013, water audits have been completed annually for systems in the jurisdiction of the DRBC.

Beginning in 2016, the Company submitted water audits to NJDEP for systems that were impacted by the NJDEP 2016 drought warning. In addition, in the latest closed calendar year (2022), the Company performed water audits for all our qualifying systems.

Thus, the Company has completed water audits of all its systems that have the proper parameters for a standard water audit – that is, 24 of 29 systems. While the Company tracks NRW performance and other indicators for every operating system, water audits have limited applicability for very small systems. Where

customer density is less than 32 connections per mile and system overall size is less than 5,000 customers, the water audit benefits are limited. This is also true for systems that have system delivery of less than 100,000 gallons per day. For these small systems, NJAWC performs a basic water balance. A basic water balance compiles system delivery and sales data for a discrete area. Both data elements are tracked over many years. Trends in the data are then used to determine if the system is operating efficiently or if there is excessive water loss which requires remedial actions.

52. Q. What indicators are reported within the water audit?

A. The water audit provides five key indicators as reported by the Reporting Worksheet of the AWWA Water Audit Software. These indicators are:

1) Apparent Losses: The sum of unauthorized consumption, customer metering inaccuracies, and systematic data handling errors;

2) Real Losses: Total water losses less Apparent Losses;

3) NRW: Total water losses including unbilled metered, unbilled unmetered, and authorized Company use;

4) Financial Indicators: NRW as a percentage by volume supplied and NRW as a percentage by cost of operating system; and

5) Operational Efficiency: Unavoidable Annual Real Losses ("UARL"), Current Annual Real Losses ("CARL"), and Infrastructure Leakage Index ("ILI") or

CARL/UARL. The indicator of system performance is the ILI. The ILI is a highly effective performance indicator for comparing (benchmarking) the performance of utilities in operational management of real losses.

53. Q. How does NJAWC use the information it gathers through its water audits to manage NRW?

A. The information gathered is analyzed and action plans are developed for NRW management and reduction as part of NJAWC's overall water loss management strategy.

54. Q. What are the main characteristics of the Company's NRW strategy?

A. The Company's NRW strategy follows the latest industry-accepted standards including the water audit methodology set out above, while also working to maximize customer satisfaction and operational efficiency at an acceptable level of risk. The key elements include the following:

1) providing accurate, regular metering of production flows and customer consumption volumes;

2) maintaining a system of real time hydraulic data collection and monitoring via SCADA, AMI, or similar system of instruments and data collection technology;

3) compiling an annual water audit as a standard business practice for qualifying systems; and

4) employing sufficient loss control methods to contain water and revenue losses at economic levels and to minimize system upsets.

55. Q. What efforts has the Company employed to align its functional areas to support the NRW efforts?

A. A team of water efficiency and planning professionals conducts the statewide water loss reporting and analysis and provides strategic guidance for water loss management activities. Beginning in 2018, Operations Project Managers within the local operations team were given the task of managing and tracking the field aspects of the NRW program. This structure allows for efficient data quality management and review of engineering opportunities and issues. Examples of these opportunities include reviewing areas of apparent high pressure to determine if additional pressure management or modulation is feasible, creation of additional district metered areas, use of innovative technologies to perform condition assessment and leak detection on transmission mains and supplementing existing leak detection tools with additional equipment. The team has direct input into Company practices on system delivery, sales and NRW. The team directly engages with the asset planning group and GIS group which results in better alignment with the planning program and capital improvement projects to support water loss management.

56. Q. What are real losses?

A. Real losses are physical losses of water from the distribution system, including leakage from pipes and any associated appurtenance and tank overflows.

57. Q. What does the Company do to reduce real losses?

A. In addition to the continued accelerated replacement of aging infrastructure supported by the DSIC, the Company is addressing real losses through its leak detection efforts. Surfacing leaks are often pinpointed by employees and are quickly repaired, resulting in improvement in reducing real losses. For subsurface leaks, the Company actively works to identify such leaks and to repair them. The Company's ability to address these leaks quickly saves customers from potential disruptions of service and avoids the increased costs associated with losing millions of gallons of treated and pumped water. Employees have been afforded technical training from both internal and external resources and have been provided with new tools to perform proactive leak work. The Company has an established internal goal of repairing 90 percent of all leaks within 96 hours of discovery. (This 96-hour time period provides the time required for mobilization and for One Call mark outs.) As a result, about 1,000 miles of mains were surveyed in 2021 and 2022. These surveys resulted in the location of over 500 leaks in 2021 and over 800 leaks in 2022. Many of these leaks had no surface indications.

58. Q. Please describe the specific methods that the Company uses to actively control leaks.

A. Leak surveying is typically done on a proactive basis when leaks are suspected to be a significant contributing factor to NRW. Focused, proactive surveys are mainly conducted in the Raritan, Essex/Passaic, and Morris/Warren Districts, where the distribution network is generally older and more prone to failure due to geographic

variations and consolidated geology. The Company also has completed numerous leak surveys of its Warren systems utilizing consultants. Currently, these systems are either proactively surveyed or continuously monitored acoustically. We have seen an immediate improvement in the systems' water losses, where leaks on our mains, hydrants, valves and both Company-side and customer-side service lines have been located. During 2021 and 2022, these efforts resulted in the identification and repair of over 1,000 leaks.

In addition, NJAWC provides more leak detection training to targeted employees across the state, and the Company has purchased additional equipment (discussed below) for continuous, proactive leak detection work in the Delaware, Coastal North and Coastal South Districts as deemed necessary. For the Essex/Passaic and Raritan Districts, the Company has increased the number of man hours spent on proactive leak surveying. The additional manpower has enabled the leak detection teams to provide multiple benefits: proactively locating leaks prior to surfacing; pinpointing leaks; and supporting permanent acoustic monitoring efforts. Additionally, leak detection on large-diameter transmission mains (water mains 16 inches in diameter and greater) and other high-risk buried linear assets, is outsourced to third-party service providers. The result of these activities contributes to the Company's prioritization of pipe rehabilitation.

59. Q. Please describe the way in which NJAWC uses technology to identify leaks.

A. The Company utilizes state of the art active listening technology for leak detection. The EchoShoreDX platform incorporates the latest generation of acoustic sensors

that are the result of Echologics' pioneering success with correlating leaks on a variety of pipe materials and large diameter mains. The sensors are built into a standard fire hydrant cap and are capable of identifying extremely faint acoustical noises emitted by leaks before they become detectable by conventional methods. This early detection capability enables the Company to prioritize repairs based on actual need and the most effective allocation of repair crews. The EchoShoreDX is stationary and designed to be deployed as continuous monitoring in an area-wide grid system. Data from the listening nodes is sent directly by cellular communications and uploaded nightly to an internet cloud-based system, processed and graphically displayed on New Jersey-American Water's GIS mapping system. The Company first installed this technology in late 2015 and has continued its deployment consistent with district planning studies, installing over 11,000 devices (nodes) throughout the state to date, (more details are available at https://www.amwater.com/njaw/about-us/environmental-stewardship/water-loss-management).

60. Q. What are apparent losses?

A. Apparent losses are non-physical losses that occur in utility operations due to customer meter inaccuracies, systematic data handling errors in customer billing systems, and unauthorized consumption. This is water that is consumed, but not properly measured, accounted for, or paid for.

61. Q. What does the Company do to manage apparent losses?

A. An internal team monitors the Company's customer database system and billing system losses. These team members look for inactive accounts/premises with consumption (or vice versa), premise mismatches, and consecutive zero consumptions. These exceptions are processed into work orders that determine and eliminate the issue that caused the exception. Currently in development is the utilization of GIS analytics to allow greater flexibility in reviewing data tables of consumption, rate class, public water system identification number ("PWSID") and pressure gradient. This initiative is in its early stages, and these tools are being customized based upon user experience and results.

62. Q. How does NJAWC's meter program help manage apparent losses?

A. The meter program is managed by our field services teams. We monitor our successful reads on a monthly basis, with a goal of minimizing estimated bills. Additionally, we perform periodic testing of meters in accordance with BPU requirements and engage in meter testing and studies to help manage apparent losses.

63. Q. Please describe how meter testing and meter studies are utilized in managing apparent losses.

A. The Company employs large meter testing and profiling, pressure zone management, and zonal metering studies, which are described below:

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Large Meter Testing and Profiling

Large meter testing and profiling is conducted by both our production (bulk sales and inter-district transfers) and distribution (large customer meters) teams. All production meters are tested at least annually for flow and scaling accuracy as a best practice. The Company has also analyzed consumption patterns when requested to determine if the customers' meters are still appropriate for their current consumption rates, and if not, the installation of new meters is recommended. Moreover, where feasible, turbine meters are being replaced with more accurate compound meters.

Pressure Zone Management and Zonal Metering Studies

Pressure zone management and zonal metering studies are conducted in conjunction with each district's comprehensive planning study ("CPS") where potential opportunities exist. Pressure management helps ensure that we are providing our customers with appropriate pressures in the distribution system. When distribution system pressures are too high, background leakage occurs at a greater rate. Zonal metering is now universally supported and can help the Company determine whether smaller and very well-defined zones within the distribution system should be created. Additional metering sites connected to the SCADA system have been identified to provide additional data for compilation and analysis of NRW. This data will be utilized in determining zonal consumption patterns. The Company is exploring additional options relative to pressure management and district metering, including innovative modulation devices.

64. Q. How does the Company work to reduce unauthorized consumption?

A. Unauthorized consumption may be determined in a variety of ways. In addition to the approaches discussed above, the Company has continued its Theft of Service ("TOS") program whereby our employees are educated and encouraged to spot and report any potential water consumption that is not authorized. The TOS program enables us to find unmetered irrigation systems, bypasses, upstream (of the metering point) connections and unauthorized hydrant use, all of which contribute to NRW. Since inception of the program in July of 2008, there have been over 2,000 reports of TOS that have been successfully investigated and resolved.

65. Q. What has been the result of the Company's efforts?

A. The Company has reduced levels of NRW through its targeted and enhanced efforts at managing real and apparent losses. The focused efforts have yielded positive results, reducing statewide NRW from 16.0% to 15.5% between year-end 2020 and 2022. The Company is delivering water to more customers more efficiently every year while overcoming the challenges of a continually aging infrastructure with its proactive water loss management program. Reduced NRW lowers the utility's overall energy and chemical costs, which benefits customers. It reduces the carbon footprint of the utility and therefore helps to meet energy efficiency and air quality goals. Reduced NRW also helps maintain source water supplies, and on a site-specific basis, which could potentially lead to the deferral of capital projects for increased supplies. The efficient use of our natural resources is vital to ensuring a continued supply of clean drinking water across the state.

B. Efficiencies Arising From the Relationship With American Water

66. Q. How does NJAWC gain efficiencies from its relationship with American Water?

A. As a subsidiary of American Water, NJAWC has available to it the resources of the Service Company, which provides access to highly trained professionals who possess expertise in various specialized areas and who work exclusively for American Water's subsidiaries. The benefits and cost efficiencies provided by the Service Company are further demonstrated in the testimony of Company witness Patrick Baryenbruch. Not only does NJAWC benefit from getting these services and expertise at cost, through the size and breadth of American Water, NJAWC has continued to increase its purchasing power to obtain discounts and favorable purchasing arrangements on the equipment and supplies needed to manage and maintain our system—including pipes, fittings, and water treatment chemicals—that we otherwise would be unable to obtain were we a separately owned water system. In addition, the Company's ongoing investment in technology enables a better end-to-end view of its water and wastewater business. For example, Service Company's Information Technology Services ("ITS") team works side-by-side with end-users to develop technological solutions engineered with a focus to enhance our employees' effectiveness and to allow our customers to do business with us more easily. These products and applications are designed with ease of use in mind. They take advantage of augmented intelligence technologies that enhance

human decision making and continuously learn from their interactions with humans and the environment, meaning information evolves with usage.

67. Q. How is the American Water Supply Chain team utilized by the Company?

A. All goods and services purchased that can be leveraged across the entire American Water enterprise are done so by the Supply Chain team within Service Company ("Supply Chain") in order to maximize the purchasing power of the entire American Water enterprise. Such goods and services include but are not limited to water treatment chemicals, pipe valves and fittings, meters, engineering services, consulting services, professional services and employee benefits. The value realized from Supply Chain's work are a benefit to all American Water subsidiaries.

State-specific and regional services, which include but are not limited to infrastructure and facility maintenance and repairs, are the responsibility of the supply chain team maintained at the state level ("state Supply Chain"). The state Supply Chain's strategic objectives are to leverage state-specific requirements to obtain greatest value across the entire state or specific region(s) within the state. The goal is to obtain the highest quality services at greatest value to the state operating company.

68. Q. What are some of the significant categories in which Supply Chain managed to control costs?

A. The following areas are a representative list of ways in which the Supply Chain has worked to control the Company's costs:

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Water Treatment Chemicals: Annually, Supply Chain solicits bids for all water treatment chemicals. American Water leverages the spend enterprise-wide to acquire bid prices that offer New Jersey-American Water the best possible value. In addition, Supply Chain's strong partnership with suppliers has allowed New Jersey-American Water first-in-line access to chemicals that have been in short supply over the last several years.

Maintenance Repair and Operating ("MRO") Supplies: Supply Chain is able to leverage the volumes across the entire enterprise to lower the overall costs of MRO products and maintain favorable pricing. In addition, Supply Chain is currently working with Corporate Safety on a safety product standardization project that will help ensure all American Water employees are using the appropriate Personal Protective Equipment ("PPE") while allowing Supply Chain to negotiate lower prices with suppliers for the consolidated spend.

Ductile Iron Pipe: Supply Chain leverages company volumes to secure discounts and thus minimize cost increases at a time when pricing has been increasing substantially. In addition, we have been able to secure the shortest delivery lead times in the industry. This allows New Jersey-American Water to complete more infrastructure work in a shorter time at a lower cost.

Logistics: Supply Chain is currently starting up a third-party logistics program where American Water will arrange and manage vendor freight. This program will

allow for greater control over shipping modes and lead times, as well as enjoy discounts on the cost of freight.

Fleet: In 2020, Supply Chain conducted an RFP for Fleet Management Services. The result was a change to a new fleet management company ("FMC") that offers New Jersey-American Water higher levels of service at a lower price than the previous vendor. Each year Supply Chain negotiates with all the major domestic vehicle manufacturers to secure purchase volume incentive discounts and production allocation. These discounts are in addition to the discounts already provided through our FMC company. As one of the Top 100 commercial truck fleets in the country,[5] we are to leverage our enterprise scale to achieve favorable outcomes in these negotiations.

Network Repair: In 2021, state Supply Chain competitively bid, negotiated, and established agreements for Network Repair services with a two-year term. Conducting a competitive bid exercise for these services ensured that New Jersey-American Water is receiving the most competitive pricing for these services. At the time of this writing, Supply Chain will either extend the term of the existing contracts or conduct a bid exercise for these services in 2024.

Meter Replacement Services: In 2019, state Supply Chain established two-year agreements for meter replacement services. In 2021, the existing agreements were

[5] J. Wiklund, "Top 100 Commercial Truck Fleets," *Automotive Fleet* (February 8, 2022).

extended through 2022 with no price increases. Due to market conditions, current services were extended through 2023 and again in 2024 with little increase.

Patchwork Paving Services: In 2019, state Supply Chain established two-year agreements for patchwork paving services with multiple contractors in our service territory. The agreements were extended in 2021, holding pricing flat through 2022. Due to market conditions, current services were extended through 2023 and again in 2024.

Energy: Supply Chain monitors the energy markets for buying opportunities and coordinates with NJAWC to purchase both electricity and natural gas supply for use in system operations. The goal of our collaboration is to minimize the unit price while also mitigating price risk from an extremely volatile energy market. Most recently, NJAWC purchased electric supply utilizing a reverse auction involving five suppliers in October 2019. The resulting agreement has a five-year term beginning in January 2020 and the pricing structure is 70% fixed and 30% index. The fixed/index structure is meant to provide price certainty while allowing us to participate in the daily market. The electricity market has experienced extreme volatility during the term of our agreement and the fixed price portion of the contract has mitigated the impact on NJAWC. Natural gas supply is also a key part of NJAWC's system operations, and Supply Chain works with the Company to buy natural gas supply using a dollar cost averaging approach to supply purchasing by entering the market periodically when buying opportunities exist.

In each instance, New Jersey-American Water and its customers have benefited from leveraging the size and scale of American Water enterprise wide through Supply Chain and leveraging the size and scale of NJAWC through the efforts of state Supply Chain.

69. Q. How is NJAWC using GIS to improve employee effectiveness?

A. Accurate electronic maps ensure that the Company's institutional infrastructure knowledge is readily available for use by employees. To that end, NJAWC has loaded its facilities into GIS so that maps of its water and wastewater system assets are accessible on its internal network. The information available in GIS includes the location and a short description of the facilities, giving an electronic spatial view of the entire system. GIS also helps locate customers that might be affected by related service issues and allows us to more effectively communicate with our customers. We continue to enhance our GIS platform through integration with our SAP Enterprise Asset Management ("EAM") system, our computer-aided design ("CAD") system, MapCall and our PowerPlant fixed asset records. This integration allows communication across the various platforms that makes data retrieval more efficient. The Company continues to build the GIS platform by adding new assets and retiring old assets to ensure our technicians have access to the most current information while working in the field. In 2021, the Company implemented a 'Digital As-built Workflow' that is focused on standardizing the how, what, and when GIS is updated as well as facilitating better integration between GIS and MapCall. This improved the lag time between when the asset was installed to when

GIS and other systems are updated. The goal is to keep our GIS current, complete and accurate for our end users.

70. Q. How has NJAWC benefitted from its GIS platform?

A. The GIS location information is available to technicians through asset locating tools that were deployed in 2023. The locating tool works much like google maps where a technician is guided directly to valves and service shutoffs. This is especially impactful to customers during emergencies when critical valves are obscured by landscaping, snow, or floods. The quick response using GIS information and a locating tool not only is an efficient use of labor but also limits restoration time and lost water. In addition, the location of water quality events, chlorine residuals, maintenance events and pipe failures are all plotted on GIS map layers. The spatially presented information can be used to answer customer water quality inquiries, identify trends and prioritize water main replacement projects.

The GIS system is also a tool used to assist compliance with federal and state lead service line inventory and management. Known customer and Company service line material data has been loaded into the MapCall service records that is integrated to display on the GIS maps. This will provide employees and customers with a visual representation of known and suspected lead service lines within the service territory.

71. Q. What work management system is NJAWC using to improve employee effectiveness?

A. The Company uses MapCall, a web-based application that enables Operations Production employees, Field Operations employees, and contractors to complete the lifecycle of work orders and assets in the field. Employees can view historical information including work order history on an asset, standard operating practices associated with an asset, maintenance history, O&M manuals, and tap card images. MapCall provides the flexibility to create work orders, configure workflows and report progress while in the field. For example, a supervisor can create a work order to flush a dozen hydrants in a particular area. Using MapCall, the field worker can report progress as flushing is performed, and both the supervisor and others in the field can visually see the progress made toward completing the identified work in real time through the MapCall interface. The same can be done to schedule and monitor other routine work, as well as emergency work, such as main break repairs.

MapCall also allows those in the field to communicate water quality and other events more efficiently through preloaded notifications via email to both internal and external stakeholders, including regulators, allowing workers to quickly shift back to focusing on the task at hand and providing quality service to customers.

Water main break locations are continually added to the GIS and InfoMaster a pipe replacement prioritization database, to help identify sections of pipe that have outlived their useful life. This information is used to prioritize water main replacements by strategically focusing on the pipe with the highest risk of failure.

MapCall is a "single pane of glass" for all operational needs including Health & Safety, Environmental & Water Quality and also serves as the transactional engine between other systems like Work1View.

72. Q. Please describe the Company's advanced metering infrastructure ("AMI") technology strategy.

A. New Jersey-American Water is using a "hybrid" approach to AMI deployment to leverage the fixed network technology already deployed in the short term and to transition to a modern, smart endpoint system following the 10-year length of service meter change requirements. The AMI system will not be a single technology but an integration of two technologies that provide an intelligent connection between the customer and the water utility. The systems that will be utilized are as follows:

Fixed-Network System:

With AMI fixed-network systems, meter reading is accomplished by meter transmission units ("MTU's") installed on each meter. The MTUs collect real-time water use readings from the meter and transmit them via radio signals to data collection units ("DCUs") that are owned by the utility.

The Company has approximately 224,000 Neptune R900 MTU's connected to a Fixed Network AMI system. These endpoints were installed because of previous length of service meter replacement requirements. The R900 MTU's were in use

as drive by advanced meter reading ("AMR") units and were migrated to a fixed network AMI system that can collect reads using a network of fixed antennas.

Smart Endpoints (Cellular-Network Systems):

AMI cellular-network systems utilize smart endpoint cellular endpoints installed on each meter to transmit the meter data via an existing 3rd party cellular infrastructure to a central database system for analysis and reporting.

The smart endpoint utilizes a cell-based network provided by major companies such as AT&T and Verizon to capture daily interim customer reads and eliminates the requirement of a fixed data collector network. The new smart endpoint will replace our existing R900 MTU's and are being installed following the length of service schedule over a 10-year period starting in 2022. The fixed network system will be gradually retired over the 10-year period as the smart endpoint deployment reaches saturation. The Company has approximately 69,000 Smart endpoints presently installed.

73. Q. Why is NJAWC installing AMI technology?

A. The transition to an AMI program will enable strategic and permanent improvements in safety, customer experience, operational efficiencies, and environmental benefits. The Company looks forward to leveraging AMI to empower customers with near real-time consumption data to enable smart water use choices, enhance customer communication regarding customer water consumption patterns and unusually high-water use, optimize NJAWC's ability to

measure and address non-revenue water, and improve water system operations and management, among other things. Implementation of AMI will allow NJAWC to realign its business processes and redeploy personnel previously focused on meter reading to other work, as discussed below.

74. Q. How will AMI improve customer service?

A. The implementation of AMI will increase billing accuracy and reduce the likelihood of estimated bills due to weather events by automatically providing timely, accurate reads through the network. In addition, re-reads will be reduced due to the human factor being removed from obtaining the actual read. With the planned implementation of a meter data management system starting in 2023, the Company will also be able to more efficiently collect, organize, analyze, and communicate large quantities of meter data. Customers will have access to near real-time water usage data which will allow them to identify opportunities for conservation and bill reducing tips to enable smart water use choices. AMI data can be used to uncover irregularities that may signal a leak, meter tampering or water theft. The system will enable the communication of high use water alerts and continuous flow alerts. AMI is an example of how prudent investment in technology can produce a wide range of customer benefits.

75. Q. How does AMI improve employee and public safety?

A. Having employees in the field reading meters in potentially unsafe environments, inconvenient locations, inclement weather, and exposed to vehicular traffic, animals, and the like, creates an exposure to potential injuries and accidents. Being

able to read meters remotely reduces this potential risk, both for injuries to our employees and injuries and damage to third parties.

76. Q. How will AMI benefit the environment?

A. The AMI technology helps conserve water by providing timely information to customers so they can adjust their usage and enables the early identification of customer leaks. AMI reduces fuel consumption by eliminating the need to drive by premises to collect reads. The technology will also eliminate the need to roll a truck to complete certain high volume service orders such as "Move in-Move out orders". In 2023 the Company eliminated approximately 5,000 service orders by utilizing AMI. The reduction in truck rolls and meter reading vehicles helps reduce our carbon footprint and supports New Jersey's Energy Master Plan.

77. Q. How will AMI improve water efficiency?

A. The deployment of AMI will reduce the number of full time employees needed to read meters and maintain the system. Over the next ten years, NJAWC will be able to redeploy some of the full-time positions to length of service meter replacement work and lead service line material identification requirements.

78. Q. How does NJAWC protect the data transmitted across the AMI network?

A. All of the meter reads are encrypted before they are transmitted from the meter across the Company owned network to the cellular carrier and ultimately to the Company's meter read collection database.

79. Q. How else is NJAWC using technology to improve customer service?

A. Our web-based customer portal, MyWater, has been enhanced to provide expanded self-service capabilities for online payment assistance, bill and usage review, service requests, and viewing service and emergency alerts. The portal is available 24/7 and is more user friendly, accessible, and compliant with the Americans with Disabilities Act by, for example, using more graphical information. MyWater also has a "single pane of glass" for the customer service representative and the customer. They have a greater ability to view a high bill due to a past due amount or high-water usage by month to help facilitate quicker resolutions.

The customer service infrastructure has been upgraded to improve interactions with customers and make customer information more easily accessible in the field. In addition to the tools described above, upgrades include replacing our CSC call management software and meter data management solution. Our new CSC telephone software system improves call routing, automates many call handling tasks and uses voice prompts to gather information, all of which serve to minimize the time customers have to spend on the telephone.

80. Q. Are there technology solutions NJAWC is implementing to operate systems with improved efficiency, resiliency, and security?

A. Yes. NJAWC continues to focus on Automation and Controls (also referred to SCADA) capital projects throughout our operational areas. These upgrades continue to target the installation of field instrumentation, network security devices, the replacement of legacy remote terminal units ("RTUs"), along with enhancements to human machine interface ("HMI") software, and the

standardization of data and its consolidation via high-speed connections. These upgrades have equipped our operational sites with components that provide more advanced programming and connectivity capabilities and robust security monitoring, along with redundancy to ensure operational continuity.

Focused efforts have yielded the standardization of programming to help protect operational assets along with enhancing water treatment process controls and monitoring. An example is the automation of filter controls that provide supplemental alarming and interlocks. These additional layers of protection assist in meeting all state and federal regulatory requirements while providing the best service to our customers. Implemented technologies have provided additional tools for mobile solutions for Operations, allowing for secure access to internal systems to make operational decisions. To address the increased cybersecurity threats, additional security solutions, protocols and procedures are continually being implemented to ensure that all infrastructure is properly protected and monitored.

81. Q. Are there other technology solutions NJAWC is implementing to improve water efficiency?

A. Yes. The Company is developing an advanced analytic program. The advanced analytics program utilizes QuickSight dashboards that display current data from enterprise systems (MapCall, W1V, SAP, etc.) and compares the information to targets to help measure and improve performance, capacity, quality, reliability and environmental compliance. Example reports are operations performance, health

and safety, system delivery, call center and customer results, non-revenue water, and water quality.

C. System Maintenance

82. Q. Please describe the key components of NJAWC system maintenance activities.

A. Keeping abreast of system maintenance is the hallmark of a healthy water distribution system. Among its core activities, NJAWC staff diligently completes annual maintenance programs, including length of service meter replacements, fire hydrant maintenance and valve exercising programs. These programs help us ensure that our assets are performing as expected, so that we can continue to provide the high quality, reliable service our customers have come to expect. In 2023, the Company replaced 61,064 meters, inspected approximately 50,000 fire hydrants and exercised more than 52,000 valves.

83. Q. What is the guiding document used to establish maintenance program targets?

A. NJAWC's state-wide Asset Management Plan ("AMP") is the guiding document for maintenance plan targets. The AMP was implemented by April 19, 2019, as required by the WQAA. The WQAA requires the submittal of annual capital improvement reports based on the infrastructure improvements taken from the plan. NJAWC submitted the annual capital improvement reports as required.

84. Q. Is New Jersey-American Water meeting its operational obligations under the Safe Drinking Water Act?

A. Yes. The Company certified compliance with the Safe Drinking Water Act when submitting the certification for the WQAA in December of 2023.

85. Q. What other maintenance programs support the Company's efficient operation of its system?

A. NJAWC completes several programs designed to keep its water system operating efficiently. Pipeline replacement programs annual distribution system flushing and a Condition-Based Maintenance Program are among them.

86. Q. Please explain the Condition-Based Maintenance Program.

A. NJAWC employs a Condition-Based Maintenance Program on a rotating basis at facilities where electrical equipment is used. This equipment includes pumps, motors, and electrical panels. In addition to visual, mechanical, and audible inspections, a host of other in-depth inspections are performed. For example, thermal imaging tests are performed to determine excessive heat on electrical equipment such as motors, electrical panels, transformers, and safety switches. Vibration inspections are performed to determine deflection in a pump shaft, which is an indicator of potentially damaged pump or motor bearings. The Condition-Based Maintenance Program also includes electrical tests to determine proper operation of disconnects, breakers, fuses, contactors, voltage/protective equipment devices, etc. After the inspections are performed, a report is generated that categorizes severe or critical issues for immediate attention, as well as less severe issues for subsequent attention.

87. Q. How do NJAWC's system maintenance efforts enhance operational efficiency?

A. System maintenance helps reduce failures and unexpected repairs, which are disruptive and expensive to correct. One of the byproducts of an adequately maintained system is fewer unexpected failures, which rarely occur at convenient times and, again, are costly to repair.

VII. EMPLOYEE LEVELS AND EMPLOYEE COMPENSATION

A. Employee Levels

88. Q. What is NJAWC's proposed staffing level in this case?

A. The Company has identified approximately 921.2 full time equivalent ("FTE") employees as the appropriate staffing level for the Company's water and wastewater operations, which includes part-time employees. The number of employees is based upon each department's and functional area's plans to continue providing safe, adequate, reliable and affordable service to our customers. On a regular basis, monthly, quarterly, and annual performance metrics ranging from safety, customer service, financial, asset creation, asset maintenance and regulatory compliance is reviewed to ensure desired service levels and performance is achieved within each region/department. If an area is underperforming, an assessment is conducted to determine if there is a performance or resource issue. Service needs and related resource requirements are consistent with meeting regulatory requirements, tariff requirements, industry standards, service requests, customer needs, and providing support to the business operations in the most cost-effective way to best serve the long-term interests of our customers.

Compliance with new regulations will continue to add to the workload of the Water Quality and Environmental Compliance team moving forward. NJAWC continues to track and assess the workload to help ensure the WQ/EC Team is appropriately staffed and contractor resources are being utilized. However, headcount may need to increase to meet the proposed USEPA lead and copper rule requirements in the future. The Direct Testimony of Jamie Hawn explains how the Company's labor and labor-related costs were quantified.

89. Q. What is the basis for the Company's proposed staffing level?

A. The Company has added a total of 30 new full time equivalent ("FTE") positions. The additional employees over the staffing levels in the last case will support the increased capital investment in aging infrastructure, systems added through acquisitions, compliance with increasing water quality regulations, with a focus on employee and contractor safety. Specifically, New Jersey-American Water has added 18 field employees to support the acquisitions of Somerville, Egg Harbor City and Salem; four (4) construction inspectors related to DSIC and lead service line inspection; two (2) employees for our Uncrewed Aerial Systems; three (3) capital projects managers to advance our DSIC, lead service, and environmental compliance and resiliency IP projects, one operations supervisor for our length of service program, one contract bidder, and one executive assistant.

The Company's requested employee complement balances near-term cost control with a staffing level that, over time, provides more cost-effective water and wastewater service to our customers. This means rather than simply doing what

needs to be done to keep the water flowing and to collect and treat sewage, the Company will have the ability to provide safe, reliable and affordable service in the most cost-effective way to best serve the long-term interests of our customers.

90. Q. Is the Company undertaking any initiatives aimed at ensuring that it is attracting and retaining highly qualified and motivated employees?

A. Yes. Since 2010, American Water has deployed a succession / replenishment initiative across the enterprise, including NJAWC. This initiative is a multi-year effort that focuses on where critical business knowledge resides, and the risks regarding retirement and retention of employees who possess that critical knowledge. The program has evolved to include annual assessments of all management to identify the development requirements for future leaders. Development opportunities include position reassignments, pre-retirement position overlap, continuing education, leadership and skill training. For critical positions, we are cross training our staff to facilitate knowledge transfer and mentoring. Within the bargaining unit we have specifically developed and delivered training for new Utility Mechanics, Backhoe Operators, Field Service Representatives, Maintenance Mechanics, Construction Inspectors, and Foreperson positions. The aim is to document and effectively transfer knowledge to other and new employees over time to avoid a "knowledge vacuum" at the Company when long-tenured employees leave the business.

B. Compensation

91. Q. Please identify the various employee classifications at NJAWC and briefly describe how each group is compensated.

A. There are three classifications of employees at NJAWC: union hourly employees, non-union hourly employees, and exempt employees. As Mr. McKeever discusses in his Direct Testimony, union and non-union hourly employees receive base pay and variable pay in the form of overtime pay (in some cases shift premiums and meals) and are eligible for performance pay. Exempt employees receive base pay and are eligible for performance pay. Each classification of employees' total compensation, therefore, includes fixed pay (base pay) and some form(s) of variable pay (e.g., overtime, shift pay, or performance pay).

92. Q. Does NJAWC have an overall compensation philosophy?

A. Yes. New Jersey-American Water offers compensation that has allowed it to attract and retain committed, dedicated and highly qualified employees. The Company's overall compensation philosophy is to provide employees with a total compensation package that is market based and competitive with those of comparable organizations with jobs of similar responsibility. As part of its compensation philosophy, NJAWC has chosen to make a portion of its compensation variable, driving continued performance across the enterprise. Specifically, the Company targets its total direct compensation (base and variable compensation) for near the market median (50th percentile). By using a combination of fixed and variable compensation, NJAWC satisfies a dual objective of providing competitive market-

based compensation for our employees, while continuing to motivate employees to achieve goals that improve performance and efficiency for the benefit of our customers. We believe this approach is superior to setting base compensation targets at market median and not offering performance compensation.

93. Q. How should NJAWC's employee compensation expense be assessed by the BPU?

A. Employee compensation is a necessary cost of providing utility service, like other prudently incurred costs of service recoverable in rates. Employee compensation must therefore be assessed through the same lens as all other operating costs of the Company: if it is prudently incurred and reasonable in amount, relative to what the industry pays for the same services, it should be recoverable through rates. Where the Company's total direct compensation level is in line with the market, as will be demonstrated in this case, regardless of the combination of fixed and variable payments that the employees earn, then the Company's overall compensation expense is reasonable and prudently incurred and thus should be recoverable like all other costs of service.

94. Q. Is the Company's performance compensation program reasonable?

A. Yes. The Company retained the services of WTW to perform a total compensation study to determine if the total direct compensation provided to NJAWC employees, when viewed against the market of talent for employees of similar positions, is at market levels, based on the Company's stated compensation philosophy. The

findings of WTW's compensation study are described in the Direct Testimony of Robert V. Mustich. Therein, Mr. Mustich reached the following conclusions:

- NJAWC's target total direct compensation – which includes base compensation and all performance compensation – is within the range of the competitive market median.
- American Water's short-term performance pay program (APP), which is applicable to NJAWC, is comparable to and competitive with plan designs of other utilities.
- American Water's long-term performance pay (LTPP), also applicable to NJAWC, is comparable to and competitive with plan designs of other utilities.
- Performance compensation is required to ensure that NJAWC's compensation remains at reasonable, competitive levels.
- The analysis performed by WTW shows that NJAWC's total direct compensation programs are comparable to and competitive with market practices of other similarly-sized utilities and therefore represent reasonable, market based total compensation.
- Therefore, on a total direct compensation basis, NJAWC's compensation expense is reasonable.

95. Q. Did Mr. Mustich reach any further conclusions regarding NJAWC's compensation program?

A. Yes. Mr. Mustich further found that NJAWC, like the companies it competes with for talent, must provide a competitive total direct compensation opportunity

delivered via programs that benefit employees, customers and investors. Mr. Mustich found that NJAWC "attempts to achieve this goal with its balanced and competitive base salary and annual and long-term performance compensation programs."

96. Q. Is the totality of the Company's market based total compensation a prudently incurred expense?

A. Yes. As Mr. Mustich has demonstrated in his Direct Testimony, NJAWC's overall total direct compensation – which includes base compensation and all performance compensation – is within the competitive market range. Therefore, NJAWC's total compensation expense is reasonable and prudently incurred.

97. Q. Is providing market based, competitive compensation to employees critical to the Company's ability to continue to provide safe and reliable utility service?

A. Yes, it is. Recruitment of skilled workers, as well as the retention of existing trained workers, is critical to continuing to provide safe and reliable water and wastewater service for the benefit of all NJAWC customers. Competition among companies to attract and retain the best and highest performing employees is keen. In recruiting new employees or retaining existing employees, both the Company and American Water compete with general industry in surrounding regions and nationally. Without the ability to provide competitive compensation and benefits, the Company would be hampered in its efforts to attract new employees and retain existing employees, particularly when competing with other utilities and other industries for this same pool of talent. This is especially true with respect to

employee retention, where the loss of skilled employees imposes a real and added cost on a company which must then recruit and train replacements.

The challenges associated with attracting new talent and the resulting cost of doing so is further compounded by the fact that the utility industry as a whole is experiencing a disproportionate impact of our nation's aging workforce. The soon-to-retire "Baby Boomer" generation holds a wealth of knowledge and experience necessary to support the continuation of utility services, while the next generation of qualified talent is diminished in size. This presents a far greater challenge to NJAWC in recruiting replacement, qualified personnel, if its total compensation is not competitive. Therefore, the Company's compensation program must provide employees with a total compensation package on par with those offered by companies with which it competes for employees.

C. Performance Compensation Plans

98. Q. How is performance compensation provided to NJAWC employees?

A. Performance pay may be awarded under two plans – the Annual Performance Plan ("APP") and the Long-Term Performance Plan ("LTPP"). All full-time employees participate in the APP. Eligibility for the LTPP is limited to certain exempt employees.

99. Q. You say all full-time employees participate in the APP; does that include union employees?

A. Yes, it does. Our bargaining unit employees became eligible for APP in 2018, with their first payments in 2019. So, irrespective of being covered by a collective bargaining agreement, all of NJAWC's employees are entitled to the benefits of the APP.

100. Q. Please describe the key performance objectives underlying the APP.

A. The APP is designed to recognize and reward performance against key performance goals and targets that drive the Company's strategy.

For 2023, the APP goals are as follows:

STRATEGY	GOAL	TARGET	WEIGHT
GROWTH	EPS Range	$4.72-$4.82	50%
CUSTOMER	Customer Satisfaction	2nd Quartile	15%
SAFETY	OSHA Recordable Injury Rate (ORIR)	0.62 or less	7.5%
	Days Away, Restricted and Transfer (DART) severity rate	0.30 or less	7.5%
ENVIRONMENTAL LEADERSHIP	Drinking Water Compliance Notice of Violation (NOVs)	≤ 6 NOVs	7.5%
	Drinking Water Quality Notice of Violation (NOVs)	≤ 2 NOVs	7.5%
PEOPLE	Women Representation	Increase women representation to 25.0%	2.5%
	Ethnic and Racial Diversity Representation	Increase ethnic & racial diversity to 21.0%	2.5%

For 2024, the Growth Goal Target is EPS of $5.10-$5.20, the Customer Satisfaction Goal Target is Top Quartile, the Safety ORIR Goal Target is no fatalities (gating factor) and 0.61 or less, and the Safety DART severity rate Goal Target is 0.29 incidents or less; the Environmental Leadership and People Goals and Targets

remain the same. Another change for 2024 is the elimination of the earnings per share gating factor for APP awards.

101. Q. Please describe the LTPP.

A. American Water provides restricted stock units ("RSUs") and performance stock units ("PSUs") as long-term variable compensation under the LTPP. American Water's RSUs and PSUs are based on three-year vesting periods. RSUs are based on time-based vesting and PSUs are based on performance vesting conditions.[6]

102. Q. How do New Jersey-American Water's performance compensation plans benefit customers?

A. The Company's performance compensation plans align the interests of our customers, employees, and investors. The plans emphasize customer service, environmental compliance, a safe work environment, and other operational goals, as well as certain financial goals. All of the APP and LTPP Plans' performance objectives – both operational and financial – focus employees' efforts in ways that benefit customers. The use of multiple measures further strengthens our ability to drive results across the enterprise.

103. Q. How do the operational goals of the APP benefit customers?

A. The operational goals of the APP are designed to focus plan participants on the results that can most directly influence customer satisfaction, health and safety,

[6] American Water uses a combination of compounded EPS growth and relative total shareholder return ("TSR") ranking over a three-year performance period as the basis for measuring performance for PSU awards. For the portion of American Water's PSUs that are contingent on relative TSR percentile performance, American Water compares performance to its peer group.

environmental performance, and workforce diversity. Customers benefit from the plan goals because operational performance is improved by controlling costs, capturing efficiencies, promoting effective safety and risk management practices, enhancing customer service, and doing so with a diverse workforce that reflects the communities we serve. Achievement is determined by goals that directly benefit customers by creating a more productive workforce that is focused on customer satisfaction and achieving efficiency, environmental, and safety goals. For example, goals limiting the number of Notices of Violation ("NOV") for drinking water regulations help maintain a focus on providing safe and reliable water service, while goals for customer satisfaction measure the level to which customers value the activities and services performed by employees throughout the business.

104. Q. How do the financial goals of the APP and the LTPP benefit customers?

A. The financial goals of the APP and LTPP are complementary to the operational goals and benefit customers in many ways. Achieving financial goals, such as targeted earnings per share ("EPS"), requires attention to operating efficiency. That is, unless the utility controls its operating costs, it likely will not achieve a targeted EPS. Financial goal-based performance pay thus ensures that employees at all levels of the organization, and not just the upper ranks, remain focused on increasing efficiency, decreasing waste, and boosting overall productivity. Incentivizing employees to control operating costs benefits customers, because doing so mitigates increases in costs ultimately collected in rates. Consequently, when financial performance is achieved through efficiency, as is the case for New

Jersey-American Water, the interests of customers, employees and investors are aligned.

105. Q. Does incentivizing employees to control and reduce operating costs provide other customer benefits?

A. Yes. Where NJAWC can reduce operating expenses, it can increase investment in infrastructure without increasing rates, because every dollar of operating expenses saved can fund over $8 of investment. Therefore, customers also benefit from NJAWC's enhanced ability to invest in the infrastructure that it needs to meet its service obligations to customers.

106. Q. Is there other evidence of the tangible benefit to customers from NJAWC's performance pay programs?

A. Yes. Again, it is important to consider the impact a utility's financial health has on its access to capital at reasonable rates. NJAWC's customers have benefitted from the Company's access to capital at favorable rates. Because utilities are capital intensive and must routinely and consistently access the capital markets, customers ultimately benefit when their utility has the financial health to do so at reasonable rates. Simply put, a financially healthy utility benefits customers because it enables the utility to meet its service obligations at reasonable financing costs.

107. Q. How have NJAWC's customers benefited from NJAWC's achievement of the safety, customer satisfaction and environmental leadership goals under its performance pay program from the years of 2022 to date?

A. NJAWC's performance in these areas over the last several years, incentivized by its short-term variable pay plans, makes clear the operational improvements that benefit customers. A focus on improving OSHA incidents increases safety—customer safety and employee safety. No one can credibly dispute the benefits of improved safety. OSHA recordable injuries decreased from the period from 2009 to 2017 from an average of 41 per year to an average of 11 per year for the period of 2018 – 2023. Further, reduced accidents reduce the attendant costs—workers' compensation, damage repair, etc.—which mitigates the operating costs that customers pay through rates. The Company has experienced 32 claims year-to-date in 2023, compared to the pre-pandemic years of 2018 and 2019 where the average number of claims was 46 claims per year. NJAWC continues to improve its performance in reporting near misses, another illustration of the Company's high-performing safety culture. Exceptional safety performance reflects an engaged workforce that is focused on providing safe, reliable and affordable service to NJAWC's customers.

Maintaining and improving high quality customer satisfaction and service quality also provide customer benefits. NJAWC's customer satisfaction performance goals measure customer contacts at NJAWC's call centers and in the field. They are benchmarked against other utilities' performance, as reported by third-party customer satisfaction surveys. In 2023, NJAWC ranked 2nd in the Northeast Region for customer satisfaction in J.D. Power's Water Utility Residential Customer Satisfaction Study and first among large investor-owned systems. J.D.

Power's Overall Water Utility Satisfaction Index measures key performance indicators in six areas: delivery (including quality), price, conservation, billing and payment, communications, and customer service. Customer satisfaction often goes hand-in-hand with reducing customer complaints.

108. Q. Do the Company's employees typically earn their performance compensation?

A. Yes. The Company has funded performance compensation every year for at least the past decade. The level has varied from year to year based on achievement of targets or exceeding targets, but the organization's performance has resulted in the payment of performance compensation typically equal to or greater than the target level. The Company only seeks recovery at the target level.

109. Q. Is providing appropriate levels of compensation to employees critical to the Company's ability to continue to provide safe and adequate service?

A. Yes, it is. Competition among companies to attract and retain the best and highest performing employees is keen. In recruiting new employees or retaining existing employees, both the Company and American Water compete with general industry in surrounding regions and nationally. The Company's compensation program seeks to provide employees with a total compensation package on par with those offered by companies with which it competes for employees.

110. Q. Please summarize why the costs of the Company's market based total compensation, including performance-based compensation should be recoverable in rates.

A. The Company's performance compensation plans align the interests of our customers, employees, and investors. The market based total compensation philosophy that NJAWC has adopted allows the Company to attract and retain a highly qualified workforce that is essential to our ability to continue to provide safe and reliable service. The plans, themselves, contain tangible goals that are designed to do several things, i.e., measure and compensate employees for performance based on delivering clean, safe, reliable and affordable water and wastewater service and providing good customer service when doing so. The operational components measure performance that can most directly influence customer satisfaction, safety, and environmental leadership. Customers derive a direct benefit from our focus on these key measures in the plan. Further, the plans' well-grounded financial measures keep the organization focused on improved performance at all levels of the organization, particularly in increasing efficiency, decreasing waste, and boosting overall productivity. Mr. McKeever addresses some of the ratemaking implications of failing to recognize these just and reasonable employee expenses. As discussed earlier, the Company has demonstrated that its overall compensation levels are in line with the market, and thus, are a reasonable and prudently incurred cost of service that is appropriately included in rates.

111. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

Q. Please describe your educational background and professional associations.

A. I hold a Bachelor of Science degree from the New Jersey Institute of Technology, W-2, T-2, and professional engineering licenses. I am a member of the American Water Works Association ("AWWA").

Q. What has been your business experience?

A. I have 36 years of experience in the water industry. I joined American Water as an Engineering Technician in 1988 inspecting the construction of tanks, booster stations and transmission mains. I also worked with developers and engineers to extend the water system in our system development department. In 1997, I joined the Operations department as a Distribution Supervisor. I have held progressively responsible positions in the operations group including superintendent, manager, director and Sr. Director until being promoted to my current position as VP of operations in November of 2018.

New Jersey American Water Service Area

Schedule TS-1

NJAW WATER SYSTEMS

REGION	DISTRICT	KEY	COUNTY(IES)	WATER SYSTEM	PWSID #
NORTH	PASSAIC	1	WARREN	WASHINGTON OXFORD MANSFIELD	2121001
		2	WARREN	BELVIDERE	2103001
		3	MORRIS	ITC COUNTRY OAKS	1427017
		4	MORRIS	WEST JERSEY	1427009
		5	MORRIS ESSEX SOMERSET UNION	PASSAIC BASIN	0712001
		6	MORRIS	FOUR SEASONS	1407001
		7	PASSAIC	LITTLE FALLS	1605001
		8	SOMERSET	TWIN LAKES	1803002
		9	MORRIS	ROXBURY	1436002
CENTRAL	RARITAN	10	HUNTERDON	FRENCHTOWN	1011001
		11	HUNTERDON MIDDLESEX MERCER SOMERSET UNION	RARITAN	2004002
		12	HUNTERDON	CROSSROADS	1024001
COASTAL	COASTAL NORTH	13	OCEAN MONMOUTH	COASTAL NORTH	1345001
		14	MONMOUTH	SHORELANDS	1339001
		15	MONMOUTH	UNION BEACH	1350001
		16	OCEAN	ORTLEY BEACH	1507007
		17	OCEAN	PELICAN ISLAND	1507008
		18	OCEAN	NEW EGYPT	1523003
		19	OCEAN	DEEP RUN	1523002
SOUTH	COASTAL SOUTH	20	ATLANTIC	ATLANTIC COUNTY	0119002
		21	CAPE MAY	OCEAN CITY	0508001
		22	CAPE MAY	STRATHMERE	0511001
		23	CAPE MAY	CAPE MAY CH	0506010
		24	ATLANTIC	EGG HARBOR CITY	0107001
	SOUTHWEST	25	CAMDEN BURLINGTON	WESTERN	0327001
		26	BURLINGTON	SUNBURY	0329006
		27	GLOUCESTER	LOGAN	0809002
		28	BURLINGTON	MT. HOLLY	0323001
		29	BURLINGTON	HOMESTEAD	0318002
		30	BURLINGTON	VINCENTOWN	0333004
		31	GLOUCESTER	HARRISON TWP	0808001
		32	GLOUCESTER	BRIDGEPORT	0809001
		33	SALEM	PENNSGROVE	1707001

AW / NJAW - CONTRACT OPERATIONS

REGION	DISTRICT	KEY	COUNTY(IES)	WATER SYSTEM	PWSID #
NORTH	PASSAIC	A1	ESSEX	SOUTH ORANGE	0717001
CENTRAL	RARITAN	A2	UNION	LIBERTY	2004002
		A3	MIDDLESEX	NORTH BRUNSWICK	1215001
SOUTH	SOUTHWEST	A4	CAMDEN	CAMDEN	0408001

NJAW WASTEWATER COLLECTION SYSTEMS

REGION	DISTRICT	KEY	COUNTY(IES)	WASTEWATER SYSTEM	NJPDES #
COASTAL	COASTAL NORTH	C1	OCEAN	LAKEWOOD	NJ0265260
		C2	MONMOUTH	ADELPHIA	NJ0538391
SOUTH	COASTAL SOUTH	C3	CAPE MAY	OCEAN CITY	NJ0093880
		C9	ATLANTIC	EGG HARBOR CITY	NJ0090612
	SOUTHWEST	C4	CAMDEN	HADDONFIELD	NJ0026182
		C5	GLOUCESTER	ELK	N/A
		C6	CAMDEN	MOUNT EPHRAIM	NJ0026182
NORTH	PASSAIC	C7	MORRIS	LONG HILL TWP	NJ0024465
CENTRAL	RARITAN	C8	SOMERSET	BROUND BROOK BORO	N/A
		C10		SOMERVILLE	N/A

NJAW STATEWIDE WASTEWATER SYSTEMS (COLLECTION & TREATMENT)

REGION	KEY	COUNTY(IES)	WASTEWATER SYSTEM	NPDES #
NORTH	S1	HUNTERDON	BRASS CASTLE	NJ0068829
	S2	MORRIS	COUNTRY OAKS	NJ0108928
	S3	HUNTERDON	CROSSROADS	NJ0104396
	S4	SOMERSET	EDC	NJ0033995
	S5	HUNTERDON	FAWN RUN	NJ0058246
	S6	MORRIS	FOUR SEASONS	NJ0071013
	S7	HUNTERDON	GLEN MEADOWS	NJ0100528
	S8	WARREN	HAWK POINTE	NJ0136336
	S9	SOMERSET	HILLSBOROUGH CHASE	NJ0146102
	S10	MORRIS	JEFFERSON PEAK	NJ0133558
	S11	HUNTERDON	LOOKOUT POINTE	NJ0140571
	S12	MORRIS	MORRIS CHASE / MORRIS HUNT	NJ0053422
	S13	WARREN	PORT COLDEN MALL*	N/A
	S14	HUNTERDON	POTTERSVILLE	NJ0022781
	S15	BERGEN	RAMAPO RIVER RES.	NJ0080811
	S16	HUNTERDON	VILLAGE SQUARE	NJ0066907
SOUTH	S17	CAPE MAY	AVALON COUNTRY CLUB	NJ0069884
	S18	MONMOUTH	BEACON HILL	NJ0105228
	S19	OCEAN	DEEP RUN	NJ0080055
	S20	BURLINGTON	HOMESTEAD	NJ0098663
	S21	BURLINGTON	MAPLETON	NJ0108120

* COLLECTION ONLY

NEW JERSEY AMERICAN WATER

Long Hill WWTP & Operations Center

EDC WWTP & Operations Center

Washington Operations Center

Canoe Brook Filter Plant & Short Hills Operations Center

Raritan-Millstone Water Treatment Plant & Raritan Operations Center

Netherwood Operations Center

Swimming River Filter Plant

Canal Road Water Treatment Plant

Shrewsbury Operations Center

Belle Mead Operations Center

Jumping Brook Filter Plant

Delaware River Regional Water Treatment Plant & Delran Operations Center

Oak Glen Regional Filter Plant

NJ American Corporate Office

Lakewood Operations Center

Fire Road Operations Center

Legend

- NJAW Water & Wastewater Systems
- AW / NJAW Contract Operations
- NJAW Statewide Wastewater Systems (Collection & Treatment)
- Operations Centers / Treatment Facilities
- Municipal Boundary
- County Boundary

Critical Areas

- Zone 1 - Depleted
- Zone 2 - Depleted
- Zone 1 - Threatened
- Zone 2 - Threatened

NJAW Service Area

- North
- Central
- Coastal
- South
- Water & Sewer Systems
- Contract Ops
- Bulk Sales

0 5 10 20 Miles

Date: 9/11/2023

Document Name: 2023NJAWServiceArea

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Donald C. Shields

January 19, 2024

Exhibit P-5

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

Page

I. INTRODUCTION

1. Q. Please state your name and business address.

A. My name is Donald C. Shields, and my current business address is 1 Water Street, Camden, New Jersey 08102.

2. Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("Service Company") as Vice President of Engineering supporting New Jersey-American Water Company, Inc. ("New Jersey-American Water," "NJAWC" or the "Company"), Virginia-American Water Company ("VAWC") and Maryland-American Water Company ("MAWC").

3. Q. What are your responsibilities in this position?

A. My present responsibilities include providing oversight, expertise and consultation for comprehensive system planning for use in developing system priorities and projecting capital spending, as well as the planning, design and construction of capital improvement projects for NJAWC, VAWC and MAWC.

4. Q. Please describe your educational background and business experience.

A. Please refer to Appendix A for a summary of my educational background and business experience.

5. Q. Have you previously testified in regulatory proceedings?

A. Yes. I have previously testified on behalf of NJAWC in the Company's base rate case applications in BPU Docket Nos. WR15010035, WR17090985, WR19121516 and

WR22010019, in the Company's various DSIC and WSIC filings and in the Company's joint petition for approval of the acquisition of Shorelands Water Company, BPU Docket No. WM16101036. In addition, I have previously testified on behalf of Applied Wastewater Management, Inc. in its base rate case applications in BPU Docket Nos. WR08080550 and WR03030222.

6. Q. What is the purpose of your testimony in this proceeding?

A. I will explain NJAWC's capital investment planning process and describe and support the Company's investments in water and wastewater utility plant and equipment since the last base rate case through the end of the test year in this case, 12 months ending June 30, 2024 ("Test Year") and the six months post-test year ending December 31, 2024 ("Post-Test Year" or "PTY"), totaling approximately $1.0 billion. Although my testimony will highlight certain capital projects placed in service during the Test Year or planned to be in service by the end of the PTY period, all capital investments, including recurring projects, are reasonable and necessary to continue to provide safe and reliable water and wastewater service for the benefit of our customers. I will also describe the Company's plan for the engineered coating of steel structures. Finally, I describe some of the risks associated with the provision of water service, the provision of wastewater service and the challenges increased climate variability creates for water and wastewater utilities.

7. Q. Do you sponsor any schedules as part of your Direct Testimony?

A. Yes. I am sponsoring Schedule DCS-1 Test Year plant additions and Post-Test Year plant additions supporting the Company's capital expenditures utilized in rate base.

The Schedule was prepared by me and under my supervision and direction and will be updated over the course of the proceeding to include actual data for both the full twelve-months of the Test Year as well as the 6-month Post-Test Year period.

II. NEW JERSEY-AMERICAN WATER'S CAPITAL INVESTMENT PROGRAM

8. Q. Please explain the Company's capital investment planning and governance process.

A. The Company uses a standardized Capital Program Management ("CPM") process to manage all its capital investments. NJAWC conducts comprehensive planning studies ("CPS") to assess and make project recommendations for its capital assets and evaluates capital needs on an ongoing basis to assess any changed circumstances and ensure that appropriate projects are being prioritized. Capital investment programs and projects are prioritized within an overall strategic planning process, utilizing drivers associated with various asset investment strategies (such as safety, regulatory compliance, capacity, customer satisfaction, etc.) to formulate a five-year strategic capital investment plan (hereafter, referred to as "capital investment plan"), which largely supports the Company's capital construction plan. For investment projects contained within the capital investment plan, detailed design engineering is conducted, and implementation plans are developed. Main replacement projects are examined annually and assigned priorities on a state-wide basis.

Numerous factors are considered when determining funding allocations for infrastructure investment, such as current and future service needs, assessments of the physical condition of existing plant, economic and risk factors, performance

characteristics, regulatory compliance, financial impacts to customers (rate impact) and the potential to coordinate with municipalities and other utilities in joint improvement projects. The CPM governance process provides for formal approvals and consistent controls that optimize the effectiveness of asset investment. Strategic project planning, budgeting and ongoing reviews ensure that NJAWC can manage a wide variety of projects within the overall cost of its plant construction budget.

9. Q. Please describe the CPS process and project prioritization activities in more detail.

A. The CPS process includes a thorough evaluation of demand projections, regulatory requirements, asset service reliability and quality, infrastructure condition, asset impacts on safety and efficiency, customer rates, public fire protection, and environmental sustainability. The CPS identifies, assesses, and provides project recommendations for the Company's capital assets on a multi-year planning horizon and includes a thorough planning level evaluation of each component of utility infrastructure. The Company also undertakes separate studies or evaluations for specific capital projects that emerge between each CPS. Capital investment projects are identified and are prioritized using asset investment strategy considerations of safety, regulatory compliance, capacity and growth, infrastructure renewal, efficiency, resiliency, reliability, and quality of service. Each CPS and any additional prioritization of identified capital investment projects are key inputs to the Company's capital investment plan. Because of the specific nature of the large asset class of distribution system mains, the Company completes a separate distinct evaluation for

identifying capital investment priorities in the distribution system. This evaluation is a detailed prioritization modeling of the distribution system piping that, as further described below, assesses service risks associated with pipeline failure risks for all the Company's approximately 9,970 miles of mains.

10. Q. Please describe the distribution system prioritization modeling in more detail.

A. As discussed in the Company's Distribution System Improvement Charge ("DSIC") Foundational Filings, most recently NJBPU Docket No. WR22030230 Appendix B (of the filing), the Company maintains a Geographic Information System ("GIS") - based prioritization model using GIS software and prioritization modeling software for identifying and prioritizing pipeline replacement investments across its systems. The model prioritizes pipe replacements through identification of service risks associated with pipe failure. Pipe failure risks are identified through pipe failure history, pipe material type, the decade pipe was installed, and pipe diameter. Pipe failure history is a significant input into the main replacement prioritization model. These pipe failures are identified not only during the Company's unscheduled main replacement projects but also during pipeline repair work. Pipe failure data is collected and tracked in the Company's GIS system. Consequences of pipe failures, which include customer impacts, are also an input to the prioritization model. Pipe failures not only impact individual customers but can also cause consequences that are major in nature to businesses, hospitals, governmental buildings, and the ability to provide fire service.

11. Q. How does the Company develop and update its capital investment plan?

A. Investment projects are profiled in the capital investment plan to address priorities in each CPS in an appropriate time frame. For example, infrastructure capacity expansion investment projects are scheduled based on demand projections. Capital investment projects required to meet both environmental and water quality regulations are scheduled for completion before compliance deadlines to allow adequate time for testing and operational performance monitoring of the new facility/assets to ensure compliance. This process ensures the facility operates successfully through varying operating conditions. Rehabilitation projects for service reliability are scheduled with consideration of existing asset characteristics, and risks and impacts of failure on service reliability and quality. Main replacement projects are identified and prioritized using the prioritization model discussed earlier in my testimony.

12. Q. Please describe the general project categories in the Company's capital investment plan.

A. The Company's capital investment plan can be divided into two distinct areas: recurring projects ("RPs" or "RP") and investment projects ("IPs" or "IP"). RPs are designated as such because they are the type of capital projects that the Company undertakes on a frequent and regular basis, require less long-term financial and capital planning than an IP, and can be performed with either the Company's current workforce or existing contractors. IPs on the other hand, are typically projects that require more planning and design detail as well as a lengthier procurement lead time and actual construction time.. Whether RPs or IPs, all aspects of the Company's capital

program are essential to continuing to provide safe and adequate service to NJAWC's customers and support the long-term viability, reliability and resiliency of the Company's water and wastewater systems.

13. Q. Please describe the RPs that are included within the Company's capital investment plan.

A. NJAWC's RPs include main replacement projects that are generally 12 inches in diameter and smaller, reinforcement and replacement of service line and meter setting installations, meter purchases, projects to replace and maintain treatment equipment, vehicle replacements and to a lesser extent the purchase of tools, furniture, and equipment. The Company's RP investments during the Test Year and PTY total approximately $453.2 million (see Schedule DCS-1).

14. Q. Are RP projects a critical component of the Company's capital investment plan?

A. Yes, RPs are critical investments for both the Company and customers as these investments support the backbone of NJAWC's water systems by increasing both system resiliency and reliability.

15. Q. Please describe how RPs are included within the Company's capital investment plan.

A. The various line-item costs for recurring projects are trended from historical and forecasted data, with specific project details accounted for where available. Main replacements are planned in accordance with the Company's project prioritization plan as described herein. Cost estimates for main replacement projects are prepared for the

installation of new mains and service lines, meter settings, and the purchase of new meters based on preliminary plats from the appropriate governmental planning agencies and consultations with developers, homebuilders, and engineering firms. The criteria for evaluating the priority of the recurring projects are engineering requirements, consideration of national, state, and local trends, environmental impact evaluations, and water resource management. NJAWC engineering criteria are based on accepted engineering standards and are developed from regulations, professional standards and NJAWC engineering policies and procedures. The engineering criteria support NJAWC's ability to have a water system that will continue to provide adequate capacity and appropriate levels of reliability to satisfy residential, commercial, industrial, and public authority needs, and provide flows for fire protection.

16. Q. Please describe how IPs are included within the Company's capital investment plan.

A. IPs represent investments made to meet environmental or water quality regulations, enhance system resiliency and reliability, expand infrastructure capacity, and either rehabilitate or replace aging facilities. These projects allow the Company to meet the service demands of the community, maintain regulatory compliance, and reduce asset failure.

The determination to include an IP within the capital investment plan begins with the development of the anticipated demand projections of the system, the identification of improvements needed to meet those demands, and the adoption of strategies designed to bring about the correct prioritization and distribution of capital spending for the

various requirements of the business. Specific capital planning requirements are addressed in both the short term (one year) and the longer term (five years). Projects are prioritized using objective criteria that validate the need for a project and assess the risk of not doing the project. A key aspect of this planning technique is that it is flexible and can be adjusted as needed to address new priorities, such as unplanned equipment failures, large or sudden growth of a service area, and new regulatory requirements.

17. Q. Please describe the Company's recent performance with respect to its capital investment plan.

A. NJAWC has successfully delivered its capital investment plan over the past five years. Capital investment plans, actual capital investment deliveries, and variances to the plan by year are shown in the table below:

NJAWC Capital Investment Plan vs. Actual				
Year	Plan	Actual	Variance	%
2016	310,129,159	312,717,235	2,588,076	0.83%
2017	395,807,573	396,832,035	1,024,462	0.26%
2018	343,331,837	347,782,915	4,451,078	1.30%
2019	344,838,815	362,158,711	17,319,896	5.02%
2020	438,245,187	430,413,130	(7,832,057)	-1.79%
2021	406,456,859	422,127,704	15,670,845	3.86%
2022	523,659,537	556,096,133	32,436,596	6.19%
Cumulative	2,762,468,967	2,828,127,863	65,658,896	2.38%

18. Q. Does NJAWC focus on control of capital expenditure costs in its normal day-to-day activities?

A. Yes. All significant construction work is performed by independent contractors and some significant purchases are completed pursuant to a bid solicitation process. NJAWC maintains a list of qualified bidders, and Service Company annually receives competitive bids for materials and supplies, such as pipe, valves, fittings, meters, chemicals, and other commodity items that are either manufactured or distributed both regionally and nationally through its centralized procurement group. Through the size and breadth of American Water, NJAWC has the advantage of being able to purchase these materials and supplies on an as-needed basis at favorable prices. In recent years, Service Company also has undertaken procurement initiatives for services and materials to reduce costs or mitigate price increases through either streamlined selection or utilization of large volume purchasing power. Among the initiatives that have directly impacted capital expenditures are the use of master services agreements with pre-qualified engineering consultants, national vehicle fleet procurement, and national preferred vendor identification. Mr. Shroba describes how NJAWC utilizes the Supply Chain team within Service Company to take advantage of the purchasing power of the entire American Water enterprise and control costs.

19. Q. Please describe some key achievements realized by the capital investment program at the Company.

A. There are several key areas that NJAWC has addressed with its capital investment program. First, we've made significant improvement in replacing aging infrastructure,

largely attributable to the main replacement program. As stated in the Company's latest DSIC Foundational filing (WR22030230):

Prior to 2012, approximately forty-five percent (45%) of NJAWC's mains were cast iron ("CI") (unlined & lined), indicating that almost half of NJAWC's water mains were more than fifty years old, and in many cases, significantly older. Through the main replacement program, measurable progress is being made. NJAWC's cast iron inventory as of December 2021 is approximately 38% of the total inventory, and approximately 49% of the CI inventory is lined, which includes rehabilitation through the cleaning and lining method. There remains a total of approximately 1,778 miles (19%) of unlined cast iron mains within NJAWC's distribution system. Since 2012, there has been a net reduction of the cast iron pipe inventory of 7%.

Since 2012, the Company has:

- replaced over 950 miles of main, 120,200 service lines, 15,500 hydrants and 30,700 valves.
- lowered its water main replacement rate from over 500 years to below 120 years, which is within the New Jersey Water Quality Accountability Act requirement of 150 years.
- invested a total of $1.553 billion in DSIC-eligible system improvement projects to replace or rehabilitate aging infrastructure.

Second, the Company has made significant enhancements for asset renewals which also include system reliability and resiliency. Some key projects completed within the last five years include:

- Mill Road Iron and Manganese Removal
- Route 9 Water Main Replacement
- Linden NJ 42" PCCP main replacement
- Oxford Station Treatment System Upgrades
- Vincentown Supply Reliability

Lastly, the Company has invested significantly in facilities for regulatory compliance. Of note, the Company now operates many systems to treat for regulated perfluorinated compounds (PFOA, PFOS and PFNA) throughout the State. Additional facilities under construction currently include the following:

- Oak Street PFAS (Lakewood)
- Cooper Ivy Station Upgrades (PFAS, Radium and 1-4 Dioxane)

As further discussed below in my Direct Testimony, the Company continues to prepare for new and more stringent regulations on emerging compounds and intends to take early action on planned upgrades and operational mitigation strategies to address these regulatory challenges.

III. DESCRIPTION OF PLANT ADDITIONS

20. Q. How much capital investment is the Company seeking to recover in this case?

A. Since the effective date of rates in the Company's last rate case, the Company has invested, or plans to invest, approximately $1.3 billion in capital expenditures through the end of 2024. For total plant in service please see Ms. Hawn's Direct Testimony, Exhibit P-6. As shown on Schedule DCS-1, beginning July 1, 2023, and through the end of the post-test year, the Company has invested or plans to invest over $860 million in its water and wastewater facilities. Of that amount, $561.4 million will be invested during the Test Year and an additional $300 million will be invested during the Post-Test Year.

21. Q. Please describe some of the key objectives related to the Company's investments and how they benefit customers.

A. The Company's investments since the last rate case address key issues for our customers, including improving asset resiliency, managing source of supply and system demands, renewing aging assets, increasing operational efficiency, and maintaining regulatory compliance. The projects the Company undertakes are designed to achieve multiple goals and are essential for the Company to continue to provide safe, adequate, and reliable service in a manner that is in the long-term interest of our customers. For example, many of these projects in Schedule DCS-1 are described below and include improved resiliency and reliability at treatment plants, as well as in the distribution system, managing source of supply both from a treatment and capacity perspective, improved pump efficiency, treatment changes to maintain regulatory compliance, and

so on. Additional examples include investments that further enhance the Company's hardware, software, and related technology appurtenances and systems. In each instance, these projects support the Company's continued provision of safe, adequate, and reliable service to customers.

22. Q. Please describe generally the capital expenditures through the Test Year as detailed further in Schedule DCS-1.

A. Schedule DCS-1 provides a summary of capital expenditures for the Test Year and Post-Test Year periods. The Test Year investment of approximately $358 million shown in Schedule DCS-1 includes five months of actual capital expenditure data for the period July 1, 2023, through November 30, 2023 and seven months of projected capital expenditure data for the period December 1, 2023, through June 30, 2024. As the Test Year is fully realized, NJAWC will supplement the projected data with actual data through June 30, 2024, in the Company's 9&3 and 12&0 updates to be submitted in this case.

23. Q. Please summarize the Post-Test Year capital expenditures for which NJAWC is seeking rate relief in this proceeding as shown on Schedule DCS-1.

A. The Company's Post-Test Year investment of approximately $312 million is based on projected capital expenditures NJAWC plans to make during the six-month period July 1, 2024, through December 31, 2024. NJAWC's Post-Test Year capital expenditures are known and measurable consistent with Board precedent, including *In Re Elizabethtown Water Company*, BPU Docket No. WR8504330 (May 23, 1985). Moreover, NJAWC's Post-Test Year capital expenditures are "prudent and major in

nature and consequence" and, therefore, have been included in rate base for cost recovery.

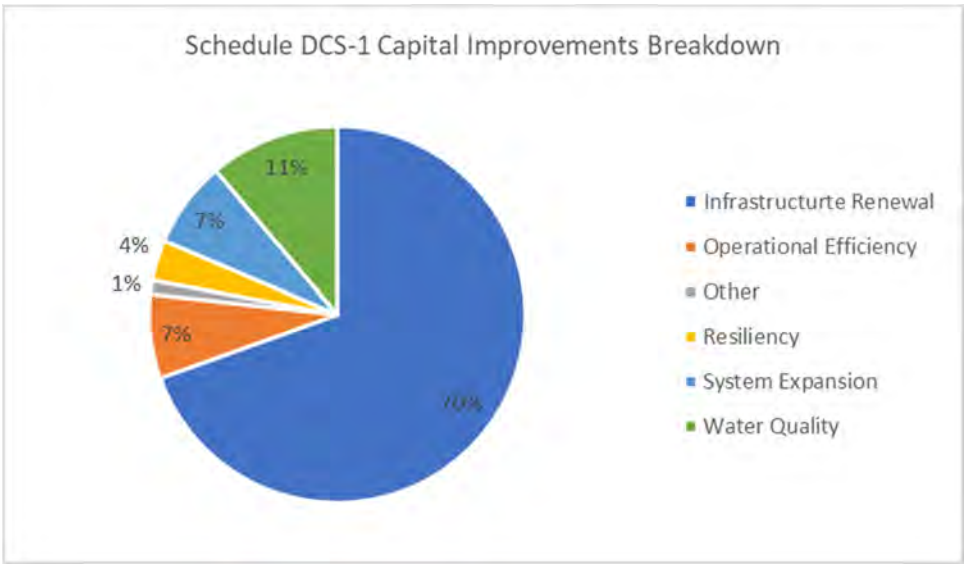
24. Q. Please provide an overview of the investments included in Schedule DCS-1.

A. As described in my Direct Testimony above, the capital program is driven by investments in plant to address the following issues:

- Infrastructure Renewal
- Operational efficiency
- Water Quality
- System Expansion
- Resiliency/Reliability
- Other – administrative and facilities

Projects can fall into several categories that meet various identified needs. For example, a filter upgrade project at a remote groundwater station can be identified as an asset renewal project if it is needed to replace outdated technology, which would also qualify it for operational efficiency. In addition, the project could also be categorized as a water quality enhancement should the filtration technology be upgraded to also remove new emerging compounds.

As can be seen in the chart below, the vast majority of NJAWC's projects fall into the Infrastructure Renewal category.



A further explanation and description of these categories is included herein, along with additional details regarding certain projects in each category. Additional information regarding all the projects or line items in Schedule DCS-1 can be provided upon request.

25. Q. Please describe the Company's infrastructure and asset renewal investments in more detail.

A. Asset management is recognized as an industry best practice, and the United States Environmental Protection Agency ("USEPA") has been directed under America's Water Infrastructure Act of 2018 ("AWIA") to require states to incorporate asset management into their capacity plans, with several states having adopted requirements for water utilities to complete asset management plans ("AMPs"). Additionally, under the New Jersey Water Quality Accountability Act ("WQAA"), water utilities are required to maintain an AMP similar to the AWIA requirements. NJAWC follows the key steps set forth by both USEPA and the WQAA for sound asset management,

including maintaining an accurate inventory of assets, providing an assessment of the condition and performance of these assets, with particular emphasis on high-criticality assets, performing risk assessment of assets in terms of their criticality and potential for failure and service disruption, and providing a recommended renewal program that includes operations and maintenance ("O&M") and inspection.

It is well documented that the water and wastewater utility industry is faced with significant capital investment needs to renew aging infrastructure.[1] Nationwide, water system pipeline replacement rates are in the range of 0.45% per year, which translates to a replacement cycle of approximately 200 years. Through heightened focus on this issue, and as described herein, NJAWC has significantly improved its pipeline replacement rate over the last few years, from near industry average levels in 2011 to a five-year average rate of 0.85% from 2018-2022 (latest full year available).

NJAWC regularly assesses whether the current asset renewal investment levels, for both above ground and buried assets, are sufficient to maintain appropriate levels of service. NJAWC employs a multi-faceted approach to managing assets, including the use of innovative technologies to detect, mitigate, or repair asset failures; condition-based and/or reliability-centered maintenance; and a risk-based strategic plan and framework for prioritizing and implementing asset renewal while considering the impact on customer rates. Alternative asset renewal technologies, including pipeline rehabilitation, are considered wherever cost-effective.

[1] *See, e.g.*, American Water Works Association, *Buried No Longer: Confronting America's Water Infrastructure Challenge* (2012), https://www.awwa.org/Portals/0/AWWA/Communications/BNLReport.pdf.

Some examples of infrastructure and asset renewal projects included on Schedule DCS-1 follow:

- Central Lead Service Line Replacements – This project includes the investigation of all unknown Company and customer side service lines as well as the investigation and replacement of known lead service lines in Central Raritan East operating region. The replacement of known lead service lines in the Central Raritan East operating region will occur within eight towns and will be addressed in order of the prioritization model produced by CDM Smith as part of the statewide program. The bulk of the replacements that have already occurred under this project were located in Hillside. The remaining scope of the project includes an anticipated 4,000 services replacement goal for DEP reporting Period of July 2023 to July 2024 with an average estimated cost of $6,000 each. The remaining seven towns are:
  - Dunellen- 21 Suspected and 1929 Unknown -Anticipated Total of 151 Replacements.
  - Linden- 192 Suspected and 9,952 Unknown -Anticipated Total of 1283 Replacements.
  - Middlesex- 23 Suspected and 4,266 Unknown -Anticipated Total of 297 Replacements.
  - North Plainfield- 581 Suspected and 3,150 Unknown -Anticipated Total of 1685 Replacements.
  - Plainfield- 861 Suspected and 8,399 Unknown -Anticipated Total of 4,905 Replacements.

- Roselle- 212 Suspected and 4,381 Unknown -Anticipated Total of 1,121 Replacements.
- Roselle Park- 484 Suspected and 2,016 Unknown -Anticipated Total of 1,250 Replacements.
- The estimated project total is 11,742 Anticipated Replacements.

Note that this project will be eligible for Principal Forgiveness ("PF") under the I-Bank program. Estimated PF for this project is $5M. Final PF amounts will be determined by the I-Bank at the conclusion of the project (conversion to long term loan).

- Raritan Millstone ("RM") Filterhouse and HVAC Improvements – This project consists of replacing aging heating cooling and ventilating systems within the filter buildings and "head house" building at the RM plant to improve reliability and energy efficiency at these areas. These areas are of critical importance as they house sensitive instrumentation and control systems for measuring flows, turbidity and chlorine levels and any temperature and humidity variations can cause condensation and subsequent corrosion of these systems. The older steam-based heating system had reached the end of useful life and was inefficient and incapable of adequate heating. Ventilation units were likewise older, and inefficient as well as incapable of providing adequate air changes. Also, doors, windows and roof penetrations (skylights, etc.) are aged and do not provide adequate insulation and are prone to significant air leakage.

The project includes removal and replacement of the old inefficient components with new high efficiency heating systems, air handling units, ventilation system components as well as replacement of doors windows and roofing components. Elements of heat recovery from the engine driven pumps will be incorporated to enhance efficiency.

- Long Hill Twp. ("LHT") WWTP Filter and Pump Improvements – the existing LHT WWTP is currently unable to pump and treat peak daily and hourly flow. The system has historically needed to bypass the tertiary filter units once flows exceed 2.8MGD. Additionally, the influent pumping capacity is limited to a reliable capacity of only 3.4MGD while the plant is rated for a flow (peak hour) of 5.2 MGD. The inability to pump the peak flows results in sewer system backup into the collection system which increases the potential risk of sanitary system overflows which would result in a Notice of Violation to be issued by the New Jersey Department of Environmental Protection ("NJDEP"). Additionally, the building is also located in a flood plain area and is in need of flood protection measures to enhance the plant's resiliency. The buildings also require various repairs to the roof, walls, windows and doors. The improvements included in this project include the following:
  - Replace the existing influent pumps No. 3 and No. 4
  - Replace the four (4) Return Activated Sludge (RAS) pumps
  - Replace the existing sand filters with new disc filters
  - Perform UV Building Improvements
  - Perform Digester Building Improvements

- Perform miscellaneous site repairs/replacement

- Glen Meadows WWTP Upgrades – The Glen Meadows WWTP is a small extended aeration wastewater treatment facility located in Clinton Township, Hunterdon County, NJ. The plant serves both the Glen Meadows and Twin Oaks residential developments, having a combined total of 58 single family homes. The plant receives only gravity flow from the customers. Its rated capacity is 25,000 gallons per day and operates under NJPDES Permit NJ0100528. The existing extended aeration treatment equipment is nearing the end of its useful life. There is a structural deficiency with the base slab for the aeration tanks and the steel walls of the aeration tanks have become structurally unstable. There is significant corrosion of the walls with holes in certain areas requiring frequent patching. The existing sand filters have corroded and are leaking. The project includes removal and replacement of all treatment tanks and equipment and replacing same with new tanks and equipment to handle existing flows.

26. Q. Please describe the Company's operational efficiency investments in more detail.

A. Targeted capital investment can improve operational efficiency which can decrease, or mitigate increases to, O&M expenses. For example, NJAWC routinely seeks opportunities for energy use reduction when evaluating equipment rehabilitation and replacement needs to continue to support the provision of reliable service. While the primary focus is on pumps and motors, alternative energy production is also considered, as these technologies are becoming more cost-effective, especially where incentives are available. NJAWC also has identified advanced leak detection methods

that can more efficiently identify and address leakage. Reducing water loss has the attendant benefit of reducing the costs associated with producing and pumping the non-revenue water ("NRW") over time. These types of projects, along with technology solutions that improve worker productivity, streamline the customer experience, or improve overall system efficiency to help keep our costs down. One key example of the Company's efforts for improving water efficiency includes the NRW Management – Central Project. This project entails replacement of 1735 hydrant mounted nodes that have reached the end of their useful life (battery depletion and discontinuance of 3G cellular communication). The units to be replaced are located in Piscataway, Roselle, Somerville, Jamesburg, Manville, and Kenilworth. The updated units are expected to have an increased useful life of 10 years and will allow the Company to continue its efforts to reduce leakage in its Central Operating Region.

27. Q. Please describe the Company's water quality investments in more detail.

A. NJAWC is committed to maintaining compliance with existing drinking water standards and works hard to identify and address potential water quality issues before they become MCL exceedances. Water quality projects are considered high priority as they are related to public health protection of our customers.

Additional capital projects related to applicable environmental regulations are also included to ensure any compliance deadlines are met.

Over the past several years, there has been an increasing concern regarding the presence of compounds of emerging concern ("CECs") such as per- and polyfluoroalkyl

substances ("PFAS") and 1,4-dioxane in drinking water supplies. Recent advances in analytical methods have revealed the presence of CECs in some drinking water supplies at previously undetectable parts-per-trillion ("ppt") levels. Research is ongoing, but some scientific studies have identified potential health concerns for a number of these compounds even at the low ppt levels. As a result, USEPA had established health advisory levels ("HALs") for some PFAS and other CECs and has begun the process to establish MCLs for PFOA and PFOS.

The State of New Jersey has established MCLs for some CECs, including PFNA, PFOS and PFOA,[2] in advance of USEPA establishing federal limits; limits for PFNA were adopted by NJDEP in 2018 while limits for PFOS and PFOA were adopted by NJDEP in 2020. The Company has completed or is in the process of completing several projects to meet state MCLs.

In March of 2023, USEPA issued proposed national primary drinking water regulation for certain PFAS as described in the March 29, 2023, *Federal Register* (88 FR 18638). In summary, the USEPA has proposed MCLs of 4.0 parts per trillion (ppt) for PFOA and PFOS while introducing regulation of PFHxS, HFPO-DA, PFNA, and PFBS coupled with the use of a Hazard Index Approach to Regulate PFHxS, HFPO-DA, PFNA, and PFBS[3].

[2] See https://dep.nj.gov/pfas/standards/ for details.
[3] See https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas.

Some examples of water quality projects included on Schedule DCS-1 follow:

- Mill Road – North Linwood Iron Removal – In recent years the area around the Mill Road Station has experienced high levels of discolored water resulting from excess Manganese levels. The station had historically sequestered both iron and manganese with a sequestering chemical (Klephos 100) but increasing levels of manganese as well as oxidation issues (from required chlorination) caused the release of the manganese (as well as lesser levels of iron). The levels have exceeded the secondary drinking water quality standards and cause the Company to expend significant resources to resolve the issues for customers; operational mitigation includes increased flushing frequency, changes to chemical levels flows and pressures as well as individual customer outreach. While these efforts are somewhat effective in the short term, they are not long-term solutions to the problem. The project includes construction of a new building at the MRS site to house manganese dioxide media filters for the removal of particulate iron and manganese. The plant is designed to treat the current well capacity of 1,390 gpm. The design also allows for the expansion of the facility to treat as much as 2,140 gpm (3.08 mgd) in the future, with future provisions for the construction of a new well will be brought online for treatment at the facility. This includes, but is not limited to, additional filtration, packed tower air stripping, chemical storage and feed, and hydraulic capacity.

- Oak Street PFAS – Due to elevated levels of PFOA/OS at the Oak Street Well Station, located in Lakewood, NJ, installation of new treatment equipment is

required. The new equipment will consist of either granular activated carbon or anionic exchange media and associated vessels, chemical feed equipment as well as upgrades to instrumentation and control systems. The equipment will be housed in a new structure and will be sized for full system flow.

- Oxford Well Station ("OWS") Treatment Upgrades – The OWS treats water from two wells for Volatile Organic Compounds ("VOC's") removal with GAC adsorption and sodium hypochlorite is added for disinfection. Low levels of trichloroethene ("TCE") are treated with a temporary treatment system consisting of seven (7) GAC contactors. As part of its permit renewal process, NJDEP required that the temporary GAC units be replaced with a permanent treatment solution. In addition to the VOC removal, 1,4-dioxane has also been detected at the wells. Because these wells are the primary source of water for Oxford customers, the Company plans to install a new treatment system designed to address VOCs and 1,4-dioxane in addition to TCEs. The system includes AIX and peroxide for advanced oxidation for 1,4-dioxane removal while also removing the VOC's in the raw water.

28. Q. Please describe the Company's resiliency and reliability investments in more detail.

A. The increasing frequency of extreme weather events and other natural disasters as magnified by climate variability has significantly challenged NJAWC's infrastructure. Water and wastewater systems have been traditionally designed and maintained to provide reliable service under standard design conditions (*e.g.*, 1-in-50 year drought,

1-in-100 year flood, etc.). Such standards, however, are based on historic climate patterns that may no longer be typical. Systems may be expected to cope with more extreme and frequent droughts, floods, power outages, and storms that may impact service. In addition, other man-made events such as source water contamination, and accidental or purposeful damage to facilities may result in significant impacts on customer service and asset integrity.

For NJAWC's most critical assets, defined as those with the highest consequence of failure, capital investments to further "harden" systems against identified natural threats are prioritized for implementation. Non-capital solutions are also part of the solutions toolkit to provide more system resiliency in mitigating such risks, such as more robust emergency response plans ("ERPs"), drought management plans, condition-based and/or reliability-centered maintenance, and other operations plans and asset management strategies that enable better preparedness and ultimately more assurance that reliable service can be maintained.

In October 2018, Congress passed AWIA, which includes revisions to the Safe Drinking Water Act ("SDWA") that require all water systems serving populations greater than 3,300 people to complete Risk & Resiliency Assessments ("RRAs") and update their ERPs over a three-year period. NJAWC has completed RRA's for affected systems in accordance with compliance deadlines. Capital improvements identified through this process aimed at reducing risk and improving system resiliency are considered for incorporation into the Company's capital plan.

Some examples of resiliency and reliability projects included on Schedule DCS-1 follow:

- Oak Tree Booster Station Upgrades – The Oak Tree Booster Station Complex is located in Edison Township, New Jersey. On this property are three critical NJAWC facilities: New Oak Tree Booster Station, New Oak Tree MCC/Generator Building, and the Old Oak Tree SCADA/Pump Building. Also on site are storage tanks #1-4 which are 10 MG, 10 MG, 5 MG, and 1 MG. This station is a critical facility that supports flows that feed the eastern half of the Central 273 and 274 gradients and serves as an interconnect to feed the Jerusalem Road reservoir and booster station as well as feed to NJAWC's North (Passaic) system Diamond Hill Booster. Reliability at this station is critical to maintain service to hundreds of thousands of residential customers as well as commercial and bulk customers.

  The Oak Tree booster station suffers from both aging/obsolete infrastructure and poor pump efficiencies. The existing pumps were installed between 1965 and 1993. Pump efficiency tests indicated that the existing pumps were performing below their rated efficiencies and were in the mid to low 60% range. Furthermore, the age of the equipment (specifically Pumps 1-4; vintage 1960's) is a concern relative to reliability, repairs and maintenance. The booster station has a number of structural deficiencies, including concrete deterioration and cracking which has required emergency structural stabilizing. Significant structural repairs are needed to extend the useful life of the original structures.

The project work includes installation of new pumps and motors within pump station 1&2 building as well as pumps 3-6 within pump station 3-6 building. The work also includes removal and replacement of the motor control center and associated electrical equipment. Electrical components for the pumps include complete replacement of the panels and electrical equipment for Pumps 1-2 currently housed in the existing block building, and replacement electrical equipment for pumps 3-4 with new equipment but to remain in the same housing. Other related work includes replacement of electrical feeder cables for all upgraded pumps.

Building structural improvements include rehabilitation of the existing CMU building; cleaning of the masonry building, crack repair, protective waterproofing, drain replacement and flashing, and reinforcement of the existing masonry pipe and exhaust fan openings. And lastly the work also includes installation of new 400kv back up generator.

- Vincentown Supply Reliability – The existing Vincentown Well Station ("VWS") building (circa 1904) treats water withdrawn from two wells screened in the Mt Laurel – Wenonah aquifer, Well No. 1 and Well No. 2. The well supplies are routed to an old masonry building that also houses electrical switchgear, SCADA controls, and chemical treatment [sodium hypochlorite and tetrapotassium pyrophosphate (Klenphos-100)]. The VWS is located near the edge of a drop-off to a creek below. Erosion of the embankment has gradually led to settling of the building. Additional structural support was added in 2013 to reinforce the building and reduce the risk

of immediate failure. However, further erosion of the embankment could lead to failure of the building, loss of the treatment process, and loss of the only supply station for the Vincentown System. Well No. 1 is also located close to the embankment and has suffered from instability as well; it, too, is at risk of failure and cannot be either redeveloped or otherwise serviced due to the embankment stability concerns.

Due to significant site constraints at the existing well station, a new site was investigated and procured. The project work includes installation of new production wells and a well station (treatment) on an easement on the Southampton Board of Education property. Included in project will be two replacement wells, a new treatment building for the addition of corrosion inhibitor and sodium hypochlorite (on-site generation), all necessary piping and analyzers, an electrical/control room as well as a permanent back-up generator. The existing Vincentown station (along Retreat Road) will be removed and the existing wells on that site will be abandoned.

- Jerusalem Rd Booster Station Improvements – This project includes design and construction work to replace the existing below grade Jerusalem Road pump 1 and 2 booster station with a new above grade booster station building with individual mechanical and electrical rooms. The existing booster station has reached the end of its useful life and is in poor condition, with the pumps and electrical equipment requiring upgrades. Servicing this facility also presents a safety hazard, as pumps 1 and 2 are in an underground vault (confined space entry). Improvements are needed for safe and continued operation of the booster station. Targeted piping

replacement is also needed at the station to improve hydraulic conveyance. The new booster station will include two 1,500 gpm vertical turbine pumps equipped with VFD's and an emergency backup generator. The new pumps will be installed along with new 16-inch suction and discharge piping. Electrical upgrades to site power and SCADA control functionality will also be included. In addition, a motor-operated control valve MOV (altitude valve) is to be installed for the storage tank.

29. Q. Please describe the Company's administrative and facilities investments in more detail.

A. While the above categories are broad and generally encompass nearly all projects within the Company's capital program, there are certain projects that may fall into the facilities category. This category can contain elements of each area above. For instance, older facilities may lack important security features, may have inadequate ingress or egress, or may have substandard fire detection and suppression systems. Mechanical and electrical systems may be old and inefficient resulting in higher electric and gas expense charges. And in some cases, the facilities are simply inadequate to handle the materials and equipment necessary to manage the required repairs and replacements for the level of service that customers expect and deserve. Lack of adequate storage space for materials and equipment is often a key driver for facility improvements. Projects for facility upgrades also include investments in employee offices, restrooms, lockers and other support facilities. These are key investments in infrastructure necessary to attract and retain an engaged workforce.

Some examples of administrative and facilities projects included on Schedule DCS-1 follow:

- Lawnside Operations Center Block C – The Lawnside facility was originally designed without inside parking/storage of diesel trucks and equipment. The new Block C building was added in order to maximize the operating lifespan of the trucks, excavation equipment and related items. In addition to protection from inclement weather it will also prevent theft of any key parts of the equipment.

- Somers Point Storage Yard – NJAWC is currently storing stone materials and other necessary items for everyday T&D work at the Somers Point Tank site. Due to the location of the site and local residents' concerns about use of the site during off hours operations, primarily related to emergency main repairs at night, NJAWC is either faced with requesting a zoning variance or relocating the material being stored. Somers Point has allowed NJAWC to continue to operate with restricted hours in a temporary manner until a more permanent solution can be achieved. After several rounds of investigating and evaluating several sites, the location at the well station between Delilah Road and Commerce Drive has been selected as the best solution. The work will involve site work and material storage equipment and facilities at the well station.

30. Q. Are the projects about which you are testifying in this proceeding necessary and prudent in order for the Company to continue to provide safe, adequate and reliable utility service?

A. Yes, they are. These projects are necessary to continue to provide safe, adequate and reliable water service in a manner that is in the long-term best interest of our customers. For example, plant improvements designed to meet water quality regulations will minimize the risk of both Notices of Violation ("NOVs") and MCL violations. Projects aimed at addressing health and safety risks mitigate potential accidents and improve both employee and customer safety. Projects designed to improve energy efficiency help to achieve the goals of improving operational efficiency and reducing energy usage. Replacement of deteriorated assets can reduce the risk of system outages, which helps promote high customer satisfaction. All of these examples show that prudent capital investment is in the best long-term interest of our customers.

IV. WATER STORAGE TANK REINVESTMENT PROGRAM

31. Q. Please describe the Company's water storage tank reinvestment program ("WSTR"), also referred to as Engineered Coating of Steel Structures.

A. The Company invests millions of dollars each year in its WSTR to extend the service life of these critical distribution system storage assets. NJAWC owns and operates 193 structures to store potable water in distribution systems for fire protection, flow equalization and pressure management as well as management of peak demands. Another 58 process tanks are used at treatment plants to provide potable water to customers across the state. The integrity of these structures is crucial to helping to

protect public health and providing safe, adequate and reliable water service to customers. Investments in these structures include the replacement of corroded steel components, safety and security upgrades, and renewal or replacement of existing paint (coating) systems.

The WSTR entails an inspection of the interior and exterior structure of the tank, a prioritization program to define an annual program, bidding the work to qualified licensed contractors, awarding contracts and scheduling the work, releasing the tank to the contractor for the replacement of corroded steel components, the installation of new safety and security upgrades, and the coating reinvestment work, followed by disinfecting the tank and returning the tank to service.

32. Q. Please describe the service life considerations for water storage tanks in distribution systems.

A. Water storage tanks are generally constructed of steel or concrete, and can be configured as ground level storage tanks, elevated tanks or standpipes. Material of construction and type of tank are dictated by service requirements and cost. Of NJAWC's tank inventory of 251 tanks, 210 are steel and 41 are concrete. If properly designed, constructed and maintained, these tanks can be expected to have service lives of numerous decades despite exposure to harsh environmental conditions. A majority of these tanks are located outside and are exposed to a wide range of air temperature, humidity, water temperatures, wind loading, and seasonal weather conditions. Steel tanks need to be protected from exterior corrosion that can result from the harsh outdoor environment and interior corrosion that can result from the effects of chlorinated water.

This is especially true for coastal areas where salt air is highly corrosive to steel surfaces. In general, minor corrosion spots can be repaired; however, significant corrosion, if left unattended, can lead to structural damage and poor aesthetic conditions. In addition, this corrosion could potentially result in a breach of the tank, which could lead to contamination of the tank contents from infiltration or worse, tank structural failure. Proper inspection, ongoing routine care to address spot corrosion, and major recoating projects can therefore extend the service life of steel tanks. Concrete tanks are generally more costly to construct than steel but do not require the same level of exterior reconditioning.

33. Q. Please describe the importance of the WSTR.

A. Steel tanks require occasional, but significant investment in the coating system. NJAWC utilizes a high-performance engineered coating system on both interior and exterior surfaces of tanks. The service life of the interior and exterior coatings varies depending upon several conditions, but typical high-performance coatings can last up to about 20 years. Installation of new coating systems on existing tanks typically requires removal of existing coatings to bare metal through abrasive blasting and then installation of a new, engineered, three-coat system that will coat the structural metal and extend its useful life significantly. Containment systems are often used to control dust and overspray during blasting and coating installations. Some existing steel structures may have previously been coated with lead-based paint systems. Under those circumstances, the project activities are supplemented with lead abatement efforts to

contain, collect, and properly dispose of possible lead-based residuals and other efforts to help protect workers and the environment.

34. Q. What amount is the Company projecting for annual tank rehabilitation?

A. The Company estimates its annual rehabilitation costs to be approximately $9.3 million.

35. Q. What factors are taken into consideration when determining this cost?

A. The detailed tank inspections and subsequent report and recommendations will weigh heavily in determining the actual tank rehabilitation needs and priorities. Further, the various geographical differences in tank location, *i.e.*, tanks located along the coastal regions may have a decreased coating life compared to a tank in more remote wooded regions in the central part of the state.

36. Q. Does the Company complete inspections and development of detailed plans and specifications for the WSTR work on an annual basis?

A. Yes, the Company performs inspections and has detailed plans and specifications prepared for the work identified in the inspections every year. It is the foundation for the tank rehabilitation program.

V. THE RISKS OF FURNISHING WATER AND WASTEWATER SERVICES

A. Public Water Service

37. Q. Please provide an overview of the risks associated with furnishing safe and adequate water quantity and water quality and complying with drinking water

and environmental regulations that apply to NJAWC's water supply facilities and operations.

A. Water supply utilities are subject to a complex array of regulations at the federal, state and local levels with respect to water quantity, water quality and other environmental aspects of their facilities and operations. NJAWC's surface water and groundwater sources are subject to run off from upstream sources that can lead to possible contamination and resulting treatment challenges such as cryptosporidium, PFAS, or an unexpected chemical release upstream. These episodic challenges will continue to face the Company, all while needing to meet the everyday requirements imposed by programs administered by the NJDEP.

Drinking water quality is addressed by a combination of federal regulations established under the SDWA coupled with state regulations and enforcement. The federal act established the USEPA as the federal regulatory authority on drinking water. Under that authority, USEPA has created standards for contaminant levels in drinking water and a series of mandatory treatment method standards, coupled with monitoring and reporting requirements, and public notification mandates in the event of contaminant level or treatment method noncompliance. The USEPA has granted primacy to the NJDEP, which administers the federal regulatory standards. In recent years there has been an increase in public concern over water quality standards and regulation. This increase has led to growth and increased stringency in USEPA and state drinking water research and regulation.

The following is a brief summary of some of the key risk issues associated with current and prospective regulation of water quantity, quality and other environmental aspects of water supply system operations:

In addition to existing rules such as the Long Term 2 Enhanced Surface Water Treatment Rule ("LT2ESWTR") and Stage 2 Disinfectants and Disinfection Byproducts Rule ("Stage 2 DBPR") that continue to evolve, the Third Unregulated Contaminant Monitoring Rule ("UCMR 3") is a rule published by the USEPA in 2012 that assesses the prevalence in water supplies of certain contaminants not currently regulated under the SDWA. Certain contaminants have received particular scrutiny under UCMR 3. These include perfluorooctanoic acid ("PFOA"), 1,4-dioxane, and hexavalent chromium (chromium (VI)). PFOA is a perfluorinated compound ("PFC"), a manmade chemical used in a variety of consumer products. PFOA is prevalent in New Jersey, particularly in groundwater sources that have a history of contamination from other VOCs. Previous studies have documented developmental effects from PFOA including liver toxicity, kidney toxicity, immune effects, and cancer. Since the UCMR 3 rule requirement, the NJDEP has enacted MCL levels for PNFA, PFOA, PFOS[4], at the following limits:

- PFOA: 14 ng/L, or 0.014 µg/L
- PFNA: 13 ng/L, or 0.014 µg/L
- PFOS: 13 ng/L, or 0.014 µg/L

[4] https://www.nj.gov/dep/newsrel/2020/20_0025.htm

Prior to this regulation, PFOA had a health reference level established by the New Jersey Drinking Water Quality Institute ("NJDWQI") of 40 ng/L. PFOA has been detected in many system wells above the concentration of the NJDEP MCL. Several wells in the Central Region had been found to have elevated levels of PFOA, including Charles St, Quinton Ave, Green Brook, Rock Ave Piscataway, Clinton Ave, Netherwood, Hummocks, and Springfield.

This NJDEP MCL promulgation for PFOA has had a significant impact on the groundwater supply of NJAWC's systems. Regulation requires discontinued use of affected wells or installation of treatment systems. Since the implementation of the new limits, NJAWC has discontinued use of PFOA impacted wells at Greenbrook Station, Charles Street Station, Quinton Ave. Station, Rock Avenue Station and Clinton Avenue Station. Many of these stations were repurposed to act as boosters to move surface water into the associated pressure gradients. The Company has mitigated the risks of a system supply deficit which could compromise system integrity if not addressed through its proactive efforts to discontinue the use of certain wells and/or install effective treatment at others. Supply, capacity and distribution system improvements were completed in order to comply with the regulation and to ensure adequate levels of service are provided. As described within my testimony, there are several projects that the Company has completed or will complete that address the PFOA (and broader PFAS) issues throughout the state. Recent completions include Baltusrol Station, Short

Hills Station as well as Springfield Station and Hummocks Station. Treatment for the Netherwood Station is planned and construction expected to start in late 2023.[5]

On March 14, 2023,[6] the USEPA issued proposed drinking water regulations for six PFAS, which will establish legally enforceable levels (Maximum Contaminant Levels, or "MCLs" and Maximum Contaminant Level Goals ("MCLGs")) for each of these six PFAS that are known to occur in drinking water, all of which are more stringent than those currently in place in New Jersey. In addition to the MCLs and enforceable limits for these six PFAS, the USEPA is proposing requirements for the continued monitoring of PFAS, public notification of monitoring results if they exceed defined limits, and the treatment of drinking water to reduce PFAS to required limits. The USEPA is expected to finalize its PFAS Rule in January 2024 at which point public water systems will be required to modify their facilities to comply within three years.

For the Company, these new requirements will require investments of over $500 million before the end of 2027, based on preliminary estimates; specific projects and investments will depend on the results of monitoring and pilot testing as envisioned by the regulations. Regarding 1,4-dioxane, the state of New Jersey is investigating the regulation of this compound through the Drinking Water Quality institute. Recently the DWQI recommended to the NJDEP that a MCL of 0.33 parts per billion ("ppb") be approved by the NJDEP for implementation. During this time, NJAWC has actively

[5] In the interim, these wells are not in use. Supply from the Raritan Millstone and Canal Road WTPs is available to serve customers in the region. This station is one of several groundwater stations used for resiliency in Central Region.

[6] US EPA Fact Sheet – *EPA's Proposal to Limit PFAS in Drinking Water* https://www.epa.gov/system/files/documents/2023-04/Fact%20Sheet_PFAS_NPWDR_Final_4.4.23.pdf.

participated in monitoring both surface water and groundwater systems for 1,4-dioxane. Advanced Oxidation treatment using peroxide and ultraviolet light is in place at the Hummocks station (which also has PFAS removal equipment). Additionally, the Company has completed the installation of treatment equipment for 1,4-dioxane at the Delran WTP, in response to increased levels in the Delaware River.[7]

As the result of conditions that arose in Flint, Michigan and other jurisdictions across the country, including Newark, increased scrutiny is being placed at all levels concerning lead concentrations in water systems and the adoption[8] of more stringent requirements under the federal Lead and Copper Rule. The lead issue typically arises not from constituents in source water, but rather from the leaching of lead from older pipes and joints into the water as it passes through household service lines and plumbing. While providing centralized treatment that adjusts the pH can, in many cases, help minimize lead corrosion, the fact is that the plumbing in many older communities (including those in NJAWC's service territory) are older lead pipes or contain the type of copper and galvanized pipes with solder joints where lead contamination is an increased risk.

The USEPA recently issued and formally adopted Long Term Revisions to the Lead and Copper Rule ("LCR" or "Rule").[9] Generally, the revisions center around providing

[7] https://www.nj.gov/dep/14-dioxane/
[8] https://www.epa.gov/newsreleases/epa-announces-intent-strengthen-lead-and-copper-regulations-support-proactive-lead.
[9] The EPA has also recently issued the Lead and Copper Rule Improvements Draft as of December 6, 2023, the requirements of which the Company is still evaluating. *See* https://www.epa.gov/ground-water-and-drinking-water/proposed-lead-and-copper-rule-improvements.

for a more protective and enforceable health standard. Key areas that the revised Rule covers include more robust inventory management, strengthened corrosion control, treatment, increased sampling, and improved risk communication. The Rule as promulgated will impose significant additional capital investment requirements and increased operating expenses on all water systems. In addition, the New Jersey legislature has supplemented USEPA's recommendations with legislation (A5343/SS3398) that provides for more stringent inventory and lead line replacement requirements than the revised LCR ("NJ LSL Legislation").[10]

Most details of the changes to the Rule, as supplemented by the NJ LSL Legislation, include the following:

1. Identifying areas most impacted: this will require a lead line inventory for the first time, due in 2024. The NJ LSL Legislation requires a first inventory in January 2022. The Company is in compliance with the legislation and most recently submitted an updated annual inventory in January of 2023.
2. Strengthening Treatment Requirements: a new trigger limit of 10 ppb; systems that currently provide for corrosion control treatment, such as certain NJAWC systems, would be required to optimize the existing treatment scheme. Systems that do not practice corrosion control would be required to complete a corrosion control study.

[10] *See* https://www.asdwa.org/2021/07/26/nj-governor-signs-law-requiring-all-lead-service-lines-to-be-replaced-in-10-years/#:~:text=10%20Years%20%2D%20ASDWA-,NJ%20Governor%20Signs%20Law%20Requiring%20All%20Lead%20Service,be%20Replaced%20in%2010%20Years&text=Last%20Thursday%20(7%2F22),service%20lines%20within%2010%20years; *see also* https://nj.gov/governor/news/news/562021/approved/20210722a.shtml

3. Replacing Lead Service Lines: The 10 ppb trigger would require the utility to work with the state to set an annual goal of lead service line replacement so that a level below the 10 ppb trigger could be achieved. Also, partial lead service line replacements would not be allowed under the proposed Rule. The NJ LSL Legislation requires all lead service lines to be removed within 10 years, including galvanized lines.
4. Increased Sampling Reliability: a new sampling techniques and selection criteria to ensure the most at-risk communities receive the greatest sampling efforts.
5. Improving Risk Communication: 24-hour notification of any action exceedance levels, along with requiring systems to make the lead service line inventory publicly available. There are also additional annual reporting requirements under NJ LSL Legislation.
6. Protecting Children in Schools: schools are required to sample and test schools and day care facilities in a similar manner to public water systems. The NJ LSL Legislation has additional requirements for schools and other community facilities.

In addition to the items above, NJDEP has shared a few ideas with external stakeholders through various workshops and stakeholder meetings that suggest it is considering changes above and beyond the USEPA revised Rule as published. As of the date of this writing these changes are not yet formalized.

38. Q. Are there any additional contaminant testing initiatives from USEPA?

A. Yes, in 2016, the USEPA issued the Fourth Unregulated Contaminant Monitoring Rule ("UCMR 4"), which required monitoring for 30 chemical contaminants[11] between 2018 and 2020 using analytical methods developed by the USEPA and consensus organizations to provide a basis for future actions to help protect public health.

Following a successful UCMR4 sampling effort, NJAWC has used the resulting data to direct current and future operational mitigations and projects. Specifically, the Company has directed resources and expertise in expanding its utility-owned laboratory cyanotoxin analytical capabilities. Cyanotoxins, especially microcystin, can now be detected at levels far below what was previously possible. Our water quality laboratory staff have trained and supported the efforts of the NJDEP and NJWSA for drinking water reservoir monitoring and management. These capabilities have made proactive WTP and reservoir management programs possible and have strengthened the protection of public health for New Jersey drinking water customers. Disinfection byproduct ("DBP") sampling results have highlighted the importance of balancing strong surface water treatment programs, disinfection, and distribution system water quality. Comprehensive programs are in place to manage DBP formation from source water to customer taps.

[11] The 30 chemical contaminants included 10 cyanotoxins (nine cyanotoxins and one cyanotoxin group) and 20 additional contaminants (two metals, eight pesticides plus one pesticide manufacturing byproduct, three brominated haloacetic acid ("HAA") disinfection byproducts groups, three alcohols, and three semivolatile organic chemicals ("SVOCs").

Most recently, the USEPA released the Final Fifth Unregulated Contaminant Monitoring Rule ("UCMR 5").[12] According to the USEPA,

> UCMR 5 requires sample collection for 30 chemical contaminants between 2023 and 2025 using analytical methods developed by EPA and consensus organizations [].[13] This action provides EPA and other interested parties with scientifically valid data on the national occurrence of these contaminants in drinking water. Consistent with EPA's PFAS Strategic Roadmap, UCMR 5 will provide new data that is critically needed to improve [US]EPA's understanding of the frequency that 29 PFAS (and lithium) are found in the nation's drinking water systems and at what levels. This data will ensure science-based decision-making and help prioritize protection of disadvantaged communities.[14]

The Company has executed and continues to execute this updated sampling plan and, given its track record of implementing solutions for PFAS, plans to engage with USEPA and the NJDEP in helping to provide solutions for providing treatment for these compounds, particularly in light of the proposed USEPA limits for PFAS compounds as discussed earlier in my testimony. Also, given the extensive work done under prior UCMR efforts, the Company expects a significant level of increased operational and capital outlays in future years. In fact, the USEPA has estimated the annual average cost to manage the UCMR5 effort for very large systems to be $2.2

[12] https://www.epa.gov/dwucmr/fifth-unregulated-contaminant-monitoring-rule
[13] Planning activities started in 2022, with final reporting expected to be completed in 2026 in accordance with the rule.
[14] *Id.*

million.[15] This only includes the monitoring and analysis related to the UCMR5 CECs. And now that USEPA (and NJDEP) has decided to implement new MCL's related to these compounds, further expenses will ultimately be incurred for ongoing monitoring, customer communication, and if needed, capital outlays for system improvements needed to treat for these compounds. As noted by USEPA:

> The public benefits from the information about whether or not unregulated contaminants are present in their drinking water. If contaminants are not found, consumer confidence in their drinking water should improve. If contaminants are found, related health effects may be avoided when subsequent actions, such as regulations, are implemented, reducing or eliminating those contaminants.[16]

B. Public Wastewater Service

39. Q. Please provide an overview of the risks that environmental regulation poses for NJAWC as the owner and operator of public sewer systems.

A. Like the provision of public water supply service, the operation of wastewater collection and treatment systems entails a range of environmental regulatory risks. Sewer operations are also regulated at both the federal and state levels pursuant to a number of statutes and voluminous regulations. At the federal level, sewer systems are regulated pursuant to the Clean Water Act and numerous regulations adopted by the USEPA under that law, which programs are administered by the NJDEP pursuant to

[15] *See* Federal Register, Vol. 86, No. 245, p. 73135 (Dec. 27, 2021) available at https://www.govinfo.gov/content/pkg/FR-2021-12-27/pdf/2021-27858.pdf.
[16] *Id.*

regulations adopted in furtherance of setting standards for the construction and operation of sewer treatment systems.

The significant risks associated with operating wastewater systems include the following:

Effluent limitations imposed on wastewater treatment plant discharges are stringent and can become more stringent over time. The Clean Water Act requires wastewater systems to obtain and comply with National Pollutant Discharge Elimination System ("NPDES") permits, which, in New Jersey, are issued and enforced by the NJDEP. These NPDES permits establish stringent effluent limits based upon the stricter of: (1) technology-based effluent limits; and (2) water quality based effluent limits.

Several NJAWC treatment plants, including the Homestead wastewater treatment plant ("WWTP") and the Long Hill WWTP face more stringent effluent limits for a series of parameters, particularly lowering ammonia and phosphorous limits due to classification of the receiving stream. Additionally, PFAS effluent discharge limits for WWTP permit holders (owners such as NJAWC) are being considered at both the federal and state level. There is also consideration at the federal and state levels for limits on PFAS in sewage plant residuals (sludge) that, if adopted, will ultimately require extensive capital equipment treatment outlays with associated increased operational expense[17].

[17] https://www.epa.gov/newsreleases/epa-announces-plans-wastewater-regulations-and-studies-including-limits-pfas-new-study.

More stringent effluent limits may be imposed when technology evolves or stream conditions and discharge requirements change, engendering requirements for significant capital improvements and/or increased operating costs for enhanced treatment performance. Every 3-5 years, NPDES permits are up for renewal, and in any such renewal, more stringent limits may be triggered.

Other potential liability risks from wastewater system operations arise from backups, overflows or releases that may occur from the collection system onto private property or into the environment. The Company has deployed level sensing and alarming technology (Telog and SmartCover) which provide effective monitoring for optimized cleaning to help prevent such backups and potential overflows. As an example, some wastewater system operators have been confronted with claims under the federal Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") for cleanup of contamination that occurred when wastewater containing "hazardous substances" leaked from wastewater lines into soils or groundwater. While not as extreme, liabilities resulting from wastewater backups into buildings or other unplanned discharges are an inherent part of wastewater system risks.

C. Climate Variability

40. Q. Does climate variability pose additional risk for water supply utilities such as NJAWC?

A. Yes. Whatever the debate may be concerning the causes of climate variability, water supply utilities face the reality of climatic variability and attendant stresses on water resources and system recovery. The recent trend in precipitation not only in New

Jersey[18] but also throughout Northeastern United States has been towards increases in rainfall intensity and rainfall is also projected to increase in amount and persistence in addition to intensity.[19] That means we can expect more intense high-precipitation events, river and coastal floods, along with high damaging storm events – which impact water utilities. In addition, these climate-related disruptions will exacerbate existing aging infrastructure issues experienced by water utilities.[20]

Recently the remnants of Hurricane Ida devastated much of Central New Jersey.[21] The storm claimed five lives and resulted in millions of dollars in property damage. Fortunately, the Company completed a $35 million improvement in the RMWTP's floodwall system back in 2018 and as a result of these improvements was able to sustain safe, reliable service throughout the storm event. Additionally, the Company also upgraded its backup generator system which provided uninterrupted power during the event (even though utility side power was interrupted). Had these improvements not been made, hundreds of thousands of customers would have been without safe, reliable water during this event.[22] These investments demonstrated clearly the wisdom and

[18] See https://njclimateresourcecenter.rutgers.edu/wp-content/uploads/2023/04/State-of-the-Climate-2022-042423.pdf

[19] USGCRP, 2018: *Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II*, Chapter 18 - Northeast [Reidmiller, D.R., C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, and B.C. Stewart (eds.)]. U.S. Global Change Research Program, Washington, DC, USA, 1515 pp. doi: 10.7930/NCA4.2018, available at https://nca2018.globalchange.gov/chapter/18/.

[20] *Id.*

[21] https://www.tapinto.net/towns/bridgewater-slash-raritan/sections/somerset-county-news/articles/somerset-county-one-of-6-in-new-jersey-named-in-major-disaster-declaration-after-tropical-storm-ida

[22] https://www.roi-nj.com/2021/09/10/industry/energy-utilities/at-njaw-preparing-for-100-year-floods-that-now-come-every-few-years/?utm_source=ROI-NJ+MAIN+Newsletter+List+%282%2F4%2F19%29&utm_campaign=b8a2a59891-EMAIL_CAMPAIGN_2021_09_09_11_48&utm_medium=email&utm_term=0_6732b2b110-b8a2a59891-44402630

prudence of the Company's focus on reducing risk and maintaining safe and reliable service to its customers. Water supply systems are fundamentally resource-dependent and, therefore, the effects of climate variability pose a significant on-going risk and create challenges with regard to maintaining a reliable water supply during the full range of potential future conditions, including even what might be assumed to be "normal" periods. The safe yields of water supply sources have historically been evaluated based on historical climatic patterns, data from so called "droughts of record" or dry period frequency analysis. Changing climatic conditions, however, suggest that historical hydrologic data (which in many cases only reflect 50-100 years of rainfall and stream flow measurement collection – a quite short period in geologic or climatic time) may not accurately predict future conditions. Thus, the calculated safe yield of streams, reservoirs and groundwater wells are put in question as the effects of climate variability are experienced across the southeastern United States. Thus, in response to climate variability, water supply systems must address the risks posed to the reliability and resilience of their sources. While droughts are the major challenge for water supply systems, heavy precipitation and high-flow events are the concern of wastewater systems.

The effects of climate variability impact the resiliency of a system to withstand an event without disrupting service to customers or, if service is interrupted, to restore the service in a timely manner. Like all large users dependent on electricity from the grid, water utilities must plan for power outages and develop plans for maintaining continuity of operations when such outages occur. Nonetheless, recent weather patterns

combined with the issue of aging infrastructure are causing utilities to review traditional planning and design criteria. The design standards for supplies, treatment plants, pump stations and tanks are taken together to achieve a level of zero service outages. The so-called new normal has led experts to look beyond traditional reliability and emergency planning into a world that needs the speed of recovery and resiliency for much more widespread and damaging events. Updating infrastructure to keep up with the increase in extreme weather and ensuring that adequate service can be maintained for extended time periods after an extreme event is just as important as addressing the aging infrastructure.

The Company looks for ways to reduce or mitigate increases in expense in many areas of the business, which also has an environmental benefit. Examples such as increased leak detection allow for more efficient routing of repair crews to the highest priority leaks. Controlling leaks before they create larger issues results in less fuel usage, and minimizes excavation and repair materials; not to mention inconvenience to customers from interruptions in service, detours, etc. This proactive approach of deploying active leak detection not only minimizes treatment exposure but also helps preserve source water; every gallon that is saved is a gallon that can be provided at a later date, particularly during times of drought.

In addition, NJAWC has and will continue to evaluate its systems and systematically look for opportunities to add additional standby power capacity, look for ways to diversify its fuel supply and review and implement various other projects to minimize its potential impact to climate change.

41. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

1. Q. Please describe your educational background and professional associations.

A. I earned a Bachelor of Mechanical Engineering degree (1991) from Villanova University, Villanova, Pa. I am a registered Professional Engineer in the State of New Jersey and am currently licensed in an inactive status in multiple states including Pennsylvania, Ohio, New York, Missouri, Maryland, and Delaware.

2. Q. What has been your business experience?

A. I have over twenty-six years of experience in the water and wastewater utility engineering field. From 1991 to 2001, I was employed by the Bergen County Utilities Authority ("BCUA") in various engineering positions of increasing responsibility including, Assistant Engineer and Senior Environmental Engineer where I designed, managed, and commissioned multi-disciplined wastewater infrastructure projects. I led projects that were focused on operational efficiency and data collection along with significant plant and collection system improvements. Some examples include:

- Upgrade of all of the BCUA's open channel flow metering equipment.
- Management of permitted overflow level monitoring
- Replacement of 42" PCCP Force Main
- Rehabilitation of 12" Gravity sewers with fold and form lining technology
- Treatment plant additions including addition of Sludge thickening centrifuge and associated equipment; polymer feeds, electrical equipment and controls
- Replacement of Waste Activated Sludge Pumping System

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

From 2001 through 2011 I was employed by Applied Water Management Inc. ("AWM"), where I worked in various positions of increasing responsibility from staff engineer to Design Build Director (Company Officer). I also held a position of Officer and Director on the Board of Applied Wastewater Management, Inc. ("AWWM"), a New Jersey Board of Public Utilities ("BPU" or "Board") -regulated subsidiary of AWM. Much of my experience at AWM was in design construction and operations of small, decentralized water and wastewater treatment facilities. My work included responsibility for complete design, construction and facility commissioning for Integrated Biological Membrane Filtration Plants for sewage treatment and discharge to ground water. These plants were designed for strict groundwater discharge limits (Nitrogen) and allowed for a high degree of automation for continuous unattended operation. Water systems design and construction included well stations with treatment (air stripping, disinfection) and distribution equipment (hydro pneumatic tanks, pumping systems, fire flow systems).

AWM was a subsidiary company of American Water Works Company, Inc. ("AWW") until 2011. Upon the completion of the sale of AWM in December 2011, I took a position with AWW as an engineer with the American Water Works Service Company, Inc. ("AWWSC"). I held a Director of Engineering position, primarily supporting business development activities as a technical expert. I also provided engineering support and leadership for various strategic initiatives including wastewater growth opportunities and water/wastewater system planning and infrastructure renewal. In

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

January of 2014 I was appointed to the position of Vice President - Engineering for NJAWC which position I held until being appointed to my current position as Vice President of Engineering for the Eastern Division in September of 2019.

NJAW Additions to Plant in Service 07/01/23 - 12/31/24				
Project	Description	Service	Project Total	Est In Service Date
Investment Projects				
I18180050	36" Rumson Pl Little Silver	Water	$1,682,011	04/01/21
I18130147	Beckett Station PFAS Removal	Water	1,593,788	12/01/22
I18260100	Jerusalem Rd Booster Sta Imprv	Water	3,735,525	07/05/23
I18260115	2023 Transmission Main Inspection	Water	501,251	07/17/23
I18120050	Coastal South A&C Upgrades Phase 6	Water	598,515	07/28/23
I18340002	2nd Ave Lift Station Replacement	Wastewater	2,449,709	08/01/23
I18190049	Howell Field Ops Center	Water	4,904,553	08/01/23
I18250126	CRWTP Alum Tank Replacements	Water	2,469,512	08/07/23
I18260114	2022 Transmission Main Inspection	Water	2,555,335	08/07/23
I18300002	Vincentown Supply Reliability	Water	4,587,655	08/10/23
I18190055	Farmingdale Transmission Loop	Water	2,045,270	08/29/23
I18190054	Rt 9 Water Main Replacement	Water	10,675,860	08/30/23
I18260134	North Plainfield C&L	Water	2,531,165	08/31/23
I18180100	JBWTP Belt Filter Press	Water	770,739	09/18/23
I18120049	Mill Rd-N.Linwood Iron Removal	Water	16,846,817	09/28/23
I18240002	Pottersville Sewer Addison Rd Rehab A-26	Wastewater	1,205,501	09/29/23
I18170008	Oxford Sta Treatment Upgrades	Water	3,657,503	11/30/23
I18150114	Phase 6 NRW 2023	Water	618,124	11/30/23
I18280006	Statewide Sewer A&C Upgrades Ph 2 2023	Wastewater	529,135	12/31/23
I18230014	Pearl St Sewer Upsize (A-5)	Wastewater	149,429	12/31/23
I18350001	Long Hill WW Vac Truck Building IF-4	Wastewater	7,762,398	12/31/23
I18130157	Lawnside Ops Center: Block-C	Water	3,641,236	12/31/23
I18180081	Coastal North JB/SR A&C Upgrades Phase 4	Water	1,611,845	12/31/23
I18260137	NRW Management 2023 - Central	Water	2,047,523	12/31/23
I18260131	Linden 36in PCCP Replacement-Phase 4	Water	7,400,904	02/28/24
I18190052	Bay Head HDD and Main	Water	1,762,809	04/26/24
I18280003	Glen Meadows-TreatUnitUpgrd IF-2 2022	Wastewater	4,556,387	04/30/24
I18350003	Long Hill PS Improvements Project - IF-2	Wastewater	2,715,637	06/30/24
I18190063	Point Pleasant I/C	Water	1,401,746	08/31/24
I18280004	Fawn Run-Plant Upgrades IF-1 2022	Wastewater	1,257,000	10/30/24
I18150133	Chester Booster Pump Upgrade	Water	29,167	10/30/24
I18180092	Monmouth County Trans Main Inspection	Water	1,218,748	10/31/24
I18270004	Homestead Chem Feed & Storage	Wastewater	1,289,390	12/27/24
I18220010	Bay Avenue Sanitary Sewer Imprv	Wastewater	2,562,800	12/27/24
I18250127	CRWTP Solar Inverter&Panel Repl- A-16	Water	3,800,000	12/27/24
I18010037	2023 LEUP Program	Water	750,000	12/29/24
I18150093	Basking Ridge BS Generator	Water	800,000	12/29/24
I18250077	RMWTP Filter 31 36 Iso Gates Imprv	Water	1,500,475	12/29/24
I18260094	Oak Tree Booster Sta Upgrades A-18	Water	8,349,985	12/30/24
I18270005	Hawk Pointe WW Plant Upgrade (IF-4)22	Wastewater	3,076,480	12/31/24
I18350010	LH Aerial Crossing Mitigation - IF-7	Wastewater	1,152,717	12/31/24
I18230020	Ridge Ave/Negba St Sewer Up-size (A-11)	Wastewater	2,118,365	12/31/24
I18350004	WWTP Filter and Pump Improvements - IF-1	Wastewater	6,979,759	12/31/24
I18350020	LH WW Sys SCADA Upgrades IF-6	Wastewater	450,000	12/31/24
I18070002	EDC Bed 1 PS Improvements	Wastewater	84,831	12/31/24
I18230038	Yellowbrook Station Sanitary Relocation	Wastewater	451,172	12/31/24
I18270007	Crossroads WWTP Imprv(A-7)2022	Wastewater	1,500,000	12/31/24
I18280007	Statewide Sewer A&C Upgrades Ph 3 2024	Wastewater	1,400,004	12/31/24
I18350008	2024 Long Hill WW C&L	Wastewater	1,000,000	12/31/24
I18150132	Irvington LSL Replacement - Company Owned	Water	11,241,688	12/31/24
I18260136	Central LSL Replacements 2023 - Company Owned	Water	38,479,043	12/31/24
I18260068	Central A&C Upgrades Ph 6e,g	Water	2,771,666	12/31/24
I18130150	AMI Installations – Delran	Water	1,573,824	12/31/24

NJAW Additions to Plant in Service 07/01/23 - 12/31/24				
Project	Description	Service	Project Total	Est In Service Date
I18180087	AMI Installations Shrewsbury	Water	880,210	12/31/24
I18180096	Tinton Falls 30" Concrete Main	Water	6,442,866	12/31/24
I18130024	Cooper Ivy Radium Removal (A2)	Water	12,982,817	12/31/24
I18190062	Oak Street PFAS	Water	5,862,899	12/31/24
I18180088	Swimming River Intake Rehab	Water	1,020,118	12/31/24
I18250125	RM FilterHouse Dehumi & HVAC Impr	Water	9,019,406	12/31/24
I18130138	Burlington Main to North Creek Xing	Water	1,900,731	12/31/24
I18130132	Ranney Sta New Shallow Wells A2	Water	2,501,142	12/31/24
I18250167	RM Permanganate Chemical System Upgrades	Water	2,008,261	12/31/24
I18260135	Green Brook Well Sta 5 MGD Transfer Mod	Water	1,208,759	12/31/24
I18120058	Smithville Generator Replacement	Water	510,958	12/31/24
I18130115	Southwest A&C Upgrades Phase 6	Water	2,162,614	12/31/24
I18150063	North A&C Upgrades Phase 6	Water	2,477,289	12/31/24
I18190056	Coastal North - Corrosion Control Optimi	Water	501,861	12/31/24
I18250158	CRWTP Raw Water 40 MGD Pump	Water	3,001,843	12/31/24
I18120059	Somers Point Storage	Water	1,084,170	12/31/24
I18130097	Pipeline Condition Assessment (A15)	Water	1,060,000	12/31/24
I18150088	CBWTP Raw Wtr Intake Impr A11	Water	3,523,398	12/31/24
I18150130	North A&C Upgrades Phase 7	Water	1,562,500	12/31/24
I18170032	ITC Main Extension	Water	2,000,000	12/31/24
I18180083	Coastal North JB/SR A&C Upgrades Phase 5	Water	1,500,000	12/31/24
I18180098	Glendola Intake Structure Improvements	Water	1,033,625	12/31/24
I18250084	RMWTP LowLift to EHL Wtr Line Imprv Comp	Water	360,000	12/31/24
I18260123	2024 Transmission Main Inspection	Water	2,500,000	12/31/24
I18260142	NRW Central 2024	Water	1,500,000	12/31/24
I18250146	CRWTP Phosphoric Acid System Impr	Water	1,552,867	12/31/24
	Various Investment Projects	Water	3,001,250	Various
	Various Investment Projects	Wastewater	691,297	Various
Total Investment Project Spend			$264,695,875	
Recurring Projects (RP)				
RP-A	New Mains	Water	19,897,182	Various
RP-B	Replaced Mains	Water	189,180,759	Various
RP-C	Unscheduled Main Replacements	Water	19,935,013	Various
RP-E	New Hydrants & Valves	Water	6,444,134	Various
RP-F	Replaced Hydrants & Valves	Water	29,369,045	Various
RP-G	New Services	Water	24,685,709	Various
RP-H	Replaced Services	Water	82,275,183	Various
RP-I	New Meters	Water	4,947,977	Various
RP-J	Replaced Meters	Water	57,514,956	Various
RP-K	ITS Equipment & Enterprise Solutions	Water	37,258,377	Various
RP-L	SCADA	Water	3,860,783	Various
RP-M	Security	Water	2,725,357	Various
RP-N	Offices & Facilities	Water	3,531,025	Various
RP-O	Vehicles	Water	18,625,067	Various
RP-P	Tools & Equipment	Water	3,293,164	Various
RP-Q	Plant Process Equipment	Water	41,625,154	Various
DV	Developer Funded Projects	Water	23,348,101	Various
RP-B	Replaced Mains	Wastewater	6,032,606	Various
RP-C	Unscheduled Main Replacements	Wastewater	665,513	Various
RP-E	New Hydrants & Valves	Wastewater	44,094	Various
RP-F	Replaced Hydrants & Valves	Wastewater	1,400,765	Various
RP-G	New Services	Wastewater	3,565,741	Various

NJAW Additions to Plant in Service 07/01/23 - 12/31/24				
Project	Description	Service	Project Total	Est In Service Date
RP-H	Replaced Services	Wastewater	3,969,033	Various
RP-L	SCADA	Wastewater	797,961	Various
RP-M	Security	Wastewater	50,000	Various
RP-P	Tools & Equipment	Wastewater	326,142	Various
RP-Q	Plant Process Equipment	Wastewater	8,086,428	Various
DV	Developer Funded Projects	Wastewater	2,252,305	Various
Total RP/DV Spend			$595,707,574	
Total Additions to Plant In Service 07/01/2023 - 12/31/2024			$860,403,449	

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES
AND CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPREICATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Jamie D. Hawn

January 19, 2024

Exhibit P-6

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

I. INTRODUCTION

1. Q. Please state your name and business address.

A. My name is Jamie D. Hawn, and my business address is 1 Water Street, Camden, New Jersey 08102.

2. Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("Service Company") as Director of Rates and Regulatory for New Jersey-American Water Company, Inc. ("NJAWC," "New Jersey-American Water" or the "Company").

3. Q. What are your responsibilities in this position?

A. My responsibilities as Director of Rates and Regulatory include: 1) leading rate and regulatory activities for the Company, including coordinating with finance, engineering, and legal; 2) supporting the Company in regulatory proceedings, such as rate change applications; 3) preparing rate analyses and studies to evaluate the effect of proposed rates on the revenues, rate of return, and tariff structures; 4) executing the implementation of rate orders, including development of the revised tariff pricing necessary to produce the authorized revenue level; 5) overseeing the preparation of revenue and capital requirements analyses; 6) providing support for financial analyses, including preparing applicable regulatory commission filings; and 7) ensuring compliance with Generally Accepted Accounting Principles ("GAAP"), regulatory requirements, and Company policies.

4. Q. Have you previously testified in regulatory proceedings?

A. Yes. I have testified before the New Jersey Board of Public Utilities ("BPU" or the "Board") in NJAWC's previous rate cases, BPU Docket No. WR22010019 and BPU Docket No. WR19121516. I also testified in BPU Docket Nos. WR19110465, WR20110719, WR21111220, WR22110693 and WR23110791 regarding NJAWC's Purchased Water Adjustment Clause ("PWAC") and the Purchased Wastewater Treatment Adjustment Clause ("PSTAC"). I have also testified before the regulatory commissions in New York, Pennsylvania, and West Virginia.

5. Q. Are you generally familiar with the book of accounts and related records of the Company?

A. Yes, I am.

6. Q What system is followed in keeping the general books of accounts and related records of the Company?

A. The general book of accounts and related records of the Company are kept in conformity with the Uniform System of Accounts ("USOA") promulgated by the National Association of Regulatory Utility Commissioners ("NARUC") adopted by the Board.

7. Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my Direct Testimony is to support the Company's revenue requirement calculation in this case, which is based on a test year ending June 30, 2024, including post-test year adjustments to the test year Income Statement and

Statement of Rate Base. I will discuss certain elements of the revenue requirement, including the calculation of rate base and related depreciation and amortization expense, as well as the components and computation of the Company's proposed capital structure. I will also sponsor various financial and accounting data required by the Board's regulations as set forth in Section 14:1-5.12 of the New Jersey Administrative Code ("N.J.A.C."). Finally, I will support the rate base value of assets expected to be acquired by the Company during the pendency of this proceeding.

8. Q. Has the Company included its former wholly-owned subsidiary, Environmental Disposal Corp. ("EDC"), in this filing?

A. Yes. On December 20, 2023, in Docket No. WM23030145, the Board approved the completion of the merger of New Jersey-American Water and EDC, with NJAWC as the surviving entity. Effective December 31, 2023, the companies were merged; therefore, the Petition, Exhibits and Schedules for the requested revenue requirement include the former EDC wastewater service area.

9. Q. Do you sponsor any Schedules in your Direct Testimony?

A. The Schedules listed below are attached to the Petition as Exhibit P-2. I am sponsoring Schedules RR, 1-4, 8-9 and 15-17, which were prepared by me or under my supervision and direction. Company Witness McKeever will sponsor Schedules 6, 7, 10, 11-14 and 18 as part of his Direct Testimony (Exhibit P-7) and Company Witness Brooks will sponsor Schedule 5 as part of his Direct Testimony (Exhibit P-8).

- Schedule RR- Revenue Requirement Computation
- Schedule 1 Comparative Balance Sheet
- Schedule 2 Comparative Income Statement
- Schedule 3 Balance Sheet at November 30, 2023
- Schedule 4 Post-Test Year Income Statement under present and proposed rates
- Schedule 5 Statement of Operating Revenue
- Schedule 6 Statement of Operating and Maintenance Expense
- Schedule 7 Uncollectible Expense
- Schedule 8 Summary of Depreciation and Amortization
- Schedule 9 Statement of Depreciation
- Schedule 10 Statement of Taxes Other than Income Taxes
- Schedule 11 Gross Receipts and Franchise Tax
- Schedule 12 Utility Assessments
- Schedule 13 Water Monitoring Tax
- Schedule 14 Federal Income Tax Calculation
- Schedule 15 Statement of Rate Base
- Schedule 16 Weighted Cost of Capital
- Schedule 17 Consolidated Tax Adjustment
- Schedule 18 Schedule of Payments to Affiliated Companies

II. TEST YEAR

10. Q. What test year period is NJAWC using to determine the revenue requirement in this proceeding?

A. NJAWC's test year is the twelve-month period ending June 30, 2024 ("test year"). This filing utilizes five months of actual data ended November 30, 2023, and seven months of projected data through June 30, 2024. The actual data has been obtained from the Company's books and records. The projected data will be replaced with actual data as the case progresses, ultimately providing all actual results in the 12-month update.

11. Q. Has NJAWC included any post-test year adjustments in the determination of the proposed revenue requirement?

A. Yes. NJAWC is proposing to reflect changes in capital expenditures through December 31, 2024, and changes in revenues and expenses through March 31, 2025 ("PTY" or "post-test year"), as described later in my Direct Testimony as well as the direct testimonies of Company witnesses Mr. Shields (Exhibit P-5), Mr. McKeever, and Mr. Brooks. Including these post-test year adjustments is consistent with standards previously adopted by the Board and provides for an annualization and/or adjustment of revenues, expenses, and capital expenditures. Specifically, the Board's policy concerning post-test year adjustments, as set forth in its order *Re Elizabethtown Water Company*, Docket No. WR8504330, is that utilities are afforded an opportunity to make a record concerning known and measurable changes to: (1) the capital structure that are three months beyond the

test year; (2) rate base that are six months beyond the test year; and (3) expenses and revenues that are nine months beyond the test year. The post-test year adjustments included in this case are further discussed below.

12. Q. Please describe the Company's revenue requirement.

A. The Company's revenue requirement is equal to the cost of providing water and fire protection services to approximately 668,000 customers and wastewater service to approximately 64,200 customers in about 200 communities in 18 counties throughout the State of New Jersey.[1] This includes everything from sourcing water supply, treating and monitoring that supply to support water quality compliance and pumping and distributing adequate supply through approximately 9,970 miles of main, to providing high quality customer service to our customers through customer service teams, 24-hour emergency call handling, and providing self-service options. These efforts support the Company's continued provision of safe, reliable water, sanitation, and fire protection services to our customers.

To accomplish all of this, the Company incurs costs for which it seeks recovery through the ratemaking process. The Company's costs include a variety of operating expenses, depreciation, and amortization, and various local, state, and federal taxes, combined with an opportunity to earn a reasonable return on the Company's rate base that supports NJAWC's provision of safe and reliable service to its customers.

[1] NJAWC also provides water to 30 additional communities through bulk purchase water agreements.

13. Q. What is the revenue requirement NJAWC is proposing in this case?

A. The Company's projected revenue requirement, equal to the cost of providing service, is approximately $1.095 billion, as supported by Company witnesses in this proceeding.

14. Q. Please describe how you calculated the Company's revenue deficiency.

A. The Company's revenue deficiency is measured as the difference between the post-test year revenue requirement and the Company's post-test year revenues including the Distribution System Infrastructure Charge ("DSIC") and the Wastewater System Infrastructure Charge ("WSIC") at present rates. The Company's revenue deficiency proposed in this application is calculated to be $161.7 million, which represents an approximate 17.3% overall deficiency. The Company calculated a rate of return of 5.74% under present rates and 7.89% under proposed rates when calculated on the proposed rate base approximating $5.1 billion. The requested increase includes a return on common equity of 10.75%.

15. Q. What are the overall drivers of the requested increase?

A. The proposed revenue increase in large part is driven by capital investment since the Company's last base rate case (BPU Docket No. WR22010019) (the "2022 Rate Case"). As mentioned by Mr. Shields, since the effective date of rates in the 2022 Rate Case, the Company has invested, or will invest, approximately $1.3 billion in capital expenditures through the end of 2024. Of the proposed increase of $161.7 million, nearly 68% is driven by new capital investments. Also contributing to the requested increase is the associated cost of financing such investment, which has

increased since the 2022 Rate Case, particularly around the cost of debt which has changed from 3.90% in the 2022 Rate Case to 4.23% in the current filing, a change of 33 basis points.

16. Q. Are increases in operations and maintenance ("O&M") expenses a significant contributor to the Company's need for rate relief?

A. Not particularly. While operating expenses have increased since the Company's 2022 Rate Case, the Company's overall O&M expenses remain reasonable. The Company is seeking to recover $263.7 million in operating expenses, which represents annualized expense levels through the post-test year. To further demonstrate this reasonableness, the Company evaluated its O&M expense on a per customer basis, excluding purchased water and wastewater costs (which are tracked separately). In 2014, the O&M per customer was $298. In this case, the Company's proposed O&M per customer is $358, representing an average annual increase of 1.9% over the past ten years. This average annual increase is less than the rate of inflation, measured by the Consumer Price Index for all Urban Consumers ("CPI-U"), which represents an average annual increase of 3.0% over the same time period. To put this in perspective, if the Company's O&M expense increased at the rate of the CPI-U, the Company's O&M expense per customer would have risen from $298 in 2014 to $401 on a post-test year basis. Based on the post-test year customer count included in this rate case, annual O&M expense would have been over $31 million more than the amount the Company is proposing in this proceeding. Clearly, the Company's ability to manage its O&M expense has

benefited customers for over a decade now, and its ongoing efforts to mitigate inflationary increases in O&M expense will continue to benefit customers into the future. This is a significant achievement and is a testament to the Company's commitment to operating efficiency. As Company Witness Shroba explains in his Direct Testimony (Exhibit P-4), the Company strives to manage costs as efficiently as possible to provide a more cost-effective level of service for our customers over the long term.

17. Q. What is the impact of the proposed rate increase on customer bills?

A. As proposed, the average residential water customer's monthly bill, using 5,640 gallons per month, would increase $11.30 from the current charge of $70.70 to $82.00, an increase of $0.38 per day. Even at the proposed rates, water costs remain a good value. Proposed water costs would approximate $2.73 per day, or $.0145 per gallon. As Company Witness Rea discusses in his Direct Testimony (Exhibit P-9), the Company's water and wastewater services remain affordable for most of our residential customers.

III. FILING REQUIREMENTS

18. Q. Please describe Exhibit P-2, Schedules 1 through 4 and Schedule RR.

A. Schedule 1 reflects the Comparative Balance Sheets that have been prepared from the books and records of the Company.

Schedule 2 is a "Comparative Statement of Income" for the twelve-month periods ended December 31, 2020, 2021 and 2022, respectively, as recorded from the

Company's books and records. Schedule 2 also includes dividend payments on preferred and common stock of the Company for each twelve-month ended period.

Schedule 3 shows a Balance Sheet for the period ended November 30, 2023.

Schedule 4 reflects the Company's income statement on a post-test year basis under present and proposed rates. Column (2) on Schedule 4 indicates the results for the period ending June 30, 2024 based on five months of actual and seven months of projected data. Annualized and normalized adjustments are made to reflect known or measurable changes in the Company's operations through March 31, 2025. The result, in Column (6), is a post-test year income statement that is representative of the Company's prospective financial condition. Schedules 5, 6, 8, 10, and 14-16 support the values on Schedule 4.

Schedule RR supports the computation of the proposed revenue increase and the calculation of the gross-up factor. Schedules 4, 7, 11, 12, 15 and 16 support Schedule RR.

A. Rate Base

19. Q. Please describe the rate base components as shown on Exhibit P-2, Schedule 15.

A. The proposed rate base in this proceeding is approximately $5.1 billion. Rate base was calculated in the traditional manner and in accordance with past practices. The calculation of rate base starts with utility plant in service ("UPIS") less accumulated depreciation to arrive at net utility plant. Cash working capital, utility plant

acquisition adjustments, prepayments and material and supplies were then added to net utility plant. Customer advances for construction and contributions, MTBE and aluminum sulfate litigation settlements, pre-1971 investments tax credits, consolidated tax adjustment, deferred taxes and excess accumulated deferred taxes were deducted from net utility plant. The components of rate base are shown on Exhibit P-2, Schedule 15.

20. Q. Please explain how the components of rate base were calculated.

A. The balance for UPIS was calculated starting with the actual balance as of November 2023. Projected plant additions for the period December 2023 through June 30, 2024, were then added and estimates for plant retirements for the same period were deducted to develop the estimated test year ending balance on June 30, 2024. The Company also included projected plant additions, reduced for plant retirements for the six-month post-test year period ending December 31, 2024. The Company's PTY capital expenditures for utility plant include all known and measurable capital projects for that period as well as the roll in of the DSIC and WSIC capital expenditures. The test year and post-test year plant additions are discussed further in the Direct Testimony of Mr. Shields.

21. Q. Please explain the methodology used to compute accumulated depreciation as shown on Exhibit P-2, Schedule 15 and all proposed post-test year adjustments.

A. The computation of accumulated depreciation as of December 31, 2024, as set forth on Exhibit P-2, Schedule 15 is consistent with prior cases. It begins with the actual

balance on November 30, 2023, and computes the additional depreciation expense beginning with that period through June 30, 2024, and then again for the period July 1, 2024, through December 31, 2024, on all assets that will be in service at the current depreciation rates.

The accumulated depreciation reserve is reduced for estimated retirements and cost of removal charges through June 30, 2024, and then through December 31, 2024. Projections for retirements are based on a three-year average of retirements for the period July 1, 2020, through June 30, 2023. Cost of removal charges are also based on the same three-year average. The accumulated depreciation reserve reflects the continued return to customers of a Non-Legal Asset Retirement Obligation of $48 million at $1.2 million a year over a forty-year period as established in the Stipulation of Settlement in Docket No. WR08010020. The computation relating to the proposed level of depreciation expense and depreciation rates will be discussed further below in my Direct Testimony.

22. Q. Please explain the methodology used to compute cash working capital as shown on Exhibit P-2, Schedule 15, and any post-test year adjustments.

A. The calculation of cash working capital is provided by Company Witness Walker, as described in his Direct Testimony (Exhibit P-13) and schedules filed in this case.

23. Q. Did the Company include utility acquisition adjustments in rate base?

A Yes; however, only the acquisition adjustments previously approved by the BPU have been included in rate base. Acquisition adjustments for the Shorelands Water

Company, Inc. ("Shorelands") and the Borough of Haddonfield's Water and Sewer System ("Haddonfield") remain on appeal to the Appellate Division of the Superior Court. The Company has not included those acquisition adjustments in rate base in this Petition.[2] For the more recent acquisitions of Egg Harbor City, Borough of Bound Brook, Borough of Somerville, all of which have closed, and the proposed purchases of Salem City's water and wastewater systems as well as the wastewater system of the Township of Manville, there are no acquisition adjustments included in rate base in this filing. I will discuss the acquisitions included in this filing later in my Direct Testimony.

24. Q. Please explain the methodology used to calculate customer advances and contributions in aid of construction and any proposed PTY adjustments.

A. The computation of customer advances begins with the actual balance on November 30, 2023, and adds the number of new advances the Company expects to receive for the period December 1, 2023, through June 30, 2024, and for the period July 1, 2024 through December 31, 2024. For contributions in aid of construction, the rate base balances on June 30, 2024, and December 31, 2024, are each lower than the November 30, 2023, starting balance. This is a result of the amortization of contributions in aid of construction over the life of the underlying assets that the contributions originally funded.

[2] The Company reserves the right to seek cost recovery of the Shorelands and Haddonfield acquisition adjustments following the outcome of the appeal currently before the Appellate Division.

25. Q. Please explain the rate base reduction for the MTBE and Aluminum Sulfate Settlements.

A. The Company has received funds from settlements in both the MTBE and Aluminum Sulfate cases. The rate base reduction is the mechanism by which funds received are shared between customers and shareholders. The funds related to the settlements will continue to be shared with customers through 2050 and 2060, respectively.

26. Q. Please explain the rate base reduction for pre-1971 investments tax credits.

A. Investments tax credits taken before 1971 are being amortized through 2050.

27. Q. Has the Company calculated a consolidated tax adjustment ("CTA") consistent with the BPU's regulations?

A. Yes. The Company computed its consolidated tax adjustment in accordance with the BPU's regulations consistent with N.J.A.C. 14:1-5.12(a)(11) ("CTA Rule" or "Rule"). Under the Rule promulgated in 2019, the CTA is calculated using each affiliate's taxable income/loss for each of the five consecutive years (the "five-year look back", including the complete tax year within the utility's test year) using statutory income tax rates or the alternative minimum tax, whichever is applicable. The Company in this application has reduced rate base by 100% of the CTA.

28. Q. What is the amount of the CTA and how was it calculated?

A. The Company's calculation of the CTA results in a rate base reduction of $15.7 million. The Company used the years 2018 through 2022 as the five-year look back period due to the availability of completed tax returns for those years.

29. Q. Please explain how the amounts of deferred income taxes were calculated as part of rate base.

A. Deferred income taxes are a result of timing differences between book and tax depreciation because of the normalization process. The computation begins with the actual values on November 30, 2023. Deferred taxes are increased by computing the difference between book and tax deprecation times the federal statutory rate of 21% on the capital additions for the period December 1, 2023, through June 30, 2024, and then again for the period July 1, 2024, through December 31, 2024.

30. Q. Please explain how the amounts of excess accumulated deferred taxes were calculated as part of rate base.

A. The calculation of the amortization of excess accumulated deferred income taxes ("EDIT" or "EADIT") and the established amount that will be returned to customers on an annual basis through base rates was prepared using the total Company balance. The calculation amortizes the components for remeasured EDIT using the Average Rate Assumption Method ("ARAM") for protected assets and 15 years for the unprotected assets as agreed upon in the Stipulations and

adopted by the Board[3]. The proposed amortization included in the revenue requirement for EADIT amounts to $12,485,560.

31. Q. Did the Company calculate a true-up for the estimated amount of EADIT passed back to customers?

A. Yes. The EADIT in this case, as stated above, is being calculated on a total Company balance, and as per Docket No. WR18030235 (former EDC), the estimated amounts are to be trued-up in the next base rate case. Therefore, the Company has prepared a true-up calculation for the years 2018 through 2023 using ARAM for protected related assets and a 15-year period for unprotected related assets. Actual amounts are shown for the years 2018 through 2022 while estimated amounts are shown for the years 2023 and 2024. The Company calculated, on Workpaper Schedule 15-21, the actual ARAM and unprotected amortization amounts compared to the estimated amortization amounts from the prior cases and stipulations. Also included in the true-up is the offset of the revenue associated with the rate base impact for the pass back of the lump sum EADIT per Docket No. WR18030233. These two values result in over-credits (passed back) to the customers; however, the Company is not making an adjustment to the revenue requirement for the true-up. The Company proposes to include the annual EADIT

[3] I*n the Matter of the New Jersey Board of Public Utilities' Consideration of the Tax Cuts and Jobs Act of 2017*, BPU Docket No. AX18010001 and *In the Matter of the Petition of New Jersey-American Water Company, Inc. with Calculation of Rates under the Tax Cuts and Jobs Act of 2017*, BPU Docket No. WR18030233, Order dated October 28, 2020; and *In the Matter of the New Jersey Board of Public Utilities' Consideration of the Tax Cuts and Jobs Act of 2017*, BPU Docket No. AX18010001 and *In the Matter of the Petition of Environmental Disposal Corp. with Calculation of Rates under the Tax Cuts and Jobs Act of 2017*, BPU Docket No. WR18030235, Order dated March 6, 2023.

amortization as mentioned above in this case and reset the annual EADIT amortization each succeeding case based on the respective ARAM and unprotected amounts.

32. Q. You stated earlier that "[t]he Company also included projected plant additions, reduced for plant retirements for the six-month post-test year period ending December 31, 2024." Why is it important to include all capital additions in the PTY period?

A. Pursuant to the previously-discussed *Elizabethtown* precedent, the Company can record changes to rate base for a period of six months beyond the end of the test year, provided: that there is clear likelihood that the proposed utility plant additions will be in service by the end of the six-month period; that the utility plant additions are major in nature and consequence; and that the utility plant additions be substantiated with reliable data. As Mr. Shields again demonstrates in his direct testimony, NJAWC has a track record of completing its capital program as planned year after year.[4] Consequently, there is no reason to believe that the Company will not do so again in 2024.

In addition, *Elizabethtown* uses the term "major in nature and consequence," with respect to recognition of post-test year rate base, yet there has not been a definition of exactly what that means. Considering the level of investments the Company makes every year and its track record of completing the capital investment it plans

[4] Given the timing of this filing and absent a settlement of this case, it is likely that the Post-Test Year utility plant additions in this Petition will be completed and in-service by the time this proceeding is adjudicated.

each year, it is reasonable to allow the Company to recover its capital costs and associated depreciation expense on all assets that are completed, and in service when new rates are in effect. To pick a subjective listing of a few larger projects based on a threshold amount that is undefined, while not including other projects and improvements just as important in providing service to our customers, disregards the fact that the Company should be allowed to recover its costs for UPIS during the time those rates are in effect. In fact, any arbitrary cost or percentage says nothing about the value to customers of one project over another, and the consequence of not building a less expensive project can be more dire than a project costing far more. Given this, the Company is seeking recognition for the capital investments that are planned to be serving customers in the post-test year period. Undue regulatory lag is perpetuated when timely cost recognition is not afforded to these in-service utility plant assets. Again, the Company is simply asking for recovery of its capital investments that are in service and from which customers are benefiting at the time new rates are in effect. In fact, establishing revenue requirements based on a rate base which includes utility plant that is in service is essentially setting rates based on a historical perspective. To set rates based upon an undefined and vague standard such as "major in nature and consequence" is contrary to the precision of "known and measurable" to which the Board aspires.

Finally, as discussed below, the capital additions in this application are funded by the proposed capital structure. Because the PTY capital additions reflect the funding requirements of the capital structure on December 31, 2024, it is

appropriate to propose a capital structure in this filing utilizing the post-test year period of December 31, 2024, to match rate base.

33. Q. Please explain how future DSIC and WSIC filings impact the Company's proposed post-test year plant additions.

A. The Company will file its sixth DSIC foundational filing pursuant to N.J.S.A. 48:2-21 and N.J.A.C. 14:9-10.1 *et seq*. and its second WSIC foundational filing pursuant to N.J.S.A. 48:2-21 and N.J.A.C. 14:9-11.1 *et seq*. shortly after the filing of this Petition. If approved, the DSIC and WSIC foundational filings allow for annual revenue increases occurring in six-month intervals over a period of 24-36 months. The revenue increases would commence approximately *eight months* after approval of the DSIC and WSIC foundational filings, as DSIC and WSIC related infrastructure is renewed or replaced. If DSIC and WSIC related infrastructure completed in the PTY is included in rate base for the purpose of computing revenue requirements here, the Company's first DSIC and WSIC filing after the implementation of a general rate increase will result in a lower DSIC and WSIC surcharge rate. This is a result of eliminating the "gap" period of capital spending that has been included in previous DSIC or WSIC filings that will now be included in base rates.

B. Capital Structure

34. Q. What is the purpose of determining the Company's capital structure?

A. The capital structure is used to compute the Company's weighted average cost of capital ("WACC") in this proceeding. The WACC is the overall rate of return that

is applied to the Company's rate base. The Company's WACC reflects, among other things, the rate of return on common equity ("ROE") recommendation presented in the Direct Testimony of Company Witness Bulkley (Exhibit P-10).

35. Q. What capital structure did the Company use to calculate the revenue requirement in this case?

A. The Company used the capital structure for the post-test year ending December 31, 2024. The capital structure proposed by the Company is shown on Exhibit P-2, Schedule 16. Schedule 16 indicates the capital structure and WACC on which the Company based its cost of service and revenue requirement in this case. The proposed capital structure is composed of 43.70% long-term debt and 56.30% common equity.

36. Q. Is the Company's proposed capital structure reasonable and appropriate for ratemaking?

A. Yes, the Company's capital structure recognizes the capital mix that the Company is currently using to fund the significant investments New Jersey-American Water must make to continue to meet its obligations to provide reliable water and wastewater service while meeting ever more stringent environmental laws and regulations. Furthermore, Ms. Bulkley has examined the proposed capital structure and explains that it is reasonable and appropriate. She further explains that NJAWC's equity ratio is within the range of equity ratios of the proxy group used to determine the Company's rate of return on equity.

37. Q. In what manner does the Company currently obtain its debt financing?

A. The Company primarily utilizes the services of American Water Capital Corp. ("AWCC") to meet its long-term and short-term debt requirements. AWCC, a NJAWC affiliate, was created to consolidate the financing activities of the operating subsidiaries, to effect economies of scale on debt issuance and legal costs, to obtain lower interest rates through larger debt issues in the public/private markets, and to use more cost-effective means of obtaining short-term debt (used to bridge the gap between permanent financings) than the bank lines of credit used previously. Participating in AWCC debt issuances has allowed the Company to obtain debt at lower interest rates and incur lower issuance and transaction costs by utilizing the combined size and resources of the larger American Water organization. In addition to financing by AWCC, the Company has also obtained tax-exempt long-term debt financing through the Drinking Water State Revolving Fund Program administered by the New Jersey Infrastructure Bank ("iBank"), formerly known as the New Jersey Environmental Infrastructure Trust ("NJEIT"), and through the New Jersey Economic Development Authority ("NJEDA").

38. Q. What factors require the Company to seek additional capital?

A. Mr. Shields's testimony explains that capital improvements are necessary to meet the new and changing regulations in the water industry, to replace aged treatment and distribution facilities, and to continue to provide safe, reliable water and wastewater service to its customers. All of this has driven, and will continue to drive, the need for new capital. The Company's proposed capital structure includes

a new long-term debt financing through AWCC as well as borrowings through the iBank. NJAWC's proposed capital structure also includes equity infusions from American Water for the test year period. It is important that the Company maintain a strong financial position to allow it to continue to attract capital at a reasonable cost, which will assist the Company in its effort to provide service improvements at a cost that is beneficial to its customers over the long-term.

39. Q. Please explain the planned long-term debt financing through AWCC included in this filing.

A. The Company's proposed capital structure includes approximately $250 million of new long-term debt to be placed through AWCC in May 2024. The Company used interest rates of 5.90% (10-yr) and 6.20% (30-yr) for the two financings. These rates are based on the unsecured rate for U.S. Treasury bond ("Treasury") for 2024, plus a credit spread.

40. Q. Will the Company update the interest rate for the new long-term debt issuance?

A. Yes, the Company will provide actual rates for the proposed long-term debt issuance once it is completed.

41. Q. Please explain the planned long-term debt financings through the iBank included in this filing.

A. The Company currently has construction loans through the iBank of approximately $48.1 million in total. The Company expects that these loans will be converted to

long-term debt prior to December 31, 2024, which is the post-test year for the Company's capital structure in this case.

42. Q. How did you estimate the interest rate for the new iBank loans?

A. The interest rates used in the Company's projections reflect the estimated rates of 50% at 0% and 50% at market-rate which is estimated to be at about 4%, thus 2% was projected for the iBank loans. The interest rate and other terms of any long-term debt issuance in conjunction with the iBank would be determined by the terms obtained for the NJEIT. The Company will monitor the projected rates and reflect any changes in its update filings through the pendency of this case.

43. Q. What is the Company's effective cost rate of long-term debt?

A. As shown on Exhibit P-2, Schedule 16, the effective cost rate of long-term debt projected on December 31, 2024, is 4.2256%.

44. Q. You noted previously that the Company's capital structure on December 31, 2024 reflects the addition of an equity infusion from American Water. When is this infusion expected to occur?

A. The projected equity infusion is anticipated to occur in March 2024. The equity infusion will be booked to paid-in capital.

45. Q. What WACC is the Company requesting in this case?

A. The overall WACC being requested is 7.8988%, as shown on Exhibit No. P-2, Schedule 16. The Company is requesting the ROE be set at 10.75%, which is the

ROE recommended by Ms. Bulkley, and the cost of long-term debt be set at 4.2256%.

C. Acquisitions

46. Q. Are there any new acquisitions since the 2022 Rate Case proposed in this filing?

A. Yes, the acquisition of Egg Harbor City's water and wastewater systems, Salem City's water and wastewaters systems, and the wastewater system of the Borough of Bound Brook, Borough of Somerville, and Township of Manville have been included in this filing.

47. Q. Please explain the capital investment associated with these acquisitions.

A. The Company has added the total value of the systems acquired or to be acquired of $57.6 million to rate base. Included in the $57.6 million is the rate base of $21.2 million for Egg Harbor City's water and wastewater systems. The rate base value was determined under the provisions of the Water Infrastructure Protection Act, N.J.S.A. 58:30-1 et seq, et seq. ("WIPA"), with BPU Docket No. WM21091150[5]**.**

48. Q. Does the Company currently own these systems?

A. The Company has closed and owns three of the five systems, and the Company expects to close on the remaining two systems before new rates go into effect.

[5] *In The Matter of The Petition of New Jersey-American Water Company, Inc. For: (1) Approval of Its Agreement with Egg Harbor City, New Jersey For The Purchase and Sale of Systems; (2) A Determination That The Purchase Price Is Reasonable; And (3) For Such Other Approvals As May Be Necessary To Complete The Proposed Transaction*, BPU Docket No. WM21091150, Order Adopting Initial Decision and Stipulation dated August 17, 2022.

IV. DEPRECIATION AND AMORTIZATION

49. Q. Please explain the Company's proposed depreciation expense.

A. The summary of depreciation expenses can be found on Exhibit P-2, Schedule 8. The detailed computation of depreciation expense can be seen on Exhibit P-2, Schedule 9. The proposed depreciation expense uses the Company's post-test year balances at the proposed life and cost of removal rates to calculate the post-test year depreciation expense. The Company's last depreciation rates were approved in Docket No. WR17090985; therefore, the Company is including in its request the approval of new depreciation rates. The proposed lives and costs of removal rates for water and wastewater assets are set forth in the testimony and depreciation studies presented by the Company's Witness Kennedy of Concentric Energy Advisors (Exhibit P-14).

50. Q. Please explain the Company's proposed amortization expense on Exhibit P-2, Schedule 8.

A. The Company is proposing to amortize the costs associated with three currently deferred regulatory assets over 24 months upon conclusion of this filing.

51. Q. Please describe the three currently deferred regulatory assets the Company is proposing to include in the revenue requirement.

A. Since the conclusion of the 2022 Rate Case, the Company has been deferring costs associated with Pension and OPEB expense in accordance with Docket No. WR22010019, and the transaction costs associated with the acquisition of Egg Harbor City's system under WIPA acquisition in accordance with Docket No.

WM21091150.[6] In addition, the Company filed a deferral accounting petition on June 9, 2023 requesting to defer the costs associated with implementing the Clean Energy Act of 2018 Benchmarking Requirement (Docket No. WR23050275).

52. Q. Is the Company requesting continuation of the Pension and OPEB deferral?

A. Yes. Mr. McKeever's Direct Testimony addresses the request to continue the deferral of Pension and OPEB expenses. If the Company is granted approval to continue deferring these costs, the Company will remove the post-test year amortization expense from the revenue requirement and address the balance and amortization period in the Company next base rate case proceeding.

V. PROPOSED TARIFF CHANGES – EXHIBIT P-1

53. Q. Please explain Exhibit P-1 to the Petition, the Company's proposed tariff.

A. Exhibit P-1 contains clean and redlined versions of the Company's proposed rate and language changes in this filing.

54. Q. Does the proposed Tariff include any new Rate Schedules?

A. Yes. The Company has included new Rate Schedules O-3 and Rate Schedule 9-A.2, for water and wastewater, respectively, relating to its proposed Universal Affordability Tariff, and Rate Schedule O-4 for its proposed Revenue Decoupling Mechanism, as discussed by Mr. Rea in his Direct Testimony. The Company has also added new Rate Schedules for the two newly acquired water and wastewater systems expected to close before new rates go into effect: 1) Rate Schedules A-19,

[6] See Order Adopting Initial Decision and Stipulation dated August 17, 2022, Page 5, Stipulation paragraphs 20 & 21.

A-20, L-14, and 22-A for the Salem City water and wastewater system; and 2) Rate Schedule 23-A and 23-B for the Township of Manville wastewater system. The Company has also added Rate Schedule 21-A for the former EDC wastewater customers as a result of the recent merger discussed earlier in my testimony. Lastly, the Company has added Rate Schedules 12-B, 16-B, and 20-B for those wastewater collection systems where a Purchased Sewerage (Wastewater) Treatment Adjustment Clause ("PSTAC") is being established: Elk Township, Egg Harbor City and Somerville, respectively. The Company previously included costs associated with the treatment of wastewater collected from these systems in base rates. The Company now proposes a PSTAC for treatment costs for these systems and those costs have been removed from our proposed base rates going forward.

55. Q. Please discuss the Rate Schedules that have been proposed to be consolidated.

A. For water, the Company is proposing to consolidate Rate Schedule A-14 (Service Area 1D), and A-15 (Service Area 1E) into Rate Schedule A-1. For public fire, the Company is proposing to consolidate Rate Schedule M-3 into Rate Schedule M-2, and Rate Schedules M-5 and M-9 into Rate Schedule M-1. For wastewater, the Company is proposing to consolidate Rate Schedule 3-A (Adelphia) and Rate Schedule 12-A (Elk Township), into Rate Schedule 2-A (Statewide Wastewater Collection Area). Rate Schedule 17-A, the flat wastewater rate schedule for Egg Harbor City is proposed to be merged into Rate Schedule 16-A which schedule would then reflect both general metered and flat service rates for that service area.

These rate design changes are discussed more fully by Mr. Brooks in his Direct Testimony.

56. Q. Have other changes been made to the content and/or structure of the Rate Schedules in the Tariff?

A. For private fire, the Company has proposed a hydrant charge for Rate Schedule L-1 to align the Company's practice billing of private hydrant charges across the Company's service areas. Again, these rate design changes are discussed more fully by Mr. Brooks in his Direct Testimony. In addition, the Company has included language to reflect rate increases authorized by the agreements of sale between 1) the Company and the Borough of Bound Brook, 2) the Company and the Borough of Somerville, and 3) the Company and the Township of Manville.

57. Q. Please explain the Company's proposal for Rate Schedule F – Optional Industrial Wholesale, or "OIW" customers.

A. The Company has determined that the committed average daily amount ("CADA") requirement and procedure called for in this rate schedule is unnecessary and administratively burdensome for both the Company and the customers taking service under the rate schedule. Consequently, the Company proposes to eliminate the CADA procedure from the Applicability section in Rate Schedule F, leaving the (a) monthly minimum consumption charge, and (b) peak load factor restriction as the conditions for service under this rate schedule. Furthermore, in the section labeled CONDITIONS, the Company has proposed to strike the following language:

> A customer can be exempt from the above requirements if they intend to increase their average daily consumption, on a monthly basis [entitled the committed average daily amount (CADA)] for the next twelve months provided they sign an additional written commitment at least one month prior to the period in which they exceed 1.2 times their consumption on an average daily basis.
>
> If a customer's actual amount used is less than the CADA, the customer will be billed at the CADA level. This minimum billing procedure will remain in effect for a period of twelve months from the date the new commitment becomes effective.

The Company does not expect these changes to have a substantive impact on the practical application of the tariff.

58. Q. Has the Company proposed tariff language regarding the liability for the issuance of notices?

A. Yes, it has. On Seventh Revised Sheet No. 6, paragraph 6, the Company has added language regarding liability related to the issuance of notices.

59. Q. What prompted the language proposal regarding issuance of notices?

A. The Company determined that present tariff language addressing matters of liability is inadequate to meet current industry challenges. Consequently, we researched liability provisions contained in the Board-approved tariffs of other New Jersey water and wastewater utilities and identified this commonly used provision addressing responsibilities when notices regarding water and/or wastewater service matters are issued to the public. This amendment is meant to protect the Company and its customers from incurring unnecessary costs.

60. Q. What additional Tariff changes are being proposed by the Company?

A. The Company has proposed several clarifying language changes to its standard terms and conditions to align with current business practices and the regulations under which it operates. Lastly, as mentioned above, the Company is proposing a new Universal Affordability Tariff which, if approved by the Board, would sunset the Company's current low-income discount program. Therefore, the Company has removed the language associated with the current low-income discount program from the Financial Aid section of the standard terms and conditions on Sheet No. 11. These changes are reflected in Exhibit P-1.

VI. CONCLUSION

61. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

1. Q. Please describe your educational background and business experience.

A. I am a 2001 graduate of Rowan University where I earned a Bachelor of Science Degree in Business Administration with a specialization in Accounting. I have also attended the Utility Rate School sponsored by the National Association of Regulatory Utility Commissioners ("NARUC").

2. Q. What has been your business experience?

A. Prior to my employment with Service Company, my work history included an accounting internship with Alloy, Silverstein, Shapiro, Adams, Mulford & Co. in Cherry Hill, New Jersey, an audit position with M.D. Oppenheim & Co., PC, in Cherry Hill, New Jersey, and a staff accountant position with A.C. Moore Arts and Crafts, Inc. in Berlin, New Jersey. I began my employment with the Service Company in September 2006 as a General Tax accountant in the General Tax Department. My duties included developing, preparing, and maintaining the general tax account reconciliations for all American Water affiliates, developing general tax Sarbanes-Oxley practices and policies, and making monthly closing journal entries. In June 2007, I transferred to the role of Accountant in the General Accounting/Financial Reporting Department. My duties included preparing quarterly and annual financial reports, monthly closing financials, and monthly account reconciliations for multiple regulated companies of American Water and Service Company. My responsibilities also included external audit coordination and internal controls task management. In October 2010, I transferred to the role of Supervisor in the Accounts Payable

Appendix A

Department and was responsible for overseeing the end-to-end operations and transaction processing of accounts payable for multiple regulated companies of American Water. In October 2011, I transferred to the position of Financial Analyst II in Rates and Regulation. In July 2013, I was promoted to Financial Analyst III. In January 2017, I was promoted to Senior Manager in Regulatory Services where I supported rate applications and other regulatory filings for American Water's West Virginia and Pennsylvania operating companies. In August 2018, I became the Senior Manager of Rates and Regulatory for New Jersey-American Water. Effective July 2023, I was promoted to Director of Rates and Regulatory for New Jersey-American Water.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES,
AND OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Michael B. McKeever

January 19, 2024

Exhibit P-7

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

INTRODUCTION

1. Q. Please state your name and business address.

A. My name is Michael B. McKeever. My business address is 1 Water Street, Camden, New Jersey 08102.

2. Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("Service Company") as the Senior Director of Rates and Regulatory for New Jersey-American Water Company, Inc. ("New Jersey-American Water," or the "Company"), Virginia-American Water Company ("Virginia-American Water"), and Maryland-American Water Company ("Maryland-American Water"). Service Company is a wholly owned subsidiary of American Water Works Company, Inc. ("American Water") that provides support services to New Jersey-American Water and its affiliates.

3. Q. What are your responsibilities in this position?

A. I am responsible for the management and execution of the rates and regulatory activities for New Jersey-American Water, Virginia-American Water, and Maryland-American Water, with a primary focus on strategic planning in the regulatory environment. My chief responsibilities include the preparation of written testimony, exhibits, and workpapers in support of rate applications and other regulatory filings, as well as data requests for the aforementioned companies. As Senior Director of Rates and Regulatory, I am also a member of New Jersey-American Water's senior

management team, where I participate in the decision-making process for all functional areas of the Company.

4. Q. Please describe your educational background and business experience.

A. I hold a Bachelor of Science degree in Accountancy from Villanova University, and I am a Certified Public Accountant licensed in the state of New Jersey. I have been employed by American Water since 2006, beginning in the Accounting department, holding various positions of increasing responsibility, the last being Senior Manager of Accounting for American Water's regulated subsidiaries. From 2016 to 2019, I held the position of Senior Manager of External Financial Reporting, responsible for American Water's Securities and Exchange Commission filings and, from 2019 to 2023, I was the Chief Financial Officer for American Water's Eastern Division, which includes New Jersey-American Water, Virginia-American Water, and Maryland-American Water. Prior to joining American Water, I worked in the public accounting field for Arthur Andersen, LLP, in their Audit Assurance group, and as the Assistant Controller of a privately held, pharmaceutical marketing research company.

5. Q. Have you previously testified in regulatory proceedings?

A. Yes. I have submitted testimony on behalf of Virginia-American Water Company before the Virginia State Corporation Commission.

6. Q. What is the purpose of your Direct Testimony in this proceeding?

A. The primary purpose of my Direct Testimony is to support the Company's proposed expense levels and post-test year adjustments for several categories of expense. My testimony supports operations and maintenance ("O&M") expense, including production costs, compensation and compensation-related expenses, Service Company expenses, and various other operating expenses. I also address the Company's proposed expense levels and post-test year adjustments for property taxes, payroll taxes, revenue-based taxes, and federal income taxes. Finally, my testimony supports the Company's request for regulatory accounting treatment for the deferral of pension and other post-employment benefit expenses, and production costs.

7. Q. Do you sponsor any schedules in your Direct Testimony?

A. Yes. I sponsor the schedules listed below, which are included in Exhibit P-2 and were prepared by me or under my supervision and direction.

- Schedule 6: Statement of Operation and Maintenance Expense
- Schedule 7: Uncollectible Expense
- Schedule 10: Summary of Taxes Other than Income
- Schedule 11: Gross Receipts and Franchise Tax
- Schedule 12: Utility Assessments
- Schedule 13: Water Monitoring Tax
- Schedule 14: Federal Income Tax Calculation
- Schedule 18: Schedule of Payments to Affiliated Companies

8. Q. What test year period is the Company using in this proceeding?

A. For this proceeding, the Company employed a test year comprised of the twelve months ending June 30, 2024 ("test year"). As discussed in the Direct Testimony of Company witness Hawn, the test year includes five months of actual data (July 1, 2023 through November 30, 2023), and seven months of projected data (December 1, 2023 through June 30, 2024). Projected data will be replaced with actual data as this proceeding progresses, ultimately resulting in a test year containing twelve months of actual data, which will be included in the Company's 12&0 update.

9. Q. What is the Company's proposed post-test year period for expense adjustments?

A. Consistent with standards previously adopted by the New Jersey Board of Public Utilities ("BPU" or the "Board") regarding post-test year adjustments[1], and discussed in the Direct Testimony of Company witness Hawn, the Company is proposing certain known and measurable expense adjustments through March 31, 2025, nine months following the end of the Test Year ("post-test year").

10. Q. What methodology did the Company use in calculating its test year and post-test year expense levels in this proceeding?

A. For certain expenses, the Company used actual expenses incurred during the twelve months ended June 30, 2023 ("base year"), and made specific adjustments for known and measurable changes in operating conditions and/or applied an inflation factor based on the Consumer Price Index ("CPI") for Northeast Urban Consumers

[1] *In re Elizabethtown Water Company Rate Case*, BPU Docket No. WR8504330, Order dated May 23, 1985.

("CPI-U"), as provided by the United States ("U.S.") Bureau of Labor Statistics.[2] Given that certain expenses vary on an annual basis, the Company also utilized a three-year historical average to reflect a normalized level of expense for the test year and post-test year. In calculating the three-year historical average, the Company used actual expenses incurred during the twelve months ended June 30, 2021, June 30, 2022, and June 30, 2023 ("three-year historical average"). All adjustments are detailed in the Exhibit P-2 schedules noted above and are discussed in my testimony below.

OPERATION AND MAINTENANCE EXPENSE

11. Q. Please provide a brief overview of the Company's O&M expense levels.

The Company is seeking recovery of approximately $263.7 million of O&M expense (net of purchased water expense and purchased wastewater expense) in this proceeding, representing annualized expense levels through the post-test year. As discussed in the Direct Testimony of Company witness Hawn, the Company has been successful in controlling O&M expense over the past decade and is continuing to do so. O&M expense per customer (net of purchased water expense and purchased wastewater expense) has increased moderately from $298 in 2014, to $358 as proposed in this proceeding. This represents an average annual increase of 1.9% over the past ten years, comparing favorably to inflation, which has increased 3.0% over

[2] The U.S. Bureau of Labor Statistics' Consumer Price Indices ("CPI") are measures of inflation in the U.S. economy. Where applicable, the Company used the CPI that measures price changes in all goods and services for Northeast urban consumers, Series ID: CUUR0100SA0 ("CPI-U"), unless otherwise noted.
See http://data.bls.gov/timeseries/CUUR0100SA0?data_tool=XGtable

the same period as measured by the CPI-U. To put this in perspective, if the Company's O&M expense increased at the rate of the CPI-U, O&M expense per customer would have risen from $298 in 2014, to $401 on a post-test year basis. Using the post-test year customer count included in this proceeding, annual O&M expense would have been over $31 million more than the amount the Company is proposing in this proceeding. The Company's ability to manage its O&M expense has benefited customers for a decade now, and its ongoing efforts to mitigate increases in O&M expense will continue to benefit the Company's customers into the future.

A. Production Costs

12. Q. Please explain which O&M expenses are considered production costs.

A. Production costs are expenses incurred to provide water and wastewater services to the Company's customers and vary depending on the volume of water provided and wastewater processed. These expenses include purchased water, power, chemicals, and waste disposal. The Company's production costs are reflected in Exhibit P-2, Schedule 6, lines 2 – 5.

13. Q. Please explain the impact of system delivery on production costs.

A. System delivery is the amount of treated water that the Company's treatment facilities produce. Water sales as well as other factors impact the amount of water that is delivered and therefore, the amount of water that needs to be purchased or produced by the treatment facilities, directly impacting the expenses associated with treating and distributing that water. As discussed in the testimonies of Company witnesses

Rea and Brooks, the Company has proposed post-test year revenue adjustments related to declining usage, weather normalization, and customer growth, and has calculated associated post-test year system delivery. The Company used this same level of post-test year system delivery in its production cost calculations for the post-test year. Thus, if post-test year system delivery is adjusted, either up or down, during this proceeding, post-test year production costs will be adjusted accordingly.

B. Purchased Water

14. Q. Please describe purchased water expense and the adjustments made to determine post-test year expense.

A. Purchased water expense is comprised of two components: (a) water purchased from third-party utilities, and (b) water diversion fees. In this proceeding, as well as in prior rate cases, and consistent with the BPU's Order[3], the Company has removed third-party purchased water costs from base rates, as these costs are recovered through the Purchased Water Adjustment Clause ("PWAC"). Post-test year expense reflected in Exhibit P-2, Schedule 6, line 2, represents the Company's water diversion fees, which are levied by the State of New Jersey for the processing, monitoring, administration, and enforcement of the water supply allocation program, and by the Delaware River Basin Authority for water withdrawal. Post-test year expense for water diversion fees was calculated using a three-year historical average of actual expenses. Supporting workpapers are provided in Exhibit P-2, Schedule 6-2.

[3] *In re the Joint Petition of New Jersey American Water Company, Inc., Elizabethtown Water Company, and the Mount Holly Water Company for Approval of Increased Tariff Rates and Charges for Water and Sewer Services and other Tariff Revisions*, BPU Docket No. WR06030257, Order dated April 2, 2007.

C. Power

15. Q. Please describe power expense and the adjustments made to determine post-test year expense.

A. Power expense includes electricity, natural gas, and diesel costs, purchased for the treatment, pumping, and delivery of water, and the collection and treatment of wastewater. The Company has contracted with Constellation Energy Corporation for its electricity supply and Direct Energy Business, LLC for its natural gas supply, with transmission provided by each facility's local distribution company.

To determine post-test year power expense, the Company normalized actual expenses incurred during the base year and adjusted for changes in contract pricing and tariff rates charged by the Company's suppliers and distributers.[4] Additionally, an adjustment was made to reflect the index pricing effective in November 2023, which was favorable to the index pricing experienced during the base year, resulting in a reduction from the base year level of power expense of approximately $1.2 million. Finally, an adjustment for system delivery was made, dividing normalized post-test year power expense by base year system delivery to calculate a rate per 1,000 gallons of system delivery, which was then applied to post-test year system delivery. Post-

[4] The Company made the following tariff rate adjustments in the calculation of post-test year power expense: (a) Atlantic City Electric Company's rate increase from BPU Docket No. ER23020091, Order dated November 17, 2023; and (b) Jersey Central Power & Light's projected rate increase from BPU Docket ER2300144. At the time the Company filed this rate case, Jersey Central Power & Light Company's rate case (BPU Docket ER2300144) was pending, and the outcome was not known. The Company used a projected rate increase in the calculation of post-test year power expense, which will be updated to reflect the final approved rate increase when an Order is issued. The Company also notes that Public Service Electric and Gas Company ("PSE&G") filed for a rate increase on December 29, 2023, which has not yet been incorporated into the Company's post-test year power expense. The Company will incorporate any PSE&G rate change into its 9&3 and 12&0 updates.

test year power expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 3, and supporting workpapers are provided in Exhibit P-2, Schedule 6-3.

D. Chemical

16. Q. Please describe chemical expense and the adjustments made to determine post-test year expense.

A. The Company uses chemicals for both water and wastewater treatment to bring chemical and biological contaminants within the levels prescribed by the U.S. Environmental Protection Agency, in accordance with the Safe Drinking Water Act and the Clean Water Act. Chemicals are also utilized to remove turbidity (cloudiness) of the water and to address any remaining taste or odor issues, and for wastewater treatment. Water conditions can vary seasonally or due to other external factors, which impact chemical usage and expense levels. In order to obtain the best available pricing, the Company participates in American Water's enterprise-wide competitive bidding process and enters into unit-price contracts with successful bidders for the chemicals needed at its water and wastewater treatment facilities.

To determine post-test year chemical expense, the Company began with the three-year historical average of actual usage for each chemical, and adjusted when applicable, for: (a) the addition or elimination of chemicals; (b) known changes in current or future usage; and (c) changes in usage trends brought upon by adjustments in water quality regulations, including new and revised limits for raw and finished water, and emerging compounds (further discussion included in the Direct Testimony of Company witness Shields). For chemical pricing, the Company began with the

preliminary bids received from its suppliers for 2024 pricing. Due to current volatility in the market for chemicals, many vendors have deviated from annual contracts and have moved to quarterly or semi-annual contracts. 2024 pricing levels were then adjusted by chemical family, based on input from our suppliers and market indexes to determine post-test year pricing. Post-test year prices were then applied to the adjusted usage levels discussed above. Finally, an adjustment for system delivery was made by dividing normalized post-test year chemical expense by a three-year historical average of system delivery to calculate a rate per 1,000 gallons of system delivery, which was then applied to post-test year system delivery.

If the Company enters into new chemical contracts with material pricing changes during the course of this proceeding, adjustments will be made to reflect the latest pricing and included in the Company's 9&3 and 12&0 updates. Post-test year chemical expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 4, and supporting workpapers are provided in Exhibit P-2, Schedule 6-4.

E. Waste Disposal

17. Q. Please describe waste disposal expense and the adjustments made to determine post-test year expense.

A. The Company incurs waste disposal costs as a result of the need to properly process and dispose of sludge, residuals, and other by-products resulting from the water and wastewater treatment process.

Waste disposal expense incurred in the water treatment process will vary depending on the treatment facility and the method used to process and dispose of the waste generated. Expenses include: (a) costs to de-water, press, and haul sludge for disposal; (b) fees for discharging residuals directly into local municipality's sewer systems; and (c) costs for sludge lagoon cleanings, which occur periodically and depend on residual build-up and the size of the lagoon. In certain locations, residuals are de-watered and pressed, but instead of being hauled to a landfill for disposal, they are combined with subsoil in a 50/50 ratio by a vendor and sold as residential topsoil (known as "beneficial reuse"). This environmentally friendly process provides an alternative for the Company to dispose of residuals and reduces costs for customers.

Waste disposal expense incurred in the wastewater treatment process consists primarily of hauling and disposal costs, as well as fees paid to municipalities and authorities for the treatment of wastewater from the Company's collection-only systems. In this proceeding, as well as in prior rate cases, the Company has removed fees paid to municipalities and authorities for the treatment of wastewater from base rates, as these costs are recovered through the Purchased Wastewater Treatment Adjustment Clause ("PSTAC").

To determine post-test year waste disposal expense, the Company used actual expenses incurred during the base year and adjusted for known changes in pricing, volumes of waste to be processed and disposed, and changes in disposal methodology or operation. An adjustment for system delivery was made by dividing normalized

post-test year waste disposal expense incurred in the water treatment process by base year system delivery to calculate a rate per 1,000 gallons of system delivery, which was then applied to post-test year system delivery. Post-test year waste disposal expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 5, and supporting workpapers are provided in Exhibit P-2, Schedule 6-5.

F. Compensation and Compensation-Related

18. Q. Please describe the Company's compensation and compensation-related expenses and the overall approach used in calculating these expenses.

A. The Company's compensation and compensation-related expenses pertain to employees who support New Jersey-American Water exclusively. There are three classifications of New Jersey-American Water employees: (a) union hourly employees; (b) non-union hourly employees; and (c) exempt employees. Union and non-union hourly employees receive base pay and overtime pay, and in some cases, other compensation such as shift premiums and meals, and are eligible for performance pay. Exempt employees receive base pay and are eligible for performance pay.

A critical factor in calculating compensation and compensation-related expenses is employee count, which is based on the total number of full-time and part-time employees, translated into a number that equates to full-time equivalent ("FTE") employees. Depending on the type of job, certain positions are counted as a partial FTE employee, specifically part-time positions. The Company's post-test year compensation and compensation-related expenses were calculated on a position-by-

position basis, based on 903.2 FTE employees. This figure excludes 18 FTE employees, which were included in the post-test year expenses for proposed acquisitions as reflected in Exhibit P-2, Schedule 6, lines 20, and discussed in further detail in my testimony below. Please see the Direct Testimony of Company witness Shroba for further discussion of the Company's staffing levels.

A portion of the Company's compensation and compensation-related expenses are capitalized and added to the cost of utility plant. Individual capitalization rates for each category of compensation and compensation-related expenses were calculated, comparing actual dollars charged to capital versus expense during the three-year historical average period. These capitalization percentages were then applied to the individual categories of compensation and compensation-related expenses to determine the portion of these expenses that are capitalized. The capitalization rates used in this proceeding are included in Table 1 below:

Table 1: Capitalization Rates

Expense Category	Workpaper Reference	3-Yr Average Capital Ratio
Salaries & Wages	Schedule 6-6	45.94%
Pension	Schedule 6-7	44.51%
Group Insurance	Schedule 6-8	44.77%
Other Post-Retirement Employee Benefits	Schedule 6-8	47.51%
401k	Schedule 6-9	44.44%
Defined Contribution Plan	Schedule 6-9	41.92%
Retiree Medical	Schedule 6-9	37.37%
Transportation	Schedule 6-12	47.91%
Workers Compensation	Schedule 6-16	47.72%

The compensation and compensation-related expenses discussed in my testimony include:

A. Salaries and Wages
   a. Base Pay
   b. Overtime
   c. Shift Premiums and Meals
   d. Performance Pay
B. Pensions
C. Group Insurance and Other Post-Employment Benefits
D. Other Benefits, including:
   a. 401k
   b. Defined Contribution Plan
   c. Retiree Medical
   d. Employee Stock Purchase Plan
   e. Miscellaneous

Post-test year compensation and compensation-related expenses and adjustments are reflected in Exhibit P-2, Schedule 6, lines 6 to 9, and supporting workpapers are provided in Exhibit P-2, Schedule 6-6 through Schedule 6-9.

G. Salaries and Wages

19. Q. Please describe the various components of salaries and wages expense and the adjustments made to determine post-test year expense.

A. Salaries and Wages expense is composed of four components: (a) base pay; (b) overtime; (c) shift premiums and meal compensation required by union contract; and (d) performance pay for eligible employees. Each component is discussed in further detail below.

Base Pay – To determine post-test year base pay expense for non-union hourly and exempt employees, the Company began with actual wage rates effective at the end of the base year and adjusted these rates using a three-year average (2022-2024) of base pay increases to determine post-test year wage rates. These post-test year wage rates were then applied to regular labor hours (2,088 for non-union hourly employees and 2,080 for exempt employees) to calculate post-test year base pay expense. For union employees, the Company began with actual wage rates from current collective bargaining agreements ("CBAs") that will be in effect at the end of the post-test year period to determine post-test year wage rates. For those CBAs that expire prior to the end of the post-test year period, the Company used the actual CBA wage rates effective at the end of the base year and adjusted these rates using a three-year average (2022-2024) of base pay increases to determine post-test year wage rates. These post-test year wage rates were then applied to 2,088 regular labor hours to calculate post-test year base pay expense.

Overtime – To determine post-test year overtime expense, the Company used a base year overtime rate, calculated by dividing base year overtime expense by base year overtime hours. This rate was then adjusted by the average union wage increase included in the current CBAs that will be in effect at the end of the of the post-test year period to determine a post-test year overtime rate, which was then applied to the three-year historical average of actual overtime hours to calculate post-test year overtime expense.

Shift Premiums and Meals – Certain CBAs provide wage premiums for employees working on uncommon shifts or when employees obtain certain licenses or complete certain training. Employees are also compensated for meals during extended shifts and, therefore, meal compensation is included in salaries and wages expense. To determine post-test year shift premiums and meals expense, the Company used a three-year historical average of actual expense incurred for each expense type.

Performance Pay – Performance pay includes annual and long-term performance compensation for eligible employees. Post-test year performance pay expense was calculated on a position-by-position basis, based on each position's target percent, or percentage of base pay that is provided if program goals are achieved under both the Annual Performance Plan ("APP") and Long-Term Performance Plan ("LTPP"). Target percents were multiplied by each eligible employee's post-test year base pay to calculate post-test year performance pay expense for both APP and LTPP. The testimonies of Company witnesses Shroba and Mustich support the Company's performance pay program and demonstrate why it is just and reasonable for the Board to recognize the related expenses of this program in base rates.

20. Q. Are the levels of compensation paid by the Company "just and reasonable?"

A. Yes, they are. As Company witness Mustich demonstrates in his Direct Testimony, the Company's total compensation levels, which include performance pay, fall within a range of reasonableness around the median of total compensation paid by other utilities, both nationally and regionally. Given that total compensation is in line with

market compensation, it is, by definition, reasonable. Furthermore, as Company witness Mustich observes, if performance pay were not paid, base pay levels would have to be increased or the Company's compensation would fall below the market levels, which would harm New Jersey-American Water's ability to attract and retain skilled workers.

21. Q. In the past, the Board has rejected programs where there has been a "financial trigger" before performance pay is paid as being not "known and measurable." Is the Company's performance pay known and measurable?

A. Yes, it is. It is my understanding that in the past, the Board has said that a financial trigger for performance pay programs that have such a gatekeeper device can be an element rendering them to be not known and measurable. For example, in Jersey Central Power & Light Company's 2012 rate case, the Board found that the incentive compensation program was not known and measurable because it was dependent on FirstEnergy Corporation's achievement of financial thresholds.[5] The American Water performance pay program, which governs New Jersey-American Water's performance pay payments, no longer has such a mechanism. Therefore, this element in finding the program not to be known and measurable no longer exists. Furthermore, the fact remains that New Jersey-American Water's employees have

[5] *In re The Matter of The Verified Petition of Jersey Central Power & Light Company For Review and Approval Of Increases In and Other Adjustments To Its Rates and Charges For Electric Service, and For Approval Of Other Proposed Tariff Revisions In Connection Therewith; And For Approval Of An Accelerated Reliability Enhancement Program ("2012 Base Rate Filing"),* BPU Docket No. ER12111052, Order dated March 26, 2015, page 24.

been paid performance pay in every year in which the Company has requested recognition of this expense in base rates.

H. Pension

22. Q. Please describe pension expense and the adjustments made to determine post-test year expense.

A. Certain Company employees, upon retirement, are eligible for pension benefits under a defined benefit plan. Generally, union employees hired prior to January 1, 2001, and non-union employees hired prior to January 1, 2006, are eligible for pension benefits. The Company records pension expense in accordance with Financial Accounting Standards Board ("FASB") Accounting Standards Codification Topic 715 or "ASC 715". To determine post-test year pension expense, the Company began with a report furnished by its third-party actuary, WTW, which provided the Company's 2023 pension costs determined in accordance with ASC 715. From that report, the Company identified the service and non-service cost components of its pension cost. The service cost component was reduced by a capitalization rate of 44.51% (see Table 1 above) to determine the portion of the Company's total pension costs that are recorded as post-test year expense. During the first quarter of 2024, the Company expects to receive projected 2024 pension costs from WTW, which will be incorporated into the Company's 9&3 and 12&0 updates. Post-test year pension expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 7, and supporting workpapers are provided in Exhibit P-2, Schedule 6-7.

Please refer to the "Proposed Regulatory Accounting Deferral Treatment" section in my testimony below for discussion regarding the Company's proposal to continue regulatory accounting deferral treatment for pension expense.

I. Group Insurance and Other Post-Employment Benefits

23. Q. What expenses are included under the Group Insurance heading in Exhibit 2, Schedule 6, line 8?

A. Group insurance and other post-employment benefits ("OPEB") expenses are included under the Group Insurance heading on Exhibit P-2, Schedule 6, line 8, and supporting workpapers are provided in Exhibit P-2, Schedule 6-8.

24. Q. Please describe group insurance expense and the adjustments made to determine post-test year expense.

A. Group insurance includes several types of insurance coverages that the Company provides to its employees. These coverages can be grouped into two primary categories: (a) basic life, short- and long-term disability, and accidental death and disability ("AD&D"); and (b) medical, dental, and vision. Both categories are discussed in further detail below.

Basic Life, Short- and Long-Term Disability and AD&D – To determine post-test year expense for these coverages, the Company began with the 2024 insurance premium rates for each position under the applicable plans for union and non-union employees. These rates were then applied, on a position-by-position basis, to each

employee's post-test year base pay to calculate a level of expense using the 2024 premium rates.

Medical, Dental and Vision – This category of insurance coverage includes a Company expense that is net of employee contributions. The Company's expense and employee contributions vary by plan type (e.g. family, employee, or employee plus spouse) and were calculated on a position-by-position basis, taking into account actual employee plan selections and, similar to above, using the 2024 premium rates.

For both categories of insurance coverage discussed above, once a level of expense was calculated using the 2024 premium rates, a three-year average (2022-2024) of the Company's group insurance cost increases was applied, followed by a capitalization rate of 44.77% (see Table 1 above) to determine the portion of the Company's total group insurance costs that are recorded as post-test year expense.

25. Q. Please describe OPEB expense and the adjustments made to determine post-test year expense.

A. Certain New Jersey-American Water employees are eligible for OPEB benefits upon their retirement, depending on their start date with the Company. Generally, this includes non-union employees hired prior to January 1, 2002, and union employees hired prior to January 1, 2006. OPEB expense is based on the accrual cost recognized under ASC 715, which was provided by the Company's third-party actuary, WTW, for 2023. The Company determined post-test year OPEB expense following the same methodology used to determine post-test year pension expense (described above in

my testimony), with the exception of the capitalization rate. The service cost component was reduced by a capitalization rate of 47.51% (see Table 1 above) to determine the portion of the Company's total OPEB costs that are recorded as post-test year expense. During the first quarter of 2024, the Company expects to receive projected 2024 OPEB costs from WTW, which will be incorporated into the Company's 9&3 and 12&0 updates.

Please refer to the "Proposed Regulatory Accounting Deferral Treatment" section in my testimony below for discussion regarding the Company's proposal to continue regulatory accounting deferral treatment for OPEB expense.

J. Other Benefits

26. Q. Please describe the various components of "other benefits" expense and the adjustments made to determine post-test year expense.

A. "Other benefits" expense includes the following savings programs: (a) 401k; (b) Defined Contribution Plan ("DCP"); (c) retiree medical; and (d) Employee Stock Purchase Plan ("ESPP"). Each program is discussed in further detail below.

401k – The Company incurs 401k expense when it matches employee contributions to 401k retirement accounts. The Company's matching amounts are determined by the employee's benefit group or hire date. For union employees hired prior to January 1, 2001, and non-union employees hired prior to January 1, 2006, the Company matches 50% of the first 5% of the employee's contributions (for a maximum of 2.5%). For Local 423 union employees hired prior to April 1, 2006, the Company

matches sixty cents on the dollar of the first 6% of the employee's contributions. For the remaining employees, the Company matches 100% of the first 3% of the employee's contributions, and 50% of the next 2% of the employee's contributions (for a maximum of 4%). Post-test year 401k expense was determined on a position-by-position basis, multiplying the employee's post-test year base pay by the level of Company match associated the employee's current 401k contribution election, and then applying a 44.44% capitalization rate (see Table 1 above) to determine the portion of the Company's total 401k costs that are recorded as post-test year expense.

DCP – DCP is a retirement savings program for employees that are not eligible for the Company's defined benefit pension plan. Under the DCP, the Company contributes an amount equal to 5.25% of the employee's base pay into a retirement account. Post-test year DCP expense was determined on a position-by-position basis, multiplying the employee's post-test year base pay by 5.25%, and then applying a 41.92% capitalization rate (see Table 1 above) to determine the portion of the Company's total DCP costs that are recorded as post-test year expense.

Retiree Medical – Union employees who are not eligible for the OPEB plan are entitled to Company-sponsored retiree medical benefits. The Company has established a trust (referred to as the Voluntary Employee Benefits Association, or VEBA) to fund this benefit in the amount of $600 per year, per eligible employee. Post-test year retiree medical expense was determined by multiplying the number of VEBA-eligible employees by $600, and then applying a 37.37% capitalization rate

(see Table 1 above) to determine the portion of the Company's total retiree medical costs that are recorded as post-test year expense.

ESPP – ESPP expense is incurred by the Company to fund the 15% discount on purchases of American Water stock by employees who are enrolled in the plan. Post-test year ESPP expense was determined, for those employees enrolled in the plan, on a position-by-position basis, multiplying the employee's post-test year base pay by the percentage of base pay the employee has selected to devote to purchasing American Water stock. This amount was then multiplied by the 15% Company-funded discount.

K. Service Company

27. Q. What services does New Jersey-American Water receive from the Service Company?

A. The services provided by the Service Company include customer service, water quality testing, environmental compliance, human resources, communications, information technology and cyber security, finance, accounting, payroll, tax, legal, engineering, accounts payable, supply chain, and risk management (collectively, the "Support Services"). As part of its customer service function, the Service Company handles customer calls, billing, and collection activities for New Jersey-American Water, as well as customer inquiries and correspondence, and the processing of service order requests. In addition, the Service Company provides field resource coordination for tracking and dispatching service orders for New Jersey-American Water's field representatives and distribution crews, and operates the Central

Laboratory located in Belleville, Illinois, which employs chemists, laboratory technicians, analysts, and support employees to perform water quality testing, analysis and research. The Central Laboratory is certified by the United States Environmental Protection Agency.

28. Q. How do the New Jersey-American Water customers benefit from obtaining the services described above from the Service Company?

A. The Service Company provides New Jersey-American Water access to highly trained professionals who possess expertise in various specialized areas, whose background, experience, and training are focused on water and wastewater utility operations, and who work exclusively for American Water's subsidiaries. Furthermore, the size of the Service Company and the scope of its operations have enabled it to assemble a uniquely qualified group of professionals who, through the Service Company, have a platform for sharing their extensive knowledge, expertise, and experience across the American Water system to the benefit of all of American Water's state-regulated utilities and their customers. New Jersey-American Water benefits from getting these services and tapping into the expertise of the Service Company personnel at cost. The Company also benefits from the size and breadth of American Water, which affords New Jersey-American Water increased purchasing power that it could not obtain on its own and provides access to discounts on equipment and supplies needed for utility operations, including, for example, pipe, fittings, and water treatment chemicals as further discussed by Company witness Shroba. In this way, New Jersey-

American Water achieves costs savings that it could not obtain if it were a stand-alone water company.

29. Q. How does the Service Company charge New Jersey-American Water for its services?

A. The Service Company provides its services to New Jersey-American Water at cost and issues monthly invoices. Support services are charged to the Company in two ways: (a) directly to the Company at 100% of the cost; or 2) a percentage allocation based on factors such as a per customer count across the American Water regulated subsidiaries. If the Service Company can identify costs that relate exclusively to New Jersey-American Water, 100% of those costs are charged directly to the Company. Costs the Service Company incurs in rendering services in common to a group of regulated subsidiaries, and not exclusive to New Jersey-American Water, are charged to each service recipient in the relevant group based on an allocation factor. Company witness Baryenbruch provides analyses and discusses the reasonableness of the Service Company costs charged to New Jersey-American Water as part of his Direct Testimony.

30. Q. Please explain the adjustments made to determine post-test year Support Services expense.

A. Support Services expense is primarily composed of compensation and compensation-related expenses for employees of the Service Company. To determine post-test year expense, the Company used the actual compensation and compensation-related

expense incurred during the base year for employees of the Service Company, adjusted to annualize base pay increases effective in March 2023 (3.3% for non-union Service Company employees and 2.75% for union employees of the Service Company). This normalized level of expense was further adjusted to annualize base pay increases effective in January 2024 and January 2025, which include: (a) 3.2% for non-union Service Company employees, based on a three-year average (2021-2023) of base pay increases; and (b) 2.75% for union Service Company employees, based on the annual base pay increases in the current CBAs that will be in effect at the end of the of the post-test year period.

Additionally, in determining post-test year expense, adjustments were made to eliminate severance expense, to normalize pension and OPEB expense, and to adjust APP and LTPP expense based on the latest compensation information. Costs pertaining to charitable contributions, community relations, penalties, and injuries and damages were also removed. Finally, adjustments were made for depreciation expense, interest expense associated with capital leases, operating expense for office space, the removal of a one-time sales tax refund, and the removal of costs related to the Customer Service Centers in Alton, Illinois and Pensacola, Florida. Post-test year Support Services expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 10, and supporting workpapers are provided in Exhibit P-2, Schedule 6-10.

L. Rent

31. Q. Please describe rental expense and the adjustments made to determine post-test year expense.

A. Rental expense incurred by the Company is primarily related to property and equipment leases. To determine post-test year rental expense, the Company used actual expenses incurred during the base year and adjusted for new and terminated leases and known changes to existing lease contracts. Post-test year rental expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 11, and supporting workpapers are provided in Exhibit P-2, Schedule 6-11.

M. Transportation

32. Q. Please describe transportation expense and the adjustments made to determine post-test year expense.

A. Transportation expense includes the costs associated with operating the Company's vehicle fleet. These expenses can be grouped into three categories: (a) fleet management costs, including titling, registration, and fleet administration service fees; (b) maintenance and repairs; and (c) fuel.

To determine post-test year expense for fleet management costs, the Company used actual expenses incurred during the base year and adjusted for employee reimbursement for use of personal vehicles for Company business. To determine post-test year expense for maintenance and repairs, the Company used a three-year historical average of actual expenses and adjusted the expenses for the twelve months

ended June 30, 2021 and June 30, 2022, by an inflation factor[6], to align expenses in these periods with those in the base year. To determine post-test year fuel expense, the Company used actual expenses incurred during the base year and adjusted for a decrease in the price of gasoline as compared to the prices seen during the base year, based upon historical statistics published by the U.S. Energy Information Administration ("EIA")[7], an agency within the U.S. Department of Energy. In this calculation, the Company used the EIA's East Coast (PADD 1) Weekly East Coast All Grades All Formulations Retail Gasoline Prices, comparing the base year 52-week average price per gallon to the price per gallon on November 27, 2023, resulting in a decrease of $0.351 per gallon, or (9.69%). Finally, a capitalization rate of 47.91% (see Table 1 above) was applied to each category of transportation costs to determine the portion that is recorded as post-test year expense. Post-test year transportation expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 12, and supporting workpapers are provided in Exhibit P-2, Schedule 6-12.

N. Uncollectibles

33. Q. Please describe uncollectible expense and the adjustments made to determine post-test year expense.

A. Uncollectible expense is calculated by comparing net write-offs for customer non-payment as a percentage of billed water and wastewater revenues. To determine post-

[6] The Company used the CPI-U inflation factor which measures price changes in all goods and services for Northeast urban consumers (Series ID: CUUR0100SA0).
See http://data.bls.gov/timeseries/CUUR0100SA0?data_tool=XGtable
[7] See http://www.eia.doe.gov/oil_gas/petroleum/data_publications/wrgp/mogas_history.html.

test year uncollectible expense, the Company used the three-year historical average net write-offs and billed revenues to calculate an average uncollectible percentage of 0.41%. This uncollectible percentage was then applied to post-test year water and wastewater revenues to arrive at post-test year uncollectible expense, which is reflected, along with adjustments, in Exhibit P-2, Schedule 6, line 13, and supporting workpapers are provided in Exhibit P-2, Schedule 7.

O. Customer Accounting

34. Q. Please describe customer accounting expense and the adjustments made to determine post-test year expense.

A. Customer accounting expense can be grouped into the following categories: (a) costs to generate customer bills ("bill forms expense"); (b) postage expense; (c) other customer accounting costs such as shipping and delivery services, lock box and bank fees for payment collections, and third-party collection agency fees.

To determine post-test year bill forms expense, the Company began with the actual expense incurred during the base year and divided this amount by the number of customer bills mailed during the base year to calculate a cost per bill. The Company then calculated the number of post-test year customer bills by taking the number of bills mailed during the base year and adding the post-test year customer growth. Finally, the number of post-test year customer bills was multiplied by the cost per bill to arrive at post-test year bills forms expense.

To determine post-test year postage expense, the Company used the same number of post-test year customer bills discussed above and sorted this figure by category of mail delivery (for the customer bill). Postage rates effective July 9, 2023, were then applied to the number of customer bills in each category of mail delivery to arrive at post-test year postage expense.

To determine post-test year expense for "other customer accounting costs", the Company used the actual expenses incurred during the base year and applied an inflation factor[8] to capture cost increases anticipated for these types of expenses through the end of the post-test year period, based on recent pricing history reflected by the CPI-U index.

35. Q. What is the Company proposing in this proceeding related to electronic payment fees?

A. The Company is proposing to include, as a base operating expense, electronic payment fees assessed by third-party vendors for customer payments processed via credit card or electronic check. These fees are currently paid directly by the customer, on top of their bill. The Company is proposing to pay the fee for those customers who choose to make payment using one of these methods, which would then be recovered through base rates.

[8] The Company used the CPI-U inflation factor which measures price changes for postage and delivery services in U.S. cities (Series ID: CUUR0000SEEC, CUUS0000SEEC).
See https://data.bls.gov/timeseries/CUUR0000SEEC,CUUS0000SEEC?data_tool=XGtable

36. Q. Why is the Company proposing to include electronic payment fees as an expense in this proceeding?

A. The Company's goal is to provide customers with the most convenient alternatives to pay their bill. Customers are accustomed to paying many of their bills electronically, including with a credit card or electronic check. Charging an additional fee on top of the customer bill adds friction to the process of paying a bill. Eliminating the direct payment of this fee is expected to help more customers pay their bill on time, avoid late fees and potential disconnections, and improve collections. It also encourages paperless billing and the use of online payment platforms, "green alternatives" to submitting payments by mail. According to a National Association of State Utility Consumer Advocates resolution (Resolution 2102-07), "state public utility commissions are urged to survey the utilities within their jurisdictions to determine the options that are available to consumers for paying utility bills without incurring additional charges."

37. Q. Please explain the calculation of post-test year electronic payment fees.

A. Currently, customers making payment using a credit card or electronic check pay a fee of $1.95 per transaction. To determine post-test year electronic payment fees, the Company began with the number of base year transactions where customers made payment via credit card (529,152) and via electronic check (796,087) and multiplied these amounts by the applicable electronic payment fee per transaction of $1.50 or $1.95 depending on the credit card and $0.45 for electronic check. Post-test year electronic payment fees are included as part of post-test year customer accounting

expense, which is reflected, along with adjustments, in Exhibit P-2, Schedule 6, line 14, and supporting workpapers are provided in Exhibit P-2, Schedule 6-14.

P. Regulatory

38. Q. Please describe regulatory expense and the adjustments made to determine post-test year expense.

A. Regulatory expense includes: (a) costs associated with the preparation and litigation of this proceeding; and (b) amortization expense related to the remaining, unamortized balances of regulatory expense from prior proceedings.

Costs associated with the preparation and litigation of this proceeding include fees for outside legal counsel and consultants, direct support received from the Service Company, and other miscellaneous expenses for customer communications, mailings, printing, legal notices, and administrative fees. Per Board precedent, 50% of these costs will be amortized to expense over a 24-month period. An annualized amount of amortization expense was included in post-test year regulatory expense for this proceeding.

There are two prior proceedings with remaining, unamortized balances of regulatory expense. One is the Company's most recent BPU management audit[9], which is being amortized over a 120-month period. The other relates to a prior rate case with a matter currently under appeal with the Board, which is being amortized over a 24-

[9] *Audit of the Affiliated Transactions between New Jersey American Water Company, and American Water Works Company, Inc. and its Affiliates including a review of Operational and Financial Performance of New Jersey American Water Company and a Comprehensive Management Audit of New Jersey American Water Company Pursuant to N.J.A.C. 14:3-12.1-14:3-12.4*, BPU Docket No. WA18080849.

month period. Annualized amounts of amortization expense were included in post-test year regulatory expense for both of these proceedings, which is reflected, along with adjustments, in Exhibit P-2, Schedule 6, line 15, and supporting workpapers are provided in Exhibit P-2, Schedule 6-15.

Q. Insurance Other Than Group

39. Q. Please describe insurance other than group ("IOTG") expense and the adjustments made to determine post-test year expense.

A. The Company incurs costs related to several types of insurance coverages including general liability, auto liability, workers' compensation, property, and excess liability, as well as coverages for directors and officers liability, cyber liability, environmental impairment, unmanned aerial vehicles (drone program), employment practices, fiduciary, lawyers, crime, and travel. The Company's general liability, auto liability, and workers' compensation premiums are based on a combination of loss experience (50%) and exposure (50%). Exposure is based on estimated annual revenues and payroll, as well as the number of vehicles for auto liability. Consistent with the underwriting practices in the commercial insurance market, loss experience is based on a five-year historical average, which is used to smooth out losses to the extent the Company suffers an anomalous year of claims experience. Property insurance premiums are based on the total insured value of the Company's assets.

The majority of the Company's IOTG policies renew annually in January. To determine post-test year IOTG expense, the Company annualized premiums based on

the terms of the most recent policies, and then adjusted by applying specific policy escalation factors for each policy group at their corresponding renewal dates. Finally, a capitalization rate of 47.72% (see Table 1 above) was applied to workers' compensation costs to determine the portion to be recorded as post-test year expense. For those IOTG policies that are scheduled to renew in 2024, the Company will incorporate the updated policy premiums in their 9&3 and 12&0 updates. Post-test year IOTG expense and adjustments are reflected in Exhibit P-2, Schedule 6, line 16, and supporting workpapers are provided in Exhibit P-2, Schedule 6-16.

R. Engineered Coating of Steel Structures

40. Q. Please describe engineered coating of steel structures and the adjustments made to determine post-test year expense.

A. As discussed in the Direct Testimony of Company witness Shields, the Company invests each year in its water storage tank reinvestment program ("WSTR"), also referred to as engineered coating of steel structures. Water storage tanks are critical assets, allowing for potable water to be stored in the Company's distribution systems for fire protection, flow equalization, pressure management, and emergency storage, as well as management of peak demands. As Company witness Shields explains, detailed tank inspections and subsequent reports and recommendations determine tank rehabilitation needs and priorities. The Company's post-test year expense is based on seven-year tank rehabilitation plan at a total cost of approximately $64.8 million, or approximately $9.3 million per year. Post-test year expense and

adjustments are reflected in Exhibit P-2, Schedule 6, line 17, and supporting workpapers are provided in Exhibit P-2, Schedule 6-17.

S. Property Sales

41. Q. Has the Company included any gains from the sale of properties that will be shared with the customers in this proceeding?

A. Yes. The Company sold a parcel of land in the Borough of Runnemede during the first quarter of 2023. The transaction resulted in a gain of $39,000, which will be shared 50%/50% between customers and the Company. The amount of $19,500, or 50% of the recognized gain, will be amortized over a 24-month period. Post-test year property sales and adjustments are reflected in Exhibit P-2, Schedule 6, line 18, and supporting workpapers are provided in Exhibit P-2, Schedule 6-18.

T. Other Operating

42. Q. Please discuss "other operating expenses" and the adjustments made to determine post-test year expense.

A. "Other operating expenses" is composed of all other O&M expenses not otherwise adjusted through specific adjustments discussed in my testimony above. These expenses include maintenance, contracted services, telecommunications, building maintenance, office supplies, employee-related travel, and miscellaneous. To determine post-test year expense, the Company used a three-year historical average of actual expenses and adjusted the expenses for the twelve months ended June 30,

2021 and June 30, 2022, by an inflation factor[10], to align the expenses in these periods with those in the base year. The Company also excluded advertising, charitable contributions, community relations, and lobbying from post-test year "other operating expenses", which is reflected, along with adjustments, in Exhibit P-2, Schedule 6, line 19, and supporting workpapers are provided in Exhibit P-2, Schedule 6-19.

U. Acquisition

43. Q. Did the Company make any post-test year expense adjustments for acquisitions of new water and wastewater systems in this proceeding?

A. Yes. As discussed in the Direct Testimony of Company witness Hawn, included in this proceeding are the following acquisitions: (a) Borough of Bound Brook's wastewater system (closed on August 22, 2022); (b) Egg Harbor City's water and wastewater systems (closed on June 1, 2023); (c) Borough of Somerville's wastewater system (closed on October 3, 2023); (d) Salem City's water and wastewater systems (expected to close prior to the conclusion of this proceeding); and (e) Borough of Manville's wastewater system (expected close prior to the conclusion of this proceeding). Accordingly, since the water and wastewater systems discussed above will be included in New Jersey-American Water's future operations, the Company added the post-test year expenses needed to operate these systems in

[10] The Company used the CPI-U inflation factor which measures price changes in all goods and services for Northeast urban consumers (Series ID: CUUR0100SA0).
See http://data.bls.gov/timeseries/CUUR0100SA0?data_tool=XGtable.

this proceeding, which are reflected, in total, in Exhibit P-2, Schedule 6, line 20, and supporting workpapers are provided in Exhibit P-2, Schedule 6-20.

The Company used an expense per acquired customer methodology to determine post-test year expense for the majority of operating expenses. Calculated individually, by operating expense type, the Company began with the post-test year expense determined for the base operations of the Company (excluding the acquisitions noted above) and divided this amount by the number of New Jersey-American Water customers (excluding the customers added from the acquisitions noted above) to calculate an expense per customer. This expense per customer was then multiplied by the known or projected customer counts for each of the acquisitions noted above, to calculate post-test year expense of each type of operating expense. For the 18 FTE employees added from these acquisitions (and noted in my testimony above), the Company calculated post-test year salaries and wages, group insurance, and "other benefits" following the same methodology as discussed in my testimony above. Post-test year payroll tax expense was calculated following the same methodology as discussed in my testimony below.

TAXES OTHER THAN INCOME

A. Property

44. Q. Please describe property taxes and the adjustments made to determine post-test year expense.

A. Property taxes are levied by the individual jurisdictions in which the Company operates and are calculated by applying applicable tax rates to the assessed value of

the Company's eligible property. Property taxes are assessed on an annual basis and paid quarterly.

To determine post-test year property tax expense, the Company began with actual expense incurred during the base year and added annualized property taxes associated with any property addition made after the close of the test year period or is projected to occur before the end of the post-test year period. This included the Company's new Southwest Operations facility located in the Borough of Lawnside, which was completed in September 2023. The Company then calculated a post-test year property tax rate increase using a three-year historical average of the expense increases experienced. This post-test year property tax rate increase was then applied to base year expense to arrive at post-test year property tax expense, which is reflected, along with adjustments, in Exhibit P-2, Schedule 10, line 3, and supporting workpapers are provided in Exhibit P-2, Schedule 10-3.

B. Payroll

45. Q. Please describe payroll taxes and the adjustments made to determine post-test year expense.

A. Payroll tax expense is composed of the federal and state taxes the Company pays based on its employees' salaries and wages. There are two types of taxes are required to be paid in accordance with the Federal Insurance Contributions Act, Old Age Survivors & Disability Insurance ("OASDI," or more commonly "FICA") and Hospital Insurance (or more commonly "FICA Medicare"). The Company is also

required to pay Federal Unemployment Tax ("FUTA") and State Unemployment Tax ("SUTA").

Post-test year payroll tax expense was calculated on a position-by-position basis, using the current applicable tax rates and post-test year salaries and wages expense (all components), as discussed in my testimony above. In addition, the Company calculated a post-test year FICA wage limit by applying a three-year historical average of the wage limit increases experienced to the actual 2024 FICA wage limit. Finally, a capitalization rate of 45.94% (the capitalization rate for salaries and wages expense; see Table 1 above) was applied to determine the portion of the Company's total payroll taxes that is recorded as post-test year expense, which is reflected, along with adjustments, in Exhibit P-2, Schedule 10, line 4, and supporting workpapers are provided in Exhibit P-2, Schedule 10-4.

C. Revenue-Based

46. Q. Please describe the various types of revenue-based taxes and the adjustments made to determine post-test year expense.

A. Revenue-based taxes paid by the Company include: (a) Gross Receipts and Franchise Excise Taxes ("GRAFT"); (b) BPU and Division of Rate Counsel ("DRC") utility assessments; (c) water monitoring tax; and (d) other miscellaneous taxes. Post-test year revenue-based tax expense and adjustments are reflected in Exhibit P-2, Schedule 10, lines 5-8.

To determine post-test year tax expense for GRAFT and BPU/DRC utility assessments, the Company applied the gross receipts and franchise tax rates (approximately 14%) and the BPU/GRC utility assessment rates to post-test year gross revenues (see Exhibit P-2, Schedules 11 and 12 for these calculation). Post-test year water monitoring tax expense was determined by taking the total post-test year gallons of water metered, less the gallons sold to resale customers, and applied a $0.01 tax rate per thousand gallons (see Exhibit P-2, Schedule 13 for this calculation).

FEDERAL INCOME TAXES

47. Q. Please describe federal income taxes and the adjustments made to determine post-test year expense.

A. Federal income tax expense is composed of a current component and a deferred component. The Company's post-test year current federal income tax expense was calculated by taking post-test year operating revenues less post-test year tax deductions. Tax deductions include permanent, non-deductible items and temporary differences for book and tax depreciation differences, tax repairs, and other plant related adjustments. The Company's post-test year deferred federal income tax expense was calculated by multiplying the temporary tax deductions discussed above by the federal statutory tax rate of 21%. Deferred federal income tax expense was also adjusted for the following amortizations: (a) excess deferred tax liabilities under the Reverse South Georgia method; (b) excess deferred taxes associated with the Tax Cuts and Jobs Act ("TCJA"); (c) deferred taxes associated with investment tax

credits; and (d) excess flow through of federal income tax regulatory assets. Post-test year federal income tax expense and adjustments are reflected in Exhibit P-2, Schedule 14.

PROPOSED REGULATORY ACCOUNTING DEFERRAL TREATMENT

48. Q. For what expenses is the Company requesting regulatory accounting deferral treatment?

A. The Company is requesting to continue regulatory accounting deferral treatment for pension and OPEB expense, consistent with the treatment authorized for these expenses in the Company's last rate case (Docket No. WR22010019). The Company is also requesting regulatory accounting deferral treatment for production costs, excluding purchased water expense and purchased wastewater expense. The sensitivity of these expenses to changes in asset returns, market fluctuations, inflation, and other factors outside of the Company's control creates the potential for large variability in the future. This proposed treatment ensures that the Company and its customers remain protected from large variations in expense levels.

49. Q. What specifically does the Company request as "regulatory accounting deferral treatment"?

A. The Company requests that, through the conclusion of its next rate case, it be permitted to record any amounts above or below the level of expense authorized in base rates in this proceeding, into a regulatory asset or regulatory liability account. Upon the effective date of new rates in this proceeding, the Company will compare

the actual expense incurred to the expense authorized in base rates. The difference between the two would be deferred to a regulatory asset or regulatory liability account.

D. Pension and Other Post-Employment Benefits

50. Q. Please describe the Company's request for the continuation of regulatory accounting deferral treatment of pension and OPEB expense.

A. The Company was authorized regulatory accounting deferral treatment for pension and OPEB expense in its last rate case. In this proceeding, the Company is requesting to continue regulatory accounting deferral treatment for these expenses until its next rate case, at which time the Company will address the recovery of these regulatory account balances and any request to continue regulatory accounting deferral treatment beyond its next rate case.

51. Q. Has the Company included in the rates proposed in this proceeding, recovery of the pension and OPEB expenses deferred since the Company's last rate case?

A. Yes, the revenue requirement in this proceeding includes post-test year expense related to the amortization of the pension and OPEB regulatory asset balances that have accumulated since regulatory accounting deferral treatment was authorized in the Company's last rate case. The Company has proposed a 24-month amortization period for these regulatory asset balances, as reflected in Exhibit P-2, Schedule 8-5. If, in this proceeding, the Company is granted authority to continue regulatory accounting deferral treatment for pension and OPEB expense until the conclusion of its next rate case, the Company will remove the post-test year amortization expense

from its revenue requirement in this proceeding. However, in the event the continuation of regulatory accounting deferral treatment is not authorized, the Company must be able to recover the deferred balances through the date of new rates in this proceeding, as proposed in Exhibit P-2, Schedule 8-5.

52. Q. Why is the Company requesting the continuation of regulatory accounting deferral treatment for pension and OPEB expense?

A. The level of fluctuation and volatility in pension and OPEB expense can change drastically from year to year based on market conditions, investment returns, and other factors outside of the Company's control. Variations between the returns that are projected on the investments made to fund current and future retirement costs, and the returns actually achieved on those investments, coupled with variations between assumed discount rates and actual discount rates during the period for which costs are being projected, all could have material, economic impacts on the level of expense experienced.

53. Q. Please summarize how the Company's request for continuation of regulatory accounting deferral treatment for pension and OPEB expense would work.

A. The Company would continue to maintain two separate regulatory accounts, one for pension expense and one for OPEB expense. The Company requests the Board authorize in base rates, the post-test year expense proposed for pension and OPEB, as supported in my testimony above. The Company will compare the actual expenses incurred to the expenses authorized in base rates in this proceeding. The difference

between the two would be deferred to a regulatory asset or regulatory liability account. As the Company is currently deferring based on the authorized amounts in its last rate case, beginning on the effective date of new rates in this proceeding, the authorized level will be adjusted to the amount approved in this proceeding. This treatment will continue until the Company's next rate case, at which time, the Company will address the recovery of these regulatory account balances and any request to continue regulatory accounting deferral treatment beyond its next rate case.

E. Production Costs

54. Q. Please define what production costs are included in the Company's request for regulatory accounting deferral treatment.

A. The Company is requesting regulatory accounting deferral treatment for chemicals, fuel and power, and waste disposal, excluding purchased wastewater expense, which is recovered through the PSTAC. Purchased water has also been excluded from this request because the Company recovers this expense through the PWAC.

55. Q. Why is the Company requesting regulatory accounting deferral treatment for production costs?

A. Production costs are among the Company's most critical expenses because they are crucial in providing safe and reliable water and wastewater service to customers. Due to strict compliance requirements, production costs are not discretionary expenses the Company can choose to incur or not incur. Nor are they purely variable in nature, in that they do not fluctuate solely based on changes in overall production volumes. For example, the chemicals market has been extremely volatile compared to historical

levels, driven by many factors such as the COVID-19 pandemic, global pressures brought upon by the conflict in Ukraine, inflationary growth in commodity prices, escalation in energy prices, and overall supply and demand pressure within a consolidating chemicals market. The Company takes rigorous steps to ensure that it obtains the best pricing possible when it purchases chemicals; however, the factors mentioned above leave these expenses outside of the control of the Company and, in many cases, outside of the control of the Company's suppliers. Likewise, the energy markets in general are all higher than they have been in many years. Market conditions impacting production costs represent an extraordinary combination of circumstances that are expected to continue to produce significant price volatility over the next several years. A regulatory accounting deferral for production costs ensures that the Company and its customers remain protected from large variations in expense levels.

56. Q. Please summarize how the Company's request for regulatory accounting deferral treatment for production costs would work.

A. The regulatory accounting deferral treatment for production costs would work in a similar manner to that approved by the Board for pension and OPEB expense in the Company's prior rate case (and described above). The Company requests the Board authorize in base rates, the post-test year expense proposed for chemicals, fuel and power, and waste disposal (excluding purchased wastewater expense), as supported in my testimony above. The Company will compare the actual expenses incurred to the expenses authorized in base rates in this proceeding. The difference between the

two would be deferred to either a regulatory asset or a regulatory liability account. This treatment would begin on the effective date of new rates in this proceeding and would continue until the Company's next rate case, at which time, the Company will address the recovery of these regulatory account balances and any request to continue regulatory accounting deferral treatment beyond its next rate case.

57. Q. Would the regulatory accounting deferral treatment sought by the Company provide a disincentive to management to control production costs?

A. No. The Company will continue to actively find ways to mitigate its exposure to volatility in these expenses, as the Company is committed to providing safe and reliable water service to its customers at affordable rates. This request does not change that; it simply ensures that customers only pay for the production costs incurred, nothing more and nothing less, while allowing the Company to collect the proper revenues to cover those production costs incurred which the Company cannot avoid. This does not grant the Company a "free pass" to mismanage production costs. When returning in its next rate case, the Company will need to show the results of the production cost regulatory accounts and seek recovery in future rates. Those regulatory account balances would be subject to Board scrutiny to determine their reasonableness.

58. Q. Is the Company proposing to recover carrying costs on deferred balances?

A. No. The Company is only proposing to defer any difference between the base level of expense established in this rate case and the actual level of expense incurred.

CONCLUSION

59. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Heath J. Brooks

January 19, 2024

Exhibit P-8

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

NEW JERSEY-AMERICAN WATER COMPANY, INC.

I. INTRODUCTION

1. Q. Please state your name and business address.

A. My name is Heath J. Brooks. My business address is 1 Water Street, Camden, NJ 08102.

2. Q. By whom are you employed and in what capacity?

A. I am employed by American Water Works Service Company, Inc. ("AWWSC" or "Service Company") as a Principal Regulatory Analyst. Service Company is a wholly owned subsidiary of American Water Works Company, Inc. ("American Water") that provides services to New Jersey-American Water Company, Inc. ("NJAWC" or the "Company") and its affiliates.

3. Q. Please summarize your educational and professional qualifications.

A. I earned a Bachelor of Business Administration degree with a concentration in Finance from Georgia State University in 2015. I have been employed by Service Company since March of 2023 primarily focusing on revenues, class cost of service studies ("COSS"), and rate design. Prior to joining Service Company, I was employed by Southern Company, an energy company engaged in electric and natural gas businesses, for seven years where I supported rate case proceedings for its natural gas subsidiaries in Virginia, Tennessee, Georgia, Florida, New Jersey, and Maryland. My duties included revenue forecasting, rate design, and COSS support.

4. Q. Have you previously testified before public utility regulatory agencies?

A. Yes, I have testified before the Tennessee Public Utility Commission and the Georgia Public Service Commission on topics including revenue forecasting and rate design.

5. Q. What is the purpose of your Direct Testimony in this proceeding?

A. The purpose of my testimony on behalf of NJAWC is to (1) support and describe normalized water and wastewater revenues for the base year, test year, and post-test year, (2) support and describe the methods used to develop the fully allocated water COSS, and (3) support and describe the Company's proposed rate design for water and wastewater.

6. Q. How is your testimony organized?

A. I organized my testimony in the following manner:

- Normalized Revenues
- Class Cost of Service Study
- Proposed Rate Design

7. Q. What exhibits are you sponsoring?

A. I am sponsoring Exhibit P-2, Schedule 5.

8. Q. Are you sponsoring any schedules in connection with your testimony?

A. Yes, I am sponsoring the following schedules, which have been filed with my testimony.

- Schedule HJB-1: NJAWC Class Cost of Service Study

- Schedule HJB-2: NJAWC Proposed Rate Design
- Schedule HJB-3: NJAWC Customer Impact Analysis

9. Q. Were each of these Schedules prepared by you or under your supervision?

A. Yes.

10. Q. Please describe the Company's current classes of service.

A. The Company serves a variety of customers including residential, commercial, industrial, and municipal authorities which are served under a variety of rate schedules under the following classes of service.

- General Metered Service
- Optional Industrial Wholesale
- Sales for Resale
- Private Fire
- Public Fire

II. REVENUES

11. Q. Please describe the process of forecasting the Company's present and proposed revenues that are presented in Schedule 5 of Exhibit P-2.

A. Schedule 5, included within the Company's Exhibit P-2, presents the Company's normalized water and wastewater Test Year revenues for the twelve months ending June 30, 2024 and normalized Post-Test Year current and proposed revenues for the twelve months ending March 31, 2025. The Company's forecasting process begins by applying various normalizing adjustments to quantify a normalized level

of billing determinants and revenues for the base year twelve months ended June 30, 2023. Once normalized billing determinants and revenues were established for the base year, customer growth or loss was applied to base year customer counts and various normalization adjustments were made to quantify test year and post-test year billing determinants. The normalized billing determinants were then multiplied by current rates to arrive at normalized test year and post-test year revenues based on the Company's current rate structure. The difference between projected normalized post-test year revenues and the Company's total revenue requirement is the basis for the requested increase in revenues of $161,719,726.

12. Q. Please describe the forecasting methods used to project water billing determinants that were used to calculate revenues under present rates for the test year and post-test year periods.

A. Revenue projections were made separately for various classes and sub-classes of customers as described below.

General Metered Service ("GMS")

A variety of customer types are served under the Company's GMS classification including residential, commercial, industrial, other public authority ("OPA"), and sales for resale customers. Customers under GMS are billed a fixed service charge for the meters in service and a water charge for metered usage.

Organic customer growth and loss projections for residential, commercial, and OPA customers were quantified using monthly historical customer counts from

January of 2021 through September of 2023 and employing a time series forecast function in Excel to project monthly customer counts through the end of the post-test year. Industrial and sale for resale ("SFR") customer growth was assumed to remain flat throughout the test year and post-test year periods.

Residential, commercial, and OPA usage projections were calculated by multiplying normalized usage per customer ("UPC") for each respective class by the projected customer count for the test year and post-test year periods. Company witness Charles B. Rea (Exhibit P-9) describes the econometric techniques that were used to calculate UPC for the residential, commercial and OPA classes of customers in his direct testimony.

For the Industrial Class, usage projections were calculated by determining a monthly average UPC based on the two-year years of historical usage from the twelve months ended June 2022 and the twelve months ended June 2023. Once an average UPC was established for industrial customers, the average UPC was multiplied by the projected customer count to arrive at total industrial usage.

Optional Industrial Wholesale ("OIW")

OIW customers are billed a fixed service charge for each meter in service and a water usage charge. The Company currently serves six OIW customers and each is required to submit an annual commitment letter stating their daily water usage. The number of OIW meters is projected to be flat with no growth throughout the test year and post-test year periods. Usage has been projected on an individual

customer basis. Three of the customers' projected usage is based on their commitment letters while the other three customers' projected usage is based on a two-year average using the twelve months ended June 2022 and 2023.

13. Q. Why does the Company use the daily commitment for some OIW customers while using a two-year average for others to forecast usage?

A. Each OIW customer's daily usage commitment is multiplied by the number of days in a given month to determine the monthly usage commitment. If a customer does not meet their monthly commitment, the Company uses the monthly commitment for billing instead of actual usage. With the exception of one customer, the Company has used the higher of the two calculation methods to project usage. If a customer's daily commitment results in an annual usage level higher than the two-year average, the daily commitment was used for projections. If the calculated two-year average is higher than annual usage based on the daily commitment, the two-year average was used.

14. Q. Please describe why the Company's forecasting methodology described above does not apply to one of the OIW customers.

A. The OIW customer that is not subject to the forecasting methodology described previously in my testimony has submitted a daily commitment amount that is significantly lower than historical levels due to the construction of new facilities that will be more efficient. The Company has used the revised daily commitment to project usage for this customer.

15. Q. Please continue with your description of the forecasting methods used to project water billing determinants for the remaining classes of service.

A. **Sales for Resale ("SFR")**

NJAWC serves a variety of rate classes under the SFR class of service that are subject to a combination of service charges, commodity charges, and demand charges. The number of meters subject to monthly service charges is assumed to remain flat throughout the test year and post-test year periods. Several SFR rate classes of service require the submission of contractual purchasing expectations or commitments known as Annual Purchase Requirements ("APR"). Usage subject to commodity and demand charges has been projected for each customer on an individual basis using either their contractual APR or a two-year average of actual usage based on the twelve months ended June 2022 and June 2023. The methodology applied to each SFR rate class is described below.

- GMS – GMS customers are billed a service charge for each meter in service and a commodity charge for metered usage. Usage for each GMS resale customer was projected using either a two-year average or a contractual APR. Generally, the Company has used the calculation method that produced the higher usage projection for each customer.

- Commodity-Demand ("CD") – CD customers are billed a service charge, commodity charge, and demand charge. Each customer is required to submit a minimum nominated demand that designates the amount of water needed daily.

Customers are billed for their full minimum nominated demand amount each month (Bill Cycle Days X Daily Demand); therefore, nominated demand amounts for each customer have been used to project total usage that is subject to demand charges.

Metered usage subject to the commodity charge can vary from the nominated demand amount. Generally, the two-year average was used to project each customer's commodity usage; however, there are some circumstances where the minimum nominated demand was used to project commodity usage. If a customer submitted a significantly lower nominated demand compared to prior years and the Company is aware of the completion of investments that will significantly lower their water usage needs, the nominated demand was used to project commodity usage.

- Off-Peak Service – Off-peak customers are billed a service charge, commodity charge, and demand charge. Each off-peak customer is required to submit a nominated demand; however, the nominated demand is only applicable to off-peak months, typically November through May. Each customer's nominated demand was used to forecast off-peak demand and commodity usage. If an off-peak customer uses water in peak months, they are billed the GMS rate. Two-year averages were used to quantify projected usage in peak months for the test year and post-test year.

- Manasquan – Manasquan customers are billed a service charge, uninterruptible usage charge, and interruptible usage charge. Customers must submit an APR for uninterruptible usage amounts, and they have the option to purchase additional water that's deemed interruptible if the Company has excess water available. Generally, the APR was used to quantify test year and post-test year uninterruptible usage. Interruptible usage projections for each customer were quantified by calculating a two-year annual average and subtracting the average usage from the APR.

Private Fire

Private fire customers are billed for each service connection and each private hydrant in service. Additionally, some private fire service territories are billed for the number of sprinkler heads in service.

The projected number of service connections and hydrants for the test year and post-test year was quantified by applying growth or loss adjustments to base year billing determinants. The growth or loss adjustment was calculated using one year of growth based on the number of service connections and hydrants in service June 2022 and June 2023. The calculated growth or loss adjustment was then added to June 2023 service connections and hydrant counts to arrive at June 2024 hydrant counts. The growth or loss adjustment was subsequently added to projected June 2024 service connection and hydrant counts to arrive at March 2025 service connections and hydrant counts. The projected June 2024 and March 2025 service

connections and hydrant counts were then multiplied by 12 to quantify an annual amount of billing determinants for the test year and post-test year.

The projected number of sprinkler heads for the test year and post-test year was quantified by accounting for a reclassification that took place in August of 2023 where customers previously being billed for sprinkler heads were reclassed to be billed for the size of their private fire connection. The reclassed amount of sprinkler heads was assumed to remain flat through the end of the post-test year. The projected June 2024 and March 2025 sprinkler heads were multiplied by 12 to quantify an annual amount of billing determinants for the test year and post-test year.

Private Fire customers are also billed for any usage that is not related to extinguishing a fire or underwriter's tests. Usage has been projected for the test year and post-test year periods using actual usage the twelve months ended June 2023.

16. Q. Why was one year of growth used to calculate the private fire service connection and hydrant growth or loss adjustment?

A. In 2021, the Company performed an audit of its private fire service accounts and discovered that there were a number of accounts erroneously not being billed for private fire service. After the accounts and services were reviewed, the Company began billing those accounts that were not eligible for a waiver of the standby fee

pursuant to N.J.S.A. 48:19-18. To more accurately project customer growth, data prior to the Company's account audit was excluded from the growth calculation.

Public Fire

Public fire customers are billed on a per hydrant basis. The projected number of public hydrants for the test year and post-test year was quantified by applying growth or loss adjustments to base year billing determinants. The growth or loss adjustment was quantified by calculating a two-year average using year over year organic growth or loss utilizing the number of hydrants in service in June 2021, 2022, and 2023. The calculated two-year average growth or loss adjustment was then added to June 2023 hydrant counts to arrive at the June 2024 hydrant counts. The growth or loss adjustment was then subsequently added to June 2024 hydrant counts to arrive at March 2025 hydrant counts. The projected June 2024 and March 2025 hydrant counts were then multiplied by 12 to quantify an annual amount of billing determinants for the test year and post-test year.

17. Q. Were additional methods relied upon to project water billing determinants other than those that have already been described in your testimony?

A. Yes. The Company recently acquired Egg Harbor City's water system which includes customers under the GMS classification. Additionally, the Company expects to acquire Salem City's water system before new rates go into effect. Billing determinant projections were made separately for these acquisitions as described below.

Egg Harbor City – GMS

Newly acquired customers served under GMS in the Egg Harbor City service territory are billed a monthly fixed service charge based on the meter size and a water charge for metered usage.

The Company has assumed that growth will be flat throughout the test year and post-test year periods and has used September 2023 customer counts to project monthly customer counts through the end of the post-test year period.

Usage projections were quantified by first calculating an average monthly UPC based on two years of quarterly historical usage data (Q4 2020 through Q3 2022) provided by the city prior to the Company closing on the acquisition. Once the average monthly UPC was quantified, it was multiplied by the projected customer counts for each period and multiplied by twelve to arrive at total projected usage.

Salem City – GMS

Salem City customers are currently billed fixed charges based on meter size and a water charge applicable to metered usage in excess of a usage allowance based on meter size. The Company obtained 12 months of recent billing history which was utilized to develop estimated billing determinants. Meters and usage have been assumed to remain flat through the end of the post-test year.

18. Q. Are the Company's Distribution System Improvement Charge ("DSIC") revenues included in the development of Post-Test Year revenues at present rates?

A. Yes. DSIC charges are billed to customers as a fixed monthly charge based on meter size and have been included as part of post-test year revenues. The estimated rates for the third DSIC surcharge filing have been added to the base rate meter charges where applicable for the purpose of determining Post-Test Year revenues at present rates.

19. Q. Are the Company's Purchased Water Adjustment Clause ("PWAC") revenues and Lead Service Line Replacement Charge ("LSLRC") revenues included in the projected test year and post-test year revenues?

A. The Company has excluded all revenues recovered through PWAC and LSLRC surcharges.

20. Q. Does this conclude your explanation regarding the methods relied upon to forecast billing determinants that were used to project test year and post-test year water revenues under current rates?

A. Yes.

21. Q. Please describe the Company's forecasting methods used to project wastewater billing determinants that were used to calculate revenues under present rates for the test year and post-test year periods.

A. The Company has a variety of wastewater rate classes that are subject to charges applicable to a variety of billing determinants. Additionally, the Company expects to close on two wastewater acquisitions prior to new rates being effective, which I will discuss later in my testimony.

Wastewater

22. Q. Is the Company proposing to make changes to its rate design structure for any wastewater rate schedules which require the calculation of additional billing determinants?

A. Yes. Several of the Company's rate schedules are currently billed wastewater usage charges based on winter quarter consumption (January, February, and March). The Company is proposing to make additional rate schedules subject to wastewater usage charges based on winter quarter consumption by modifying Rate Schedules 3-A, 11-A, 13-A, 17-A, and 21-A. As such, billing determinant calculation methods for all proposed modifications are included in the billing determinant calculation descriptions below.

Ocean City -Rate Schedule 1-A

Customers served under Rate Schedule 1-A are billed a minimum service charge and a wastewater usage charge. Minimum service charge revenue is based on summer quarter usage (July, August, and September). Wastewater usage charge revenue is based on annual metered usage.

Organic customer growth and loss projections were quantified utilizing monthly historical customer counts from January of 2021 through September of 2023 and employing a time series forecast function in excel to project monthly customer counts through the end of the post-test year.

Total normalized summer quarter usage for the test year and post-test year periods was quantified using a two-year average UPC for the summer quarter based on the months of July, August, and September of 2022 and 2023. The calculated average UPC during the summer quarter was multiplied by the projected average number of customers for the test year and post-test year periods to arrive at total projected summer quarter usage.

Total normalized usage subject to the wastewater usage charge was projected by calculating a two-year average monthly UPC based on the twelve-months ending June 2022 and June 2023. The calculated monthly UPC was multiplied by the average projected number of customers for each period and subsequently multiplied by twelve to arrive at test year and post-test year total wastewater usage.

Lakewood, Metered Tewksbury Township (Pottersville Service Area), Plumsted Township (Jensen's Deep Run), and Elk Township – Rate Schedules 2-A, 6-A, 10-A, and 12-A

Customers served under Rate Schedules 2-A, 6-A, 10-A, and 12-A are billed a monthly fixed service charge and a wastewater usage charge that is based on winter quarter consumption (water sales during the months of January, February, and March).

Organic customer growth and loss projections were quantified utilizing monthly historical customer counts from January of 2021 through September of 2023 and

employing a time series forecast function in excel to project monthly customer counts through the end of the post-test year.

Winter quarter consumption was quantified by first calculating a two-year monthly average UPC for the winter quarter using 2022 and 2023 consumption. Once the winter quarter monthly average UPC was quantified, the projected average customer count for the test year and post-test year was multiplied by the calculated monthly average UPC and subsequently multiplied by three to arrive at total winter quarter usage projections for each respective period. The projected winter quarter usage was then annualized for the test year and post-test year by multiplying the projected winter quarter usage by four.

Long Hill Township – Rate Schedule 15-A

Customers served under Rate Schedule 15-A are billed a monthly fixed service charge and a wastewater usage charge that is based on winter metered consumption (metered usage during the months of January through March and October through December).

Organic customer growth and loss projections were quantified utilizing monthly historical customer counts from January of 2021 through September of 2023 and employing a time series forecast function in excel to project monthly customer counts through the end of the post-test year.

Projected wastewater usage was quantified by first calculating an average monthly metered winter UPC using a two-year average that was calculated utilizing the

winter months in 2021, 2022, and 2023. Once an average monthly UPC was quantified, the projected average customer counts for the test year and post-test year were multiplied by the average monthly UPC and subsequently multiplied by twelve to arrive at total wastewater usage projections for each period.

Howell Township (Adelphia) and Haddonfield Borough – Rate Schedules 3-A and 11-A

Customers served under Rate Schedules 3-A and 11-A are billed a monthly fixed service charge and a wastewater usage charge. The wastewater usage charge is applicable to annual metered consumption.

Organic customer growth and loss projections were quantified utilizing monthly historical customer counts from January of 2021 through September of 2023 and employing a time series forecast function in excel to project monthly customer counts through the end of the post-test year.

Wastewater usage for the test year and post-test year was quantified by first calculating the average monthly UPC based on a two-year average using the twelve-months ended June of 2022 and 2023. After quantifying the monthly average UPC, the average monthly UPC was multiplied by the average projected number of customers for the test year and post-test year periods and then multiplied by twelve to arrive at total wastewater usage for each period.

Winter quarter consumption was quantified by first calculating a two-year monthly average UPC for the winter quarter using 2022 and 2023 consumption. Once the

average monthly winter quarter UPC was quantified, the average projected customer count for the test year and post-test year was multiplied by the calculated monthly average UPC and subsequently multiplied by three to arrive at total winter quarter usage projections for each respective period. The projected winter quarter usage was then annualized for the test year and post-test year by multiplying the projected winter quarter usage by four.

Tewksbury Township (Pottersville Service Area), Borough of Mt. Ephraim, Long Hill Township – Rate Schedules 5-A, 13-A, and 14-A

Customers served under Rate Schedules 5-A, 13-A, and 14-A are billed a flat monthly fixed service charge.

Organic customer growth and loss projections were quantified utilizing monthly historical customer counts from January of 2021 through September of 2023 and employing a time series forecast function in excel to project monthly customer counts through the end of the post-test year.

Winter quarter consumption for Rate Schedule 13-A was quantified by first calculating a two-year monthly average UPC for the winter quarter using 2022 and 2023 consumption. Once the monthly average winter quarter UPC was quantified, the average projected customer count for the test year and post-test year was multiplied by the calculated monthly average UPC and subsequently multiplied by three to arrive at total winter quarter usage projections for each respective period.

The projected winter quarter usage was then annualized for the test year and post-test year by multiplying the projected winter quarter usage by four.

Other Contracts – Rate Schedule 8A

The Company is proposing to consolidate the former EDC Bulk Tariff with Rate Schedule 8-A. Current customers served under Rate Schedule 8 are billed fixed charges based on the number of units and number of registered students. EDC bulk customers are billed a wastewater usage charge. Billing determinant calculation methods for current Rate Schedule 8-A customers and EDC bulk customers are below.

Test year and post-test year billing determinants for current Other Contracts served under Rate Schedule 8-A are based upon 2023-2024 number of students registered for the school contracts and number of units for the Beacon Hill Clubhouse.

Test year and post-test year wastewater usage for EDC Bulk customers was projected utilizing a two-year average based on the twelve months ended June 2022 and June 2023.

Haddon Township, Borough of Audubon, Barrington Borough, Borough of Haddon Heights – Municipal Contracts

Test year and post-test year service charge revenue for Municipal Contracts is based on the number of billing determinants from the base year. Usage for the test year

and post-test year is based on a two-year average utilizing calendar years 2021 and 2022.

Environmental Disposal Corp. ("EDC") – Rate Schedule 21-A

Rate Schedule 21-A is applicable to non-bulk customers served under the former EDC tariff. Customers are billed a flat monthly fixed service charge.

Organic customer growth and loss projections for residential metered customers and OPA customers were quantified utilizing monthly historical customer counts from January of 2021 through September of 2023 and employing a time series forecast function in excel to project monthly customer counts through the end of the post-test year. Commercial customer growth was projected using September 2023 customer counts through the end of the post-test year period.

Winter quarter consumption for Rate Schedule 21-A was quantified by first calculating a monthly two-year average UPC for the winter quarter using 2022 and 2023 consumption. Once the average monthly winter quarter UPC was quantified, the average projected customer count for the test year and post-test year was multiplied by the calculated monthly average UPC and subsequently multiplied by three to arrive at total winter quarter usage projections for each respective period. The projected winter quarter usage was then annualized for the test year and post-test year by multiplying the projected winter quarter usage by four.

23. Q. Were additional methods relied upon to project wastewater billing determinants other than those that have already been described in your testimony

A. Yes. The Company has made several recent wastewater acquisitions including Egg Harbor City, Bound Brook Borough, Somerville Borough, and a portion of Bridgewater Township (Rate Schedules 16-A, 17-A, 18-A, 19-A, and 20-A). Additionally, the Company expects to acquire Salem city and Manville prior to new rates being implemented. Billing determinant projections were made separately for each acquisition as described below.

Egg Harbor City and Bound Brook Borough – Rate Schedules 16-A and 18-A

Customers served under Rate Schedules 16-A and 18-A are billed a flat monthly fixed service charge. Customer growth has been projected to be flat through the test year and post-test year periods. The Company utilized the most recent month of billing data available (September 2023) to project annual customer counts for each period.

Egg Harbor City – Rate Schedule 17-A

Egg Harbor customers served under Rate Schedule 17-A are billed a monthly fixed service charge and a wastewater usage charge applicable to annual metered usage.

The Company has assumed growth to be flat throughout the test year and post-test year periods and has used September 2023 customer counts to project annual customer counts.

Projected wastewater usage for the test year and post-test year was quantified by first calculating a monthly two-year average UPC based on quarterly billing data (Q4 2020 through Q3 2022) obtained from Egg Harbor City prior to the Company closing on the acquisition. To quantify total test year and post-test year wastewater usage, the average monthly UPC was multiplied by the projected average number of customers in each period and then multiplied by twelve.

Winter quarter consumption was quantified by first calculating a monthly two-year average UPC based on 2021 and 2022 winter quarter usage data obtained from Egg Harbor City. The average winter quarter monthly UPC was then multiplied by twelve and subsequently multiplied by the average projected customer count for the test year and post-test year to arrive at total winter quarter usage for each period.

Metered Bound Brook Borough – Rate Schedule 19-A

Customers served under rate schedule 19-A are billed a monthly fixed service charge and a wastewater usage charge applicable to annual metered usage.

The Company has assumed that growth will be flat throughout the test year and post-test year periods and has used September 2023 customer counts to project annual customer counts.

Projected wastewater usage for the test year and post-test year was quantified by first calculating an average monthly UPC based on the twelve months ended September of 2023. The calculated average UPC was then multiplied by the

projected average number of customers in each period and multiplied by twelve to arrive at total wastewater usage.

Somerville Borough and Bridgewater Township– Rate Schedule 20-A

Customers served under Rate Schedule 20-A are billed a monthly fixed service charge and a wastewater usage charge applicable to winter quarter usage.

The Company has assumed that growth will be flat throughout the test year and post-test year periods and has used October 2023 customer counts to project annual customer counts.

Winter quarter consumption was quantified by first calculating a monthly two-year average UPC for the winter quarter using 2022 and 2023 consumption. Once the average monthly winter quarter UPC was quantified, the average projected average customer count for the test year and post-test year was multiplied by the calculated monthly average UPC and subsequently multiplied by three to arrive at total winter quarter usage projections for each respective period. The projected winter quarter usage was then annualized for the test year and post-test year by multiplying the projected winter quarter usage by four.

Salem – Rate Schedule 22-A

Customers served under Rate Schedule 22-A are billed fixed service charges and a wastewater usage charge applicable to metered usage.

The Company has estimated billing determinants for the test year and post-test year by using 12 months of billing data from the city and assuming that billing determinants remain flat through the end of the post-test year.

Manville – Rate Schedule 23-A

Customers served under Rate Schedule 23-A are billed fixed monthly service charges and a wastewater usage charge applicable to winter quarter usage. The Company has estimated billing determinants for the test year and post-test year by using billing data of water customers served by the Company in the Manville service area.

Customer counts have been assumed to remain flat through the end of the post-test year.

Winter quarter consumption was quantified by first calculating a monthly two-year average UPC for the winter quarter using 2022 and 2023 consumption. Once the monthly average winter quarter UPC was quantified, the projected average customer count for the test year and post-test year was multiplied by the calculated UPC and subsequently multiplied by twelve to arrive at total usage for each period.

24. Q. Are the Company's Purchased Wastewater Treatment Adjustment Clause ("PSTAC") revenues included in the Company's projected test year and post-test year revenues?

A. The Company has excluded all revenues recovered through Purchased Wastewater Treatment Adjustment Clause ("PSTAC") rate schedules.

25. Q. Does this conclude your explanation regarding the methods relied upon to forecast billing determinants that were used to project test year and post-test year wastewater revenues under current rates?

A. Yes.

26. Q. How were the various components of Other Revenues developed?

A. Revenue projections for Late Payment Fees, Returned Check Charges, Reconnect Fees, After Hours Charges, Usage Data, Application Fees, and Frozen Meter revenues are based on a two-year average for the 12-month periods ended June 2022 and June 2023. Revenue projections for Storage Fees and Rents are adjusted for known and measurable changes in rental agreements and lease agreements to arrive at pro forma revenues. Revenue for Miscellaneous Services is based upon anticipated sales of Solar Renewable Energy Credits.

III. COST OF SERVICE

27. Q. What is the purpose of a Class Cost of Service Study ("COSS")?

A. Generally, the Company's expenses and rate base are not directly assigned to specific classes of service; therefore, a COSS is used as a tool to apportion expenses and rate base to each class of service that's served by the Company to reach a revenue requirement for each class of service. The fully allocated COSS results include cost responsibilities that can be referenced while designing rates. The Company's COSS allocates the total revenue requirement to the following classes of service:

- General Metered Service

- Optional Industrial Wholesale
- Sales for Resale – Manasquan
- Sales for Resale – Commodity-Demand
- Sales for Resale – Sales to Other Systems
- Private Fire
- Public Fire

28. Q. Does NJAWC use guidelines from the American Water Works Association ("AWWA") when developing the class cost of service study?

A. Yes, the AWWA's Manual of Water Supply Practices titled Principles of Water Rates, Fees, and Charges, Sixth Edition,[1] contains guidelines regarding the development of revenues, class cost of service studies, and rate design. The Company's COSS takes several of these guidelines into consideration when developing the COSS, particularly the base-extra capacity allocation methodology.

29. Q. Is the filed COSS consistent with the study used in the most recent NJAWC general rate case.

A. Yes, the COSS, provided in Schedule HJB-1, was compiled using the same methodology used in the Company's last general rate case.

30. Q. How is the Company's COSS organized?

A. The Company's COSS consists of the five tabs that I describe below.

[1] Zieburtz, B., & Giardina, R. (2012). *Principles of Water Rates, Fees, and Charges* (6th ed.) American Water Works Association.

"Summary" – The "Summary" tab presents the allocation of functionalized costs to each class of service and the required increase for each class of service at the calculated cost of service.

"Account Detail" – The "Account Detail" tab presents the functionalization of the Company's plant and expense accounts to operational function categories.

"Allocator Summary" – The "Allocator Summary" tab summarizes all allocation factors that are used in the model.

"Class Allocators" – The "Class Allocators" tab utilizes billing determinant information from the "Usage Statistics" tab and presents calculations of the different allocation factors.

"Usage Statistics" – The "Usage Statistics" tab contains billing determinant data that is used to calculate different allocation factors.

31. Q. Please discuss the steps required to produce the Company's COSS.

A. Generally, three steps are required to develop a COSS. The first step of producing the Company's COSS is functionalizing forecasted post-test year costs. Functionalization is the process of classifying the Company's plant and expense accounts into categories that represent the operational function of each cost incurred. Most accounts are easily assigned to functional categories by relying on operational descriptions that are included in the Company's chart of accounts; however, some general costs cannot be directly assigned to a functional category.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Accounts that cannot be directly assigned to a functional category are allocated based on various allocators. The Company's functional cost categories include:

- Source of supply
- Pumping
- Water Treatment
- Transmission
- Distribution
- Storage
- Meters
- Services
- Customers
- Hydrants

Once accounts are functionalized to the aforementioned cost categories, the next step is to identify allocators that are related to cost drivers. Cost drivers generally fall into one of the following categories.

- Usage
- Capacity
- Meters
- Services
- Customers
- Hydrants

The final step is to allocate functionalized costs to the Company's classes of service by utilizing appropriate allocations that are related to different cost drivers.

32. Q. What guides the development of the factors used to allocate costs within the Company's COSS?

A. Cost causation is the guiding principle relied upon to develop the allocation factors used to allocate costs within the Company's COSS. The development of appropriate allocation factors requires identifying relationships between billing determinants, such as usage, and costs incurred by the Company. For example, transmission mains must be sized to have adequate capacity in periods of peak demand requirements; therefore, it's logical to use a variation of peak water usage to allocate transmission mains cost to customer classes. When a cost cannot be directly correlated with a billing determinate, a general allocation is used to allocate the cost to classes of service.

33. Q. What allocation method did the Company rely on to allocate most capacity related costs?

A. The Company applied variations of the Base/Extra capacity method to allocate most costs related to capacity requirements.

34. Q. Please describe the Base/Extra capacity method.

A. The Base/Extra capacity method is an allocation method that is based on customer usage and recognizes a combination of base capacity costs (i.e., costs related to

ensuring the system can meet basic water usage needs) and extra capacity costs (i.e., additional costs related to peak water usage requirements).

There are two steps required to calculate the general Base/Extra capacity allocator for each class of service. First, the "Base" component, which is average daily usage, must be calculated for each class of service (class usage / 365 days). The base usage for each class of service is divided by the overall system daily average to calculate each base allocation factor. Second, the "Extra" component for each class of service is derived by calculating the difference between average daily usage and maximum daily usage (maximum day – average day). The "Extra" allocation factor is calculated for each class of service by dividing each class's extra demand value by the total sum of the extra demand values for all classes of service.

For each class of service, the "Base" and "Extra" components are weighted based on system total. The Base component is weighted by the total system average daily usage expressed as a percentage of the system maximum day usage (average daily system usage divided by maximum day usage), and the Extra component is weighted by one minus the average daily system load percentage. The weighted results of the "Base" and "Extra" components are added together for each class of service to arrive at Base/Extra Daily factors by class of service.

35. Q. Is the Base Extra capacity method an industry accepted practice used for allocating costs.

A. Yes, the Base/Extra capacity method is an industry accepted methodology used for allocating costs to customer classes. The AWWA's Manual of Water Supply Practices contains extensive details regarding the Base/Capacity method.

36. Q. Are there different variations of Base/Extra capacity factors utilized in the COSS?

A. Yes, variations of Base/Extra capacity factors are calculated to recognize usage requirements for fire protection and hourly delivery. All Base/Extra capacity calculations can be found on the "Class Allocators" tab of Schedule HJB-1.

37. Q. How is each class's maximum daily usage calculated?

A. Maximum daily usage for each class of service in the Company's COSS is calculated by multiplying average daily usage by the calculated peaking factor.

38. Q. How are daily and hourly peaking factors calculated for each class of service?

A. Maximum daily and hourly peaking factors for each customer class are estimated based on daily and hourly consumption data collected via Advanced Metering Infrastructure ("AMI") meter data. For Sales for Resale customer classes, maximum daily consumption values are estimated based on AMI data collected for those customers where data exists, with estimated data used for resale customers where AMI data is not available. For other classes, maximum daily consumption is estimated based on samples of customers across the American Water footprint for which American Water has AMI data. These samples, which are selected by customer class and subgroups within each class, are selected such that the

customers in each customer class sample have monthly usage characteristics that are nearly identical to monthly usage characteristics that NJAWC customers have and are expected to have during the Post-Test Year period (twelve-month period ending March 31, 2025), thus providing consistency between the usage characteristics of the customers in each sample and the usage characteristics of NJAWC customers.

39. Q. Please describe the types of costs the Company incurs and how each is allocated to customer classes.

A. **Variable**

Variable costs are included in the following functionalized cost categories: Source of Supply, Pumping, and Water Treatment. Variable costs fluctuate and are dependent on the amount of water consumed by customers. For example, chemical costs for water treatment increase as customer usage increases. Since variable costs directly correlate with water consumption, each class's base water usage is utilized to allocate these costs.

Capacity - General

Capacity costs refer to costs that do not vary directly with water usage and are those that are generally associated with ensuring that different functional aspects of the Company's water system can adequately serve all customers during periods of peak load requirements. Capacity requirements are related to several operational functions of the system which include source of supply, pumping, water treatment, and mains. Since capacity costs are incurred from ensuring the system can

successfully operate while meeting all levels of water demand, the Company utilizes variations of the Base/Extra capacity method for allocations, which recognizes base use and peak water usage requirements.

Capacity – Source of Supply

Source of supply costs that are not part of the variable cost allocation are allocated using a variation of the Base/Extra capacity method that excludes Manasquan SFR customers.

40. Q. Why doesn't the Company allocate Source of Supply costs to Manasquan resale customers?

A. All of the Company's Manasquan Resale customers purchase their raw, or untreated, water directly from the New Jersey Water Supply Authority ("NJWSA") via long-term water purchase agreements. Since the Company is not responsible for this subset of resale customers' water supply, it is inappropriate to allocate the Company's source of supply costs to them. The exclusion of Manasquan resale customers in the source of supply allocation is consistent with previous rate cases.

Capacity – Water Pumping

Pumping costs that are not part of the variable cost allocation are allocated using a variation of the Base/Extra capacity method that includes the Manasquan resale group.

Capacity – Water Treatment

Water treatment costs that are not part of the variable cost allocation are allocated to all classes of service except fire protection using the Base/Extra capacity method.

Capacity – Transmission Mains

Transmission mains costs are allocated using the Base/Extra capacity method. Generally, mains 10-inches and larger are classified as serving a transmission function.

41. Q. Are transmission mains costs allocated to all customer groups?

A. Yes. All customer groups are considered to take service from the Company's transmission system and therefore transmission costs are allocated to all customer classes.

Capacity – Distribution Mains

Distribution mains costs are allocated using the Base/Extra capacity method that is modified to include a component that recognizes maximum hourly demand (at the distribution level) instead of maximum daily demand. This is appropriate because the transmission main system functions as a conduit from production facilities to the distribution system and is sized to accommodate varying water demands from customers that take service at the distribution level. Sizing at the distribution level needs to accommodate higher demands for shorter periods of time. It is therefore appropriate to consider hourly consumption requirements for distribution mains allocation, as opposed to daily requirements.

42. Q. Aside from the differences between maximum *hourly* consumption and maximum *daily* consumption, does the Modified Base/Extra allocator work the same way as you have previously described?

A. Yes. In this case, the Base component for each class is the average hourly consumption for the year (total annual sales divided by 8,760 hours). The "Extra" component is calculated as the difference between the maximum hourly consumption for a given class and the average hourly consumption for that class. For each class, the Modified Base/Extra allocator is calculated as a weighted average of the Base and Extra allocators. The Base component is weighted by the total system load factor expressed as a percentage defined this time as average hourly system consumption divided by maximum hourly system consumption, and the Extra component is weighted by one minus the system load factor.

43. Q. Are distribution mains costs allocated to all customer groups?

A. No. Several of the Company's large SFR and OIW customers are served directly from the transmission system (mains 10 inches and above); therefore, it would not be appropriate to allocate costs related to the distribution system to these customers. A calculation is performed for the OIW class and SFR classes to estimate the percentage of water sales served to each class by the transmission system. That portion of sales in each class is not subject to an allocation of distribution costs. It is only the distribution-level sales in each class that are allocated distribution-related costs, and that relative level of sales is significantly different for different customer classes.

Storage

Storage costs are allocated to customer class based on the Modified Base/Extra allocator using hourly estimated peak demand for the extra component, like the

allocator used to allocate distribution mains costs. For the storage allocator, it is assumed that all fire service capacity requirements are served first from the Company's storage capacity, and the remaining capacity is allocated to non-fire service classes using the Base/Extra hourly allocator.

Meters

Generally, the costs associated with a meter increase as the size of the meter increases; therefore, the Company applies an index based on equivalent meters, with a 5/8" meter being the base meter, to weight the count of meters by class. The total weighted count of meters by class is then used to allocate meter costs.

Services

Service line costs are allocated to customer classes based on a weighted number of customers calculation and are the same as those used in the last NJAWC water service rate case.

Customer

Customer service costs are allocated to customer classes based on customer counts for each class.

Fire Protection

Fire service requirements are determined through a combination of information on firefighting requirements provided by the American Insurance Association. This information relates firefighting requirements in terms of maximum gallons per minute and the duration of time those requirements are needed to provide service for general population levels. Given the population of the NJAWC service

territory, a firefighting demand of 40,000 gallons per minute for ten hours was used in the Company's cost of service analysis. This firefighting demand was split between private fire and public fire customer classes based on the relative potential water demand for each class, which is in turn based on the number and size of service lines and hydrants in each class.

Other Costs

General costs associated with labor can be identified by company account descriptions and are allocated using a labor allocation factor formulated utilizing labor costs from each functional category. Other general costs not associated with labor are allocated based on fixed O&M.

44. Q. How are depreciation costs allocated to classes of service?

A. Annual depreciation accruals are allocated based on the function of the facilities represented by the depreciation expense for each depreciable plant account. The original cost less depreciation of utility plant in service was similarly allocated for the purpose of developing factors for allocating items such as income taxes and operating income. These factors are based on the results of allocating other costs and are computed internally in the cost allocation model.

45. Q. How are income taxes, operating income, and other operating revenues allocated to the classes of service?

A. Rate base for each class of service is used to allocate income taxes, operating income, and other operating revenues.

46. Q. Please summarize the results of the Company's COSS?

A. Results from the Company's COSS are displayed in the table below.

Customer Class	Post-Test Year Revenue at Present Rates	Cost of Service	Difference
General Service	$ 749,439,609	$ 837,053,427	$ 87,613,818
Optional Industrial Wholesale	$ 18,306,691	$ 24,092,191	$ 5,785,500
Resale - Manasquan	$ 1,871,639	$ 2,657,480	$ 785,841
Resale - Commodity Demand	$ 19,435,894	$ 31,735,555	$ 12,299,661
Resale - Sales to Other Systems	$ 32,226,604	$ 49,465,221	$ 17,238,617
Private Fire	$ 32,917,944	$ 39,665,022	$ 6,747,078
Public Fire	$ 33,636,673	$ 45,234,293	$ 11,597,620
Total	**$ 887,835,054**	**$1,029,903,190**	**$ 142,068,136**

IV. RATE DESIGN PRINCIPLES

47. Q. What are the objectives of the Company's proposed rate design?

A. There are several important principles that pricing analysts and policy makers need to consider when developing appropriate rate design structures for retail water service:

- **Cost Basis:** An important goal of rate design is to develop prices for water service to retail customers that are intended to recover the Company's approved revenue requirement and that reflect the cost of providing service to customers. Cost of service results are typically relied upon as a guide regarding the rate adjustments that are needed to reach cost-based rates.
- **Revenue Stability**: Rates should be designed in a way that provides revenue stability to the utility and that can be expected to reasonably recover the utility's

revenue requirement over the long run. Consistent recovery of the approved revenue requirement through rates helps the utility to prudently manage and invest in the water delivery system, and poor rate design decisions can hamper the utility's ability to make investments and operate and maintain the water delivery system in a manner consistent with the long-term interest of its customers.

- **Efficiency of Use**: Rates should be designed to encourage efficient use of water resources by customers. The volumetric charges for water service should appropriately reflect the variable cost of providing water service while also providing customers an appropriate incentive to conserve water and manage their bills. Rates should communicate to customers the full cost of providing water service.
- **Gradualism**: Changes in rate design should be made to avoid inappropriate levels of rate shock. Rate shock can come both from general increases in revenues that can affect all customers and from changes in rate designs that can cause large increases to specific pockets of customers. Drastic changes in rates can cause customer confusion and dissatisfaction and have adverse effects on the utility's ability to provide quality customer service.
- **Avoidance of Discrimination**: Rates should not unduly discriminate against particular customer groups or provide different price signals to similarly situated customers taking similar services from the utility.

- **Simplicity and Feasibility:** Rate designs should be relatively simple and easy to understand and easy to communicate and administer.

48. Q. Has the Company acknowledged the guiding principles that you've described while developing the Company's proposed rates?

A. Yes. Each guiding principle was taken into consideration while developing the Company's proposed rates; however, several principles are competitive in nature. It is often the case where one guiding principle must be chosen to take precedence over others while designing rates in certain circumstances.

V. WATER SERVICE RATE DESIGN

49. Q. Please describe the Company's current rate design for General Meter Service ("GMS") water service.

A. The Company has a variety of rate schedules under GMS. Customers served under the GMS classification are generally subject to a monthly fixed service charge based on the size of the meter and a flat volumetric rate. The current rate design for each GMS rate schedule is described below.

Rate Schedules A-1 and A-14

The majority of the Company's water customers are served under Rate Schedule A-1. Rate Schedules A-1 and A-14 share the same monthly fixed service charge rates based on meter size which start at $19.85 and escalate as meter size increases. These rate schedules also share the same volumetric rate of $0.77752 per hundred gallons.

Rate Schedules A-15 and A-16

Customers served under Rate Schedules A-15 and A-16 are subject to the same monthly fixed service charges starting at $17.30 and escalating with meter size. Customers served under Rate Schedule A-15 share the same volumetric rate as Rate Schedules A-1 and A-14 at $0.77752 per hundred gallons. Rate Schedule A-16 customers are subject to a volumetric rate of $0.39158 per hundred gallons.

Rate Schedule A-17

Customers served under Rate Schedule A-17 are subject to a monthly fixed service charge that is the same for 5/8" and 3/4" meters at $34.17 and then escalate as meter size increases. The flat volumetric charge is $0.70 per hundred gallons.

Rate Schedule A-18

Customers served under Rate Schedule A-18 with meters 1" and larger are subject to a monthly fixed service charge starting at $7.08 and escalating as meter size increases. Customers with meters smaller than 1" are not billed a monthly fixed service fee. Rate Schedule A-18 has the same volumetric charge as Rate Schedule A-17 at $0.70 per hundred gallons.

50. Q. Please describe the Company's current rate design for OIW customers.

A. NJAWC's OIW customers are served under Rate Schedule F. Customers are subject to a monthly fixed charge and a flat volumetric rate. The current monthly fixed service charges are identical to GMS Rate Schedule A-1. The current non-exempt flat volumetric rate is $0.40117 per hundred gallons, and the current exempt

flat volumetric rate is $0.34650 per hundred gallons. Please note that although the Company is proposing revised wording for Rate Schedule F, as discussed by Company witness Hawn (Exhibit P-6), this will not impact the rate design for these customers.

51. Q. Please describe the Company's current rate design for SFR customers.

A. The Company currently has a variety of rate schedules designated for SFR service. The rate design for each SFR rate schedule is described below.

Rate Schedule A-2

Customers served under Rate Schedule A-2 are subject to a monthly fixed service charge and a flat volumetric rate. Rates for this rate schedule are identical to GMS Rate Schedule A-1.

Rate Schedule C and D

Rate Schedule C is designated for commodity-demand customers, and Rate Schedule D is designated for off-peak customers. Customers served under each rate schedule are subject to fixed monthly service charges that escalate with meter size. Additionally, both rate schedules have demand rates and commodity rates.

Rate Schedule E and J

Rate Schedules E and J are designated for Manasquan customers. Customers served under each rate schedule are subject to the same monthly fixed service charges as customers served under GMS Rate Schedule A-1. Additionally, Rate

Schedule E has interruptible and uninterruptible rates and Rate Schedule J has an uninterruptible rate.

Rate Schedule G

Rate Schedule G is for service to other systems. Each customer served under Rate Schedule G is subject to a single flat volumetric rate. The non-exempt rate is $0.31251 per hundred gallons, and the exempt rate is $0.26992 per hundred gallons.

Rate Schedule H

Rate Schedule H is designated for peaking service primarily for customers that do not have a written agreement with the Company for the provision of water service in the Company's summer peak months. Customers are subject to the same monthly fixed service charge rates as customers served under GMS Rate Schedule A-1. Additionally, Rate Schedule H has a non-exempt volumetric rate of $0.96542 per hundred gallons and an exempt volumetric rate of $0.83386 per hundred gallons.

Rate Schedule I

Rate Schedule I is designated for emergency bulk sales. Customers are subject to the same monthly fixed service charge rates as customers served under GMS Rate Schedule A-1. Additionally, Rate Schedule I has a flat volumetric rate. The non-exempt volumetric rate is $0.57031 per hundred gallons and the exempt rate is $0.49259 per hundred gallons.

52. Q. Please describe the Company's current rate design for private fire protection.

A. Private fire rates vary depending on the district and the type of service being provided, but generally customers are subject to a flat monthly fee depending on the size of the service line, and some combination of separate fees for hydrants, sprinkler heads, and volumetric rates for actual water consumption depending on the district.

53. Q. Please describe the Company's current rate design for public fire protection.

A. Public fire rates are all on a flat charge per hydrant. Rates vary significantly between districts with a low charge of $10.42 per hydrant under Rate Schedule M-12 and a high charge of $70.59 per hydrant under Rate Schedule M-5.

54. Q. Monthly meter charges are currently the same for several rate schedules including Schedule A-1 starting at $19.85 for non-exempt 5/8-inch meters and escalating as meter size increases. Is the Company proposing to change the monthly meter charges in this case?

A. Yes. The Company is proposing to increase monthly meter charges to $23.80 per month for a 5/8-inch meter, with proportionate increases to other meter sizes. The Company's proposal is to add the DSIC surcharge, based on the capped revenue level, to the current monthly meter charge. With the exception of the roll-in of DSIC surcharges and rate schedules not currently subject to A-1 meter charges, the proposed water service revenue increase in this case is proposed to be implemented through the volumetric rates and fire service rates.

55. Q. What changes are the Company proposing to make to its rate design for water service in this case?

A. The Company is proposing the following changes to its water service rate design:

- The Company is proposing to align monthly meter charges and volumetric charges for Rate Schedules A-15 and A-17 with Rate Schedule A-1.
- The Company is proposing to align the monthly meter charges for Rate Schedule A-16 with Rate Schedule A-1.
- The Company is proposing to add meter charges for Rate Schedule A-18 5/8-inch meters and 3/4-inch meters with 5/8-inch meter charges starting at $5.00 and escalating with meter size based on proportionate A-1 meter charge escalation with meter size.
- The Company is proposing to align the volumetric rate for Rate Schedule A-18 with Rate Schedule A-1.
- The Company is proposing to reduce differences in public fire rates.

56. Q. Please address the process you are using to reduce public fire rate differences.

A. Currently, there is a wide range of public fire hydrant rates ranging from $10.42 to $70.59. The proposed average rate per hydrant in this application is $66.00. The Company is proposing to increase the majority of hydrant rates in each tariff group by $7.50 per month or 10%, whichever is greater up to a maximum level of $66.00. Hydrants with current rates above the proposed overall average of $66.00 have been reduced to $66.00. The hydrant rate for Rate Schedule M-12 has been increased by $4.58 to $15.00.

57. Q. How is the Company proposing to allocate its proposed revenue increase for water service to each customer class?

A. The Company has allocated its proposed increase to water service based on to the following guidelines:

- Increases for the OIW class and SFR classes excluding Rate Schedules A-2, H, and I are proposed to be one and a half times the overall water service increase at approximately 26%.
- The private fire increase has been limited to the overall increase at 17.3%.
- Increases to public fire are proposed as I have previously identified in my Direct Testimony, which will yield an overall increase of approximately 8.5%.
- The remaining increase will be allocated to GMS, SFR Peaking Service, and SFR Emergency Bulk Service. In addition, GMS customers will also be allocated a portion of the proposed increase in wastewater revenue requirement that I will later discuss in my Direct Testimony.

58. Q. Why has the Company proposed to increase the OIW class and the majority of SFR classes by one and half times the overall water service increase?

A. As outlined in the COSS results table shown previously in my testimony, the OIW class and SFR classes warrant a much higher percentage revenue increase than other classes. While a one and a half times increase does not fully eliminate revenue deficits based on COSS results, it does reduce the gap and makes a meaningful movement toward revenues that are more reflective of cost of service.

59. Q. Is the Company proposing to make any changes to the current low-income discount program for water service?

A. Yes, the Company is proposing to replace the current low-income discount program for water service with a low-income program called the Universal Affordability Tariff. Discounts under the proposed tariff are reflected in the Company's revenues under proposed rates. Company witness Charles B. Rea describes the proposed Universal Affordability Tariff in his direct testimony.

60. Q. Do you have a schedule that provides the Company's complete proposed rate design in this case?

A. Yes. Schedule HJB-2 provides the Company's proposed rate design, which is based on the current rate design as modified by the proposals discussed above.

61. Q. Do you have a schedule that provides information on the impact to customers of implementing the Company's proposed rate design?

A. Yes. A complete set of impacts to customers comparing bills under present and proposed rates is provided in Schedule HJB-3.

VI. WASTEWATER SERVICE RATE DESIGN

62. Q. Please describe the Company's current rate design for wastewater service.

A. NJAWC's current rate design for wastewater service is generally a flat monthly fixed charge and a volumetric rate that is based either on average summer usage, average winter usage, or total annual usage depending on the district and tariff.

There are 21 different tariffs under which wastewater service is currently offered or is expected to be offered, and pricing in each tariff is significantly different.

63. Q. Is the Company proposing to make changes to the rate design for any of the wastewater rate schedules?

A. Yes, the Company is proposing to make the following changes to the rate design described below:

- The Company is proposing to modify the rate design (type of billing determinants used) for Rate Schedules 3-A, 11-A, and 17-A by implementing usage rates that are applicable to billing determinants based on winter quarter consumption. This modification will eliminate rates applicable to annual metered usage.
- The Company is proposing to modify the rate design (type of billing determinants used) for Rate Schedule 13-A by eliminating multiple flat rates that are applicable to different dwelling types and businesses and implementing a fixed service charge and a usage rate that is applicable to billing determinants based on winter quarter consumption.
- The Company is proposing to modify the rate design (type of billing determinants used) for Rate Schedule 21-A by implementing a monthly fixed service charge and a usage rate that is applicable to billing determinants based on winter quarter consumption for metered customers. Unmetered customers will continue to pay a monthly flat rate.

- The Company is proposing to align the fixed service charge and usage charge under Rate Schedules 2-A, 3-A, and 12-A.
- The Company is proposing to align the fixed service charge under Rate Schedules 13-A and 17-A.
- The Company is proposing to align the usage rates under Rate Schedules 6-A, 10-A, and 21-A.
- The Company is proposing that the following rate schedules be subject to the PSTAC to recover revenue associated with wastewater treatment currently being recovered through base rates: Rate Schedules 12-A, 16-A, 17-A, and 20-A.

64. Q. Were adjustments made to post-test year revenues to account for PSTAC recovery being separate from base rates?

A. Yes, revenues estimated to be recovered through the Company's proposed PSTAC for Rate Schedules 12-A, 16-A, 17-A, and 20-A have been removed from post-test year revenues under current and proposed rates in order to calculate proposed rates that exclude the recovery of wastewater treatment revenue.

65. Q. What increase is the Company asking for its wastewater service revenues?

A. The Company is proposing to increase wastewater service revenues by $7,055,032 or 17.3%, which is a percentage equal to the overall percent increase in revenue the Company is proposing in this case. The remaining wastewater service revenue

requirement not recovered through wastewater service rates is proposed to be recovered from GMS water service customers.

66. Q. Please describe the Company's process for allocating the proposed increase in wastewater revenue?

A. First, the Company separated wastewater territories into two groups designated as wastewater collection only and wastewater collection and treatment based on the operational functions of each territory. Revenue recoveries have been designed under proposed rates so that overall revenues for collection only and collection and treatment remain proportionate to revenue recoveries under current rates. Currently, collection only revenue accounts for 63% of total wastewater revenue and collection and treatment revenue accounts for 37% of total wastewater revenue. These percentages remain the same under the Company's proposed revenue increase.

67. Q. What percentage increase is the Company proposing for each wastewater rate schedule?

A. The following table displays proposed increase percentages for each rate schedule.

Rate Schedule	% Increase
1-A Ocean City	21.5%
2-A Lakewood	21.5%
3-A Adelphia	7.8%
5-A Statewide	0.4%
6-A Statewide	28.2%
Municipal Contracts	20.1%
8-A Applied Service Contracts	28.2%
8-A EDC Bulk	28.2%
10-A Jensen's Deep Run	28.2%

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Rate Schedule	% Increase
11-A Haddonfield	21.5%
12-A Elk Township	7.9%
13-A Mt. Ephraim	21.5%
14-A Long Hill	3.0%
15-A Long Hill	3.0%
16-A Egg Harbor	15.0%
17-A Egg Harbor	15.0%
18-A Bound Brook	0.4%
19-A Bound Brook	3.0%
20-A Somerville	0.0%
21-A EDC	28.2%
22-A Salem City	0.0%
23-A Manville	0.0%

68. Q. Are any rate schedules limited to increase amounts based on contractual agreements?

A. Yes, several rate classes are subject to increase limitations established at the time of acquisition including Rate Schedules 14-A, 15-A, 18-A, 19-A. and 20-A. Additionally, the Company has assumed Salem and Manville rates under Rate Schedules 22-A and 23-A will remain at current rates.

69. Q. Is the Company proposing to make any changes to the current low-income discount program for wastewater service?

A. Yes, similar to the Company's low-income proposal for water service, NJAWC is proposing to replace the current low-income discount program for wastewater with a low-income program called the Universal Affordability Tariff. Discounts under the proposed tariff are reflected in the Company's revenues under proposed rates.

Company witness Charles B. Rea describes the proposed Universal Affordability Tariff in his direct testimony.

70. Q. Do you have a schedule that provides the Company's complete proposed rate design for wastewater in this case?

A. Yes. Schedule HJB-2 provides the Company's proposed rate design for wastewater service.

71. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Functional Allocators to Customer Class

	Functional COS	Alloc	Description	General	Optional Ind. Whole.	Manasquan Resale	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Variance
Source of Supply Expense												
Fixed	$ 38,036,621	2A	Base/Extra Daily w/o Manasquan	$ 30,729,964	$ 1,572,842	$ -	$ 2,156,892	$ 3,547,398	$ 29,525	$ -	$ 38,036,621	$ -
Variable	$ 10,589,432	1A	Total Usage w/o Manasquan	$ 7,859,460	$ 554,426	$ -	$ 866,814	$ 1,296,867	$ 11,865	$ -	$ 10,589,432	$ -
Power and Pumping Expenses												
Fixed	$ 72,410,192	2	Base/Extra Daily	$ 58,176,940	$ 2,977,652	$ 400,533	$ 4,083,356	$ 6,715,815	$ 55,896	$ -	$ 72,410,192	$ -
Variable	$ 5,375,380	1	Total Usage	$ 3,957,820	$ 279,195	$ 42,816	$ 436,505	$ 653,069	$ 5,975	$ -	$ 5,375,380	$ -
Water Treatment												
Fixed	$ 127,967,061	2	Base/Extra Daily	$ 102,813,318	$ 5,262,262	$ 707,842	$ 7,216,319	$ 11,868,538	$ 98,782	$ -	$ 127,967,061	$ -
Variable	$ 35,581,344	1	Total Usage	$ 26,198,067	$ 1,848,077	$ 283,415	$ 2,889,365	$ 4,322,869	$ 39,551	$ -	$ 35,581,344	$ -
Transmission	$ 152,921,374	4	Base/Extra Daily w/ Fire	$ 122,374,336	$ 6,253,954	$ 840,586	$ 8,569,616	$ 14,102,311	$ 258,749	$ 521,822	$ 152,921,374	$ -
Distribution	$ 192,857,615	5	Base/Extra Hourly w/ Fire	$ 189,412,293	$ 232,048	$ 295,550	$ 976,554	$ -	$ 632,103	$ 1,309,067	$ 192,857,615	$ -
Storage	$ 105,894,385	6	Storage	$ 79,109,915	$ 4,507,999	$ -	$ 4,285,888	$ 6,957,952	$ 3,342,248	$ 7,690,383	$ 105,894,385	$ -
Meters	$ 82,073,254	7	Meters	$ 81,537,962	$ 342,980	$ 49,042	$ 143,271	$ -	$ -	$ -	$ 82,073,254	$ -
Services	$ 113,894,469	8	Services	$ 81,687,564	$ 260,273	$ 37,212	$ 108,639	$ -	$ 31,800,780	$ -	$ 113,894,469	$ -
Customers	$ 54,263,326	9	Customers	$ 53,195,787	$ 484	$ 484	$ 2,337	$ 403	$ 1,044,814	$ 19,018	$ 54,263,326	$ -
Hydrants	$ 38,038,737	10	Hydrants	$ -	$ -	$ -	$ -	$ -	$ 2,344,734	$ 35,694,004	$ 38,038,737	$ -
Total	**$ 1,029,903,190**			**$ 837,053,427**	**$ 24,092,191**	**$ 2,657,480**	**$ 31,735,555**	**$ 49,465,221**	**$ 39,665,022**	**$ 45,234,293**	**$ 1,029,903,190**	$ -
				81.27%	2.34%	0.26%	3.08%	4.80%	3.85%	4.39%		
Post-Test Year Water Revenue	$ 887,835,054			$ 749,439,609	$ 18,306,691	$ 1,871,639	$ 19,435,894	$ 32,226,604	$ 32,917,944	$ 33,636,673	$ 887,835,054	$ -
Other Water Operating Revenues	$ 4,523,903											
Increase	$ 142,068,136			$ 87,613,818	$ 5,785,500	$ 785,841	$ 12,299,661	$ 17,238,617	$ 6,747,078	$ 11,597,620	$ 142,068,135	$ (0.77)
Percent Increase	16.00%			11.69%	31.60%	41.99%	63.28%	53.49%	20.50%	34.48%	16.00%	
Post-Test Year Revenue				$ 749,439,609	$ 18,306,691	$ 1,871,639	$ 19,435,894	$ 32,226,604	$ 32,917,944	$ 33,636,673	$ 887,835,054	
Cost of Service Increase				$ 87,613,818	$ 5,785,500	$ 785,841	$ 12,299,661	$ 17,238,617	$ 6,747,078	$ 11,597,620	$ 142,068,135	
Adjustments				$ 27,232,161	$ (5,785,500)	$ (785,841)	$ (12,299,661)	$ (17,238,617)	$ (6,747,078)	$ (11,597,620)	$ (27,222,157)	
Revenue Target				$ 876,882,146	$ 23,066,525	$ 2,358,607	$ 24,491,911	$ 40,609,033	$ 38,610,954	$ 36,480,572	$ 1,042,499,747	
Percent Increase				17.01%	26.00%	26.02%	26.01%	26.01%	17.29%	8.45%	17.42%	
Variable Cost	$ 53,753,209		Proposed Increase:	17.01%	26.00%	26.02%	26.01%	26.01%	17.29%	8.45%		

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Account Detail

		Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Source of Supply Expense																
Operating Expense																
	Purchased Water	$ 761,316	A	Source of Supply	$ 761,316	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 761,316	$ -
	Fuel and Power	$ 9,828,116	A	Source of Supply	$ 9,828,116	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,828,116	$ -
	Chemicals	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Waste Disposal	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Salaries and Wages	$ 650,303	A	Source of Supply	$ 650,303	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 650,303	$ -
	Employee Benefits	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Group Insurance	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other Benefits	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Support Services	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Contract Services	$ 393,777	A	Source of Supply	$ 393,777	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 393,777	$ -
	Building Maintenance & Services	$ 1,504,370	A	Source of Supply	$ 1,504,370	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,504,370	$ -
	Telelcommunications	$ 286	A	Source of Supply	$ 286	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 286	$ -
	Office Supplies	$ 5,419	A	Source of Supply	$ 5,419	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,419	$ -
	Employee Related Expenses	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Miscellaneous	$ 132,182	A	Source of Supply	$ 132,182	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 132,182	$ -
	Rents	$ 38,199	A	Source of Supply	$ 38,199	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 38,199	$ -
	Transportation	$ 20,018	A	Source of Supply	$ 20,018	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,018	$ -
	Uncollectible Accounts	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Customer Accounting	$ 1,027	A	Source of Supply	$ 1,027	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,027	$ -
	Regulatory Expense	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Insurance Other Than Group	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ 13,335,014			$ 13,335,014	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,335,014	$ -
Maintenance Expense																
	Salaries and Wages	$ 63,107	A	Source of Supply	$ 63,107	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 63,107	$ -
	Engineered Coating of Steel Structures	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Maintenance	$ 243,707	A	Source of Supply	$ 243,707	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 243,707	$ -
		$ 306,814			$ 306,814	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 306,814	$ -
	Total SS Expense	**$ 13,641,827**			**$ 13,641,827**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 13,641,827**	**$ -**
Power and Pumping Expenses																
Operating Expense																
	Purchased Water	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Fuel and Power	$ 5,375,380	B	Pumping	$ -	$ 5,375,380	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,375,380	$ -
	Chemicals	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Waste Disposal	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Salaries and Wages	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Employee Benefits	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Group Insurance	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other Benefits	$ 7,208	B	Pumping	$ -	$ 7,208	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,208	$ -
	Support Services	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Contract Services	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Building Maintenance & Services	$ 1,103	B	Pumping	$ -	$ 1,103	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,103	$ -
	Telelcommunications	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Office Supplies	$ 2,990	B	Pumping	$ -	$ 2,990	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,990	$ -
	Employee Related Expenses	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Miscellaneous	$ 18,350	B	Pumping	**$ -**	**$ 18,350**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 18,350**	**$ -**
	Rents	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Transportation	$ 2,380	B	Pumping	$ -	$ 2,380	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,380	$ -
	Uncollectible Accounts	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Customer Accounting	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Regulatory Expense	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Insurance Other Than Group	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ 5,407,410			$ -	$ 5,407,410	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,407,410	$ -
Maintenance Expense																
	Salaries and Wages	$ 7,158,421	B	Pumping	$ -	$ 7,158,421	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,158,421	$ -
	Engineered Coating of Steel Structures	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Maintenance	$ 1,440,462	B	Pumping	$ -	$ 1,440,462	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,440,462	$ -
		$ 8,598,883			$ -	$ 8,598,883	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,598,883	$ -
	Total Pumping Expense	**$ 14,006,293**			**$ -**	**$ 14,006,293**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 14,006,293**	**$ -**
Water Treatment																
Operating Expense																
	Purchased Water	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Fuel and Power	$ 4,090,222	C	Water Treatment	$ -	$ -	$ 4,090,222	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,090,222	$ -
	Chemicals	$ 24,486,924	C	Water Treatment	$ -	$ -	$ 24,486,924	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,486,924	$ -
	Waste Disposal	$ 7,004,198	C	Water Treatment	$ -	$ -	$ 7,004,198	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,004,198	$ -
	Salaries and Wages	$ 2,754,305	C	Water Treatment	$ -	$ -	$ 2,754,305	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,754,305	$ -
	Employee Benefits	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Group Insurance	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other Benefits	$ 5,775	C	Water Treatment	$ -	$ -	$ 5,775	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,775	$ -
	Support Services	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Contract Services	$ 2,384,624	C	Water Treatment	$ -	$ -	$ 2,384,624	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,384,624	$ -
	Building Maintenance & Services	$ 1,032,760	C	Water Treatment	$ -	$ -	$ 1,032,760	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,032,760	$ -
	Telelcommunications	$ 725	C	Water Treatment	$ -	$ -	$ 725	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 725	$ -
	Office Supplies	$ 178,519	C	Water Treatment	$ -	$ -	$ 178,519	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 178,519	$ -
	Employee Related Expenses	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Miscellaneous	$ 1,335,237	C	Water Treatment	**$ -**	**$ -**	**$ 1,335,237**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,335,237**	**$ -**
	Rents	$ 58,316	C	Water Treatment	$ -	$ -	$ 58,316	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 58,316	$ -
	Transportation	$ (10,529)	C	Water Treatment	$ -	$ -	$ (10,529)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (10,529)	$ -
	Uncollectible Accounts	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Customer Accounting	$ 260,389	C	Water Treatment	$ -	$ -	$ 260,389	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 260,389	$ -
	Regulatory Expense	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Insurance Other Than Group	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ 43,581,465			$ -	$ -	$ 43,581,465	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 43,581,465	$ -
Maintenance Expense																
	Salaries and Wages	$ 155,875	C	Water Treatment	$ -	$ -	$ 155,875	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 155,875	$ -
	Engineered Coating of Steel Structures	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Maintenance	$ 2,675,402	C	Water Treatment	$ -	$ -	$ 2,675,402	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,675,402	$ -
		$ 2,831,277			$ -	$ -	$ 2,831,277	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,831,277	$ -
	Total Water Treatment Expense	**$ 46,412,743**			**$ -**	**$ -**	**$ 46,412,743**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 46,412,743**	**$ -**

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Account Detail

		Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Transmission & Distribution Expense																
Operating Expense																
	Fuel and Power	$ 2,207,052	K	Mains	$ -	$ -	$ -	$ 1,093,187	$ 1,113,866	$ -	$ -	$ -	$ -	$ -	$ 2,207,052	$ -
	Chemicals	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Waste Disposal	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Salaries and Wages	$ 1,039,085	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 1,039,085	$ -	$ -	$ -	$ -	$ 1,039,085	$ -
	Employee Benefits	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Group Insurance	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other Benefits	$ 20,266	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 20,266	$ -	$ -	$ -	$ -	$ 20,266	$ -
	Support Services	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Contract Services	$ 3,511,696	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 3,511,696	$ -	$ -	$ -	$ -	$ 3,511,696	$ -
	Building Maintenance & Services	$ 526,382	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 526,382	$ -	$ -	$ -	$ -	$ 526,382	$ -
	Telelcommunications	$ 7,791	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 7,791	$ -	$ -	$ -	$ -	$ 7,791	$ -
	Office Supplies	$ 470,650	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 470,650	$ -	$ -	$ -	$ -	$ 470,650	$ -
	Employee Related Expenses	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Miscellaneous	$ 636,710	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 636,710	$ -	$ -	$ -	$ -	$ 636,710	$ -
	Rents	$ 438,405	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 438,405	$ -	$ -	$ -	$ -	$ 438,405	$ -
	Transportation	$ 12,981	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 12,981	$ -	$ -	$ -	$ -	$ 12,981	$ -
	Uncollectible Accounts	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Customer Accounting	$ 6,878	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ 6,878	$ -	$ -	$ -	$ -	$ 6,878	$ -
	Regulatory Expense	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Insurance Other Than Group	$ -	1	T/D Oper. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ 8,877,898			$ -	$ -	$ -	$ 1,093,187	$ 1,113,866	$ 6,670,846	$ -	$ -	$ -	$ -	$ 8,877,898	$ -
Maintenance Expense																
	Salaries and Wages	$ 2,861,600	2	T/D Maint.. Expense	$ -	$ -	$ -	$ 344,260	$ 350,772	$ 1,688,023	$ 9,400	$ 276,941	$ -	$ 192,203	$ 2,861,600	$ -
	Engineered Coating of Steel Structures	$ -	2	T/D Maint.. Expense	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Maintenance	$ 11,869,315	2	T/D Maint.. Expense	$ -	$ -	$ -	$ 1,427,919	$ 1,454,929	$ 7,001,565	$ 38,989	$ 1,148,694	$ -	$ 797,219	$ 11,869,315	$ -
		$ 14,730,914			$ -	$ -	$ -	$ 1,772,179	$ 1,805,701	$ 8,689,588	$ 48,389	$ 1,425,635	$ -	$ 989,422	$ 14,730,914	$ -
	Total T&D Expense	**$ 23,608,812**			**$ -**	**$ -**	**$ -**	**$ 2,865,365**	**$ 2,919,567**	**$ 15,360,433**	**$ 48,389**	**$ 1,425,635**	**$ -**	**$ 989,422**	**$ 23,608,812**	**$ -**
General Mains Expense																
Maintenance Expense																
	Salaries and Wages	$ 3,364,835	K	Mains	$ -	$ -	$ -	$ 1,666,654	$ 1,698,181	$ -	$ -	$ -	$ -	$ -	$ 3,364,835	$ -
	Engineered Coating of Steel Structures	$ -	K	Mains	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Maintenance	$ 445,026	K	Mains	$ -	$ -	$ -	$ 220,428	$ 224,598	$ -	$ -	$ -	$ -	$ -	$ 445,026	$ -
		$ 3,809,861			$ -	$ -	$ -	$ 1,887,083	$ 1,922,779	$ -	$ -	$ -	$ -	$ -	$ 3,809,861	$ -
	General Mains Expense	**$ 3,809,861**			**$ -**	**$ -**	**$ -**	**$ 1,887,083**	**$ 1,922,779**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 3,809,861**	**$ -**
Storage Expense																
Operating Expense																
	Salaries and Wages	$ -	F	Storage	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Miscellaneous	$ 2,237	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 2,237	$ -	$ -	$ -	$ -	$ 2,237	$ -
		$ 2,237			$ -	$ -	$ -	$ -	$ -	$ 2,237	$ -	$ -	$ -	$ -	$ 2,237	$ -
Maintenance Expense																
	Engineered Coating of Steel Structures	$ 9,253,000	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 9,253,000	$ -	$ -	$ -	$ -	$ 9,253,000	$ -
	Maintenance	$ -	F	Storage	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ 9,253,000			$ -	$ -	$ -	$ -	$ -	$ 9,253,000	$ -	$ -	$ -	$ -	$ 9,253,000	$ -
	Total Storage Expense	**$ 9,255,237**			**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 9,255,237**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 9,255,237**	**$ -**
Meter Expense																
Operating Expense																
	Salaries and Wages	$ -	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Telelcommunications	$ -	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ -			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance Expense																
	Salaries and Wages	$ 236	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 236	$ -	$ -	$ -	$ 236	$ -
	Maintenance	$ 51,291	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 51,291	$ -	$ -	$ -	$ 51,291	$ -
		$ 51,527			$ -	$ -	$ -	$ -	$ -	$ -	$ 51,527	$ -	$ -	$ -	$ 51,527	$ -
	Total Meter Expense	**$ 51,527**			**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 51,527**	**$ -**	**$ -**	**$ -**	**$ 51,527**	**$ -**
Service Expense																
Operating Expense																
	Salaries and Wages	$ -	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ -			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Maintenance Expense																
	Salaries and Wages	$ 1,254,284	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,254,284	$ -	$ -	$ 1,254,284	$ -
	Maintenance	$ 263,786	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 263,786	$ -	$ -	$ 263,786	$ -
		$ 1,518,070			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,518,070	$ -	$ -	$ 1,518,070	$ -
	Total Service Expense	**$ 1,518,070**			**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,518,070**	**$ -**	**$ -**	**$ 1,518,070**	**$ -**
Hydrant Expense																
Maintenance Expense																
	Salaries and Wages	$ 867,477	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 867,477	$ 867,477	$ -
	Maintenance	$ 186,097	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 186,097	$ 186,097	$ -
		$ 1,053,574			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,053,574	$ 1,053,574	$ -
	Hydrant Expense	**$ 1,053,574**			**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 1,053,574**	**$ 1,053,574**	**$ -**
Customer Accounts																
	Salaries and Wages	$ 3,052,272	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,052,272	$ -	$ 3,052,272	$ -
	Employee Benefits	$ -	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Group Insurance	$ -	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other Benefits	$ 656	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 656	$ -	$ 656	$ -
	Support Services	$ -	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Contract Services	$ 30,686	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 30,686	$ -	$ 30,686	$ -
	Building Maintenance & Services	$ 115,165	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 115,165	$ -	$ 115,165	$ -
	Telelcommunications	$ 57,031	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 57,031	$ -	$ 57,031	$ -
	Office Supplies	$ 20,025	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,025	$ -	$ 20,025	$ -
	Employee Related Expenses	$ -	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Miscellaneous	$ 7,909	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,909	$ -	$ 7,909	$ -
	Rents	$ 518	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 518	$ -	$ 518	$ -
	Transportation	$ -	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Uncollectible Accounts	$ 4,145,219	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,145,219	$ -	$ 4,145,219	$ -
	Customer Accounting	$ 6,068,289	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 6,068,289	$ -	$ 6,068,289	$ -
	Regulatory Expense	$ -	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Insurance Other Than Group	$ -	I	Customers	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		$ 13,497,771			$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,497,771	$ -	$ 13,497,771	$ -
	Total Customer Accounting Expense	**$ 13,497,771**			**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 13,497,771**	**$ -**	**$ 13,497,771**	**$ -**

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Account Detail

		Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Administrative & General Expense																
Operating Expense																
	Fuel and Power	$ 72,303	3	Fixed O&M	$ 3,019	$ 8,536	$ 10,713	$ 3,619	$ 3,688	$ 24,346	$ 99	$ 2,911	$ 13,350	$ 2,021	$ 72,303	$ -
	Salaries and Wages	$ 32,804,531	4	Labor	$ 1,007,806	$ 10,112,422	$ 4,111,097	$ 2,840,741	$ 2,894,476	$ 3,852,480	$ 13,612	$ 2,163,103	$ 4,311,825	$ 1,496,970	$ 32,804,531	$ -
	Employee Benefits	$ 1,756,959	4	Labor	$ 53,976	$ 541,605	$ 220,184	$ 152,146	$ 155,024	$ 206,333	$ 729	$ 115,852	$ 230,935	$ 80,175	$ 1,756,959	$ -
	Group Insurance	$ 3,579,376	3	Fixed O&M	$ 149,457	$ 422,602	$ 530,346	$ 179,171	$ 182,560	$ 1,205,276	$ 4,892	$ 144,135	$ 660,902	$ 100,033	$ 3,579,376	$ -
	Other Benefits	$ 4,625,589	3	Fixed O&M	$ 193,141	$ 546,124	$ 685,361	$ 231,541	$ 235,921	$ 1,557,566	$ 6,322	$ 186,264	$ 854,077	$ 129,271	$ 4,625,589	$ -
	Support Services	$ 52,909,207	3	Fixed O&M	$ 2,209,224	$ 6,246,773	$ 7,839,412	$ 2,648,454	$ 2,698,552	$ 17,816,018	$ 72,316	$ 2,130,558	$ 9,769,246	$ 1,478,654	$ 52,909,207	$ -
	Contract Services	$ 3,135,457	3	Fixed O&M	$ 130,921	$ 370,191	$ 464,572	$ 156,950	$ 159,919	$ 1,055,797	$ 4,286	$ 126,259	$ 578,936	$ 87,627	$ 3,135,457	$ -
	Building Maintenance & Services	$ 642,612	3	Fixed O&M	$ 26,832	$ 75,871	$ 95,214	$ 32,167	$ 32,775	$ 216,385	$ 878	$ 25,877	$ 118,653	$ 17,959	$ 642,612	$ -
	Telecommunications	$ 2,990,915	3	Fixed O&M	$ 124,886	$ 353,125	$ 443,156	$ 149,715	$ 152,547	$ 1,007,125	$ 4,088	$ 120,439	$ 552,248	$ 83,587	$ 2,990,915	$ -
	Office Supplies	$ 1,123,645	3	Fixed O&M	$ 46,918	$ 132,664	$ 166,487	$ 56,246	$ 57,310	$ 378,363	$ 1,536	$ 45,247	$ 207,472	$ 31,403	$ 1,123,645	$ -
	Employee Related Expenses	$ 1,134,187	3	Fixed O&M	$ 47,358	$ 133,909	$ 168,049	$ 56,774	$ 57,847	$ 381,913	$ 1,550	$ 45,672	$ 209,418	$ 31,697	$ 1,134,187	$ -
	Miscellaneous	$ 1,870,823	3	Fixed O&M	$ 78,116	$ 220,880	$ 277,195	$ 93,647	$ 95,418	$ 629,959	$ 2,557	$ 75,335	$ 345,432	$ 52,284	$ 1,870,823	$ -
	Rents	$ (15,495)	3	Fixed O&M	$ (647)	$ (1,829)	$ (2,296)	$ (776)	$ (790)	$ (5,218)	$ (21)	$ (624)	$ (2,861)	$ (433)	$ (15,495)	$ -
	Transportation	$ 3,681,932	3	Fixed O&M	$ 153,739	$ 434,711	$ 545,542	$ 184,305	$ 187,791	$ 1,239,810	$ 5,032	$ 148,265	$ 679,838	$ 102,899	$ 3,681,932	$ -
	Uncollectible Accounts	$ 143,539	3	Fixed O&M	$ 5,993	$ 16,947	$ 21,268	$ 7,185	$ 7,321	$ 48,334	$ 196	$ 5,780	$ 26,503	$ 4,011	$ 143,539	$ -
	Customer Accounting	$ 1,617,631	3	Fixed O&M	$ 67,544	$ 190,987	$ 239,680	$ 80,973	$ 82,505	$ 544,702	$ 2,211	$ 65,139	$ 298,682	$ 45,208	$ 1,617,631	$ -
	Regulatory Expense	$ 415,255	3	Fixed O&M	$ 17,339	$ 49,027	$ 61,527	$ 20,786	$ 21,179	$ 139,828	$ 568	$ 16,722	$ 76,673	$ 11,605	$ 415,255	$ -
	Insurance Other Than Group	$ 10,688,439	3	Fixed O&M	$ 446,296	$ 1,261,940	$ 1,583,677	$ 535,027	$ 545,147	$ 3,599,098	$ 14,609	$ 430,404	$ 1,973,532	$ 298,710	$ 10,688,439	$ -
		$ 123,176,905			$ 4,761,919	$ 21,116,486	$ 17,461,185	$ 7,428,670	$ 7,569,192	$ 33,898,115	$ 135,460	$ 5,847,338	$ 20,904,861	$ 4,053,680	$ 123,176,905	$ -
Maintenance Expense																
	Salaries and Wages	$ 291,993	3	Fixed O&M	$ 12,192	$ 34,474	$ 43,264	$ 14,616	$ 14,893	$ 98,322	$ 399	$ 11,758	$ 53,914	$ 8,160	$ 291,993	$ -
	Maintenance	$ 345,411	3	Fixed O&M	$ 14,423	$ 40,781	$ 51,179	$ 17,290	$ 17,617	$ 116,310	$ 472	$ 13,909	$ 63,777	$ 9,653	$ 345,411	$ -
		$ 637,404			$ 26,615	$ 75,256	$ 94,442	$ 31,906	$ 32,510	$ 214,632	$ 871	$ 25,667	$ 117,691	$ 17,814	$ 637,404	$ -
	Total A&G Expense	**$ 123,814,309**			**$ 4,788,533**	**$ 21,191,742**	**$ 17,555,627**	**$ 7,460,577**	**$ 7,601,701**	**$ 34,112,746**	**$ 136,331**	**$ 5,873,005**	**$ 21,022,552**	**$ 4,071,494**	**$ 123,814,309**	**$ -**
	Total Operations & Maintenace Exp. (Water)	**$ 250,670,025**			**$ 18,430,361**	**$ 35,198,035**	**$ 63,968,370**	**$ 12,213,025**	**$ 12,444,047**	**$ 58,728,417**	**$ 236,247**	**$ 8,816,711**	**$ 34,520,323**	**$ 6,114,490**	**$ 250,670,025**	**$ -**
	Total Operations & Maintenace Exp. (Sewer)	**$ 12,864,731**														
Taxes Other Than Income Tax																
	Property Taxes	$ 6,665,755	5	Net Plant (less int. & acq.)	$ 245,997	$ 303,828	$ 804,018	$ 1,466,053	$ 1,853,596	$ 271,157	$ 458,840	$ 915,847	$ 91,111	$ 255,308	$ 6,665,755	$ -
	Payroll Taxes	$ 4,426,004	4	Labor	$ 135,974	$ 1,364,373	$ 554,671	$ 383,274	$ 390,524	$ 519,779	$ 1,837	$ 291,847	$ 581,754	$ 201,972	$ 4,426,004	$ -
	Gross Receipts and Surtax	$ 138,906,662	6	Rate Base	$ 5,466,945	$ 6,863,784	$ 17,907,790	$ 27,967,809	$ 36,286,601	$ 7,009,362	$ 9,833,303	$ 19,494,059	$ 2,597,025	$ 5,479,982	$ 138,906,662	$ -
	BPU/DRC Assessment	$ 2,723,430	6	Rate Base	$ 107,186	$ 134,573	$ 351,103	$ 548,240	$ 711,442	$ 137,427	$ 192,794	$ 382,204	$ 50,918	$ 107,442	$ 2,723,430	$ -
	Water Monitoring Tax	$ 660,720	6	Rate Base	$ 26,004	$ 32,648	$ 85,180	$ 133,031	$ 172,600	$ 33,341	$ 46,773	$ 92,725	$ 12,353	$ 26,066	$ 660,720	$ -
	Other Taxes	$ 137,259	6	Rate Base	$ 5,402	$ 6,782	$ 17,695	$ 27,636	$ 35,856	$ 6,926	$ 9,717	$ 19,263	$ 2,566	$ 5,415	$ 137,259	$ -
		$ 153,519,830			$ 5,987,507	$ 8,705,988	$ 19,720,459	$ 30,526,146	$ 39,450,620	$ 7,977,992	$ 10,543,263	$ 21,195,945	$ 3,335,727	$ 6,076,184	$ 153,519,830	$ -
	Total Taxes Other Than Income Taxes (Water)	**$ 153,519,830**			**$ 5,987,507**	**$ 8,705,988**	**$ 19,720,459**	**$ 30,526,146**	**$ 39,450,620**	**$ 7,977,992**	**$ 10,543,263**	**$ 21,195,945**	**$ 3,335,727**	**$ 6,076,184**	**$ 153,519,830**	**$ -**
	Total Taxes Other Than Income Taxes (Sewer)	**$ 8,526,736**														
Plant Depreciation																
Intangible Plant																
	Organization	$ -	5	Net Plant (less int. & acq.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Franchises	$ -	5	Net Plant (less int. & acq.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Other P/E-Intangible	$ 336,839	5	Net Plant (less int. & acq.)	$ 12,431	$ 15,353	$ 40,629	$ 74,084	$ 93,667	$ 13,702	$ 23,186	$ 46,280	$ 4,604	$ 12,901	$ 336,839	$ -
Source of Supply																
	Land & Land Rights-Supply	$ -	A	Source of Supply	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Struct & Imp-Supply	$ 2,289,731	A	Source of Supply	$ 2,289,731	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,289,731	$ -
	Collect & Impound Reservoirs	$ 320,832	A	Source of Supply	$ 320,832	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 320,832	$ -
	Lake, River & Other Intakes	$ 505,242	A	Source of Supply	$ 505,242	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 505,242	$ -
	Wells & Springs	$ 1,310,342	A	Source of Supply	$ 1,310,342	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,310,342	$ -
	Supply Mains	$ 396,123	A	Source of Supply	$ 396,123	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 396,123	$ -
	Infiltratn Galleries & Tunne	$ 103,039	A	Source of Supply	$ 103,039	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 103,039	$ -
	Other P/E-Supply	$ 37,047	A	Source of Supply	$ 37,047	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 37,047	$ -
Water Pumping																
	Land & Land Rights-Pumping	$ -	B	Pumping	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Struct & Imp-Pumping	$ 1,093,859	B	Pumping	$ -	$ 1,093,859	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,093,859	$ -
	Boiler Plant Equip P	$ 9,817	B	Pumping	$ -	$ 9,817	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,817	$ -
	Power Generation Equip	$ 1,104,985	B	Pumping	$ -	$ 1,104,985	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,104,985	$ -
	Pump Eqp Electric	$ 3,614,453	B	Pumping	$ -	$ 3,614,453	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,614,453	$ -
	Pump Eqp Diesel	$ 175,490	B	Pumping	$ -	$ 175,490	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 175,490	$ -
	Pump Eqp Hydraulic	$ 352,335	B	Pumping	$ -	$ 352,335	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 352,335	$ -
	Pump Eqp Other	$ 473,354	B	Pumping	$ -	$ 473,354	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 473,354	$ -
Water Treatment																
	Land & Land Rights-Treatment	$ -	C	Water Treatment	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Struct & Imp-Treatment	$ 4,670,795	C	Water Treatment	$ -	$ -	$ 4,670,795	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,670,795	$ -
	Struct & Imp-Treatment-Handl	$ 71,350	C	Water Treatment	$ -	$ -	$ 71,350	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 71,350	$ -
	Other P/E-Treatment	$ 16,023	C	Water Treatment	$ -	$ -	$ 16,023	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 16,023	$ -
	Other P/E-WT Res Hand Equip	$ 133,045	C	Water Treatment	$ -	$ -	$ 133,045	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 133,045	$ -
	WT Equip Non-Media	$ 8,814,123	C	Water Treatment	$ -	$ -	$ 8,814,123	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 8,814,123	$ -
	WT Equip Filter Media	$ 2,568,745	C	Water Treatment	$ -	$ -	$ 2,568,745	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,568,745	$ -
	Pumping Equipment WT	$ 7,745	C	Water Treatment	$ -	$ -	$ 7,745	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,745	$ -
T&D																
	Land & Land Rights-T&D	$ -	K	Mains	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Struct & Imp-T&D	$ 483,901	K	Mains	$ -	$ -	$ -	$ 239,684	$ 244,217	$ -	$ -	$ -	$ -	$ -	$ 483,901	$ -
	TD Mains Not Classified	$ 11,810,706	K	Mains	$ -	$ -	$ -	$ 5,850,023	$ 5,960,683	$ -	$ -	$ -	$ -	$ -	$ 11,810,706	$ -
	TD Mains 4in & Less	$ 1,279,075	E	Distribution	$ -	$ -	$ -	$ -	$ 1,279,075	$ -	$ -	$ -	$ -	$ -	$ 1,279,075	$ -
	TD Mains 6in to 8in	$ 18,525,395	E	Distribution	$ -	$ -	$ -	$ -	$ 18,525,395	$ -	$ -	$ -	$ -	$ -	$ 18,525,395	$ -
	TD Mains 10in to 16in	$ 10,827,637	D	Transmission	$ -	$ -	$ -	$ 10,827,637	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,827,637	$ -
	TD Mains 18in & Grtr	$ 4,785,400	D	Transmission	$ -	$ -	$ -	$ 4,785,400	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,785,400	$ -
	Fire Mains	$ 163,529	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 163,529	$ 163,529	$ -
	Pumping Equipment TD	$ 614	K	Mains	$ -	$ -	$ -	$ 304	$ 310	$ -	$ -	$ -	$ -	$ -	$ 614	$ -
	Other P/E-TD	$ 5,131	K	Mains	$ -	$ -	$ -	$ 2,541	$ 2,590	$ -	$ -	$ -	$ -	$ -	$ 5,131	$ -
Storage																
	Below Ground Tanks	$ 85,936	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 85,936	$ -	$ -	$ -	$ -	$ 85,936	$ -
	Clearwell	$ 276	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 276	$ -	$ -	$ -	$ -	$ 276	$ -
	Dist Reservoirs & Standpipes	$ 732,486	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 732,486	$ -	$ -	$ -	$ -	$ 732,486	$ -
	Elevated Tanks & Standpipes	$ 966,218	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 966,218	$ -	$ -	$ -	$ -	$ 966,218	$ -
	Ground Level Tanks	$ 242,487	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 242,487	$ -	$ -	$ -	$ -	$ 242,487	$ -
	Tank Original Painting	$ 1,612	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 1,612	$ -	$ -	$ -	$ -	$ 1,612	$ -
Meters																
	Meters	$ 33,393,323	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 33,393,323	$ -	$ -	$ -	$ 33,393,323	$ -
	Meter Installations	$ 3,546,350	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,546,350	$ -	$ -	$ -	$ 3,546,350	$ -
	Meter Vaults	$ 3,239,210	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,239,210	$ -	$ -	$ -	$ 3,239,210	$ -
Services																
	Services	$ 20,351,555	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 20,351,555	$ -	$ -	$ 20,351,555	$ -
	Backflow Prevention Devices	$ 12,172	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,172	$ -	$ -	$ 12,172	$ -
Hydrants																
	Hydrants	$ 7,145,737	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,145,737	$ 7,145,737	$ -

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Account Detail

			Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
General Plant																	
		Comm Equip Non-Telephone	$ 736,566	3	Fixed O&M	$ 30,755	$ 86,963	$ 109,135	$ 36,870	$ 37,567	$ 248,022	$ 1,007	$ 29,660	$ 136,001	$ 20,585	$ 736,566	$ -
		Comm Equip Not Classified	$ 4,412,641	3	Fixed O&M	$ 184,250	$ 520,982	$ 653,809	$ 220,882	$ 225,060	$ 1,485,860	$ 6,031	$ 177,689	$ 814,758	$ 123,320	$ 4,412,641	$ -
		Comm Equip Telephone	$ 1,380	3	Fixed O&M	$ 58	$ 163	$ 204	$ 69	$ 70	$ 465	$ 2	$ 56	$ 255	$ 39	$ 1,380	$ -
		Comp & Periph Equip	$ 18,548	3	Fixed O&M	$ 774	$ 2,190	$ 2,748	$ 928	$ 946	$ 6,246	$ 25	$ 747	$ 3,425	$ 518	$ 18,548	$ -
		Comp Software Mainframe	$ -	3	Fixed O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Computer Software	$ 20,997,140	3	Fixed O&M	$ 876,736	$ 2,479,046	$ 3,111,089	$ 1,051,045	$ 1,070,927	$ 7,070,328	$ 28,699	$ 845,517	$ 3,876,948	$ 586,807	$ 20,997,140	$ -
		Data Handling Equipment	$ -	3	Fixed O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Laboratory Equipment	$ 32,992	C	Water Treatment	$ -	$ -	$ 32,992	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 32,992	$ -
		Land & Land Rights-General	$ -	3	Fixed O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Misc Equipment	$ 1,578,412	3	Fixed O&M	$ 65,907	$ 186,357	$ 233,869	$ 79,010	$ 80,504	$ 531,496	$ 2,157	$ 63,560	$ 291,441	$ 44,112	$ 1,578,412	$ -
		Office Furniture & Equip	$ 2,706,397	3	Fixed O&M	$ 113,006	$ 319,533	$ 400,999	$ 135,473	$ 138,036	$ 911,320	$ 3,699	$ 108,982	$ 499,714	$ 75,636	$ 2,706,397	$ -
		Other Office Equipment	$ -	3	Fixed O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Other PIE-CPS	$ 483,525	3	Fixed O&M	$ 20,190	$ 57,088	$ 71,643	$ 24,204	$ 24,661	$ 162,816	$ 661	$ 19,471	$ 89,279	$ 13,513	$ 483,525	$ -
		Other Tangible Property	$ 112,349	3	Fixed O&M	$ 4,691	$ 13,265	$ 16,646	$ 5,624	$ 5,730	$ 37,831	$ 154	$ 4,524	$ 20,744	$ 3,140	$ 112,349	$ -
		Power Operated Equipment	$ 130,169	3	Fixed O&M	$ 5,435	$ 15,369	$ 19,287	$ 6,516	$ 6,639	$ 43,832	$ 178	$ 5,242	$ 24,035	$ 3,638	$ 130,169	$ -
		Remote Control & Instrument	$ 2,905,457	3	Fixed O&M	$ 121,317	$ 343,035	$ 430,494	$ 145,437	$ 148,188	$ 978,349	$ 3,971	$ 116,997	$ 536,469	$ 81,199	$ 2,905,457	$ -
		Stores Equipment	$ 88,675	3	Fixed O&M	$ 3,703	$ 10,469	$ 13,139	$ 4,439	$ 4,523	$ 29,859	$ 121	$ 3,571	$ 16,373	$ 2,478	$ 88,675	$ -
		Struct & Imp-Cap Lease	$ 440	3	Fixed O&M	$ 18	$ 52	$ 65	$ 22	$ 22	$ 148	$ 1	$ 18	$ 81	$ 12	$ 440	$ -
		Struct & Imp-General	$ 4,537,971	3	Fixed O&M	$ 189,483	$ 535,780	$ 672,379	$ 227,155	$ 231,452	$ 1,528,062	$ 6,202	$ 182,736	$ 837,899	$ 126,823	$ 4,537,971	$ -
		Struct & Imp-HVAC	$ 72,518	3	Fixed O&M	$ 3,028	$ 8,562	$ 10,745	$ 3,630	$ 3,699	$ 24,419	$ 99	$ 2,920	$ 13,390	$ 2,027	$ 72,518	$ -
		Struct & Imp-Misc	$ 8,157	3	Fixed O&M	$ 341	$ 963	$ 1,209	$ 408	$ 416	$ 2,747	$ 11	$ 328	$ 1,506	$ 228	$ 8,157	$ -
		Struct & Imp-Offices	$ 1,556,255	3	Fixed O&M	$ 64,981	$ 183,741	$ 230,586	$ 77,901	$ 79,374	$ 524,035	$ 2,127	$ 62,668	$ 287,350	$ 43,493	$ 1,556,255	$ -
		Struct & Imp-Store,Shop,Gar	$ 213,336	3	Fixed O&M	$ 8,908	$ 25,188	$ 31,609	$ 10,679	$ 10,881	$ 71,836	$ 292	$ 8,591	$ 39,391	$ 5,962	$ 213,336	$ -
		Tools,Shop,Garage Equip	$ 955,502	3	Fixed O&M	$ 39,897	$ 112,812	$ 141,574	$ 47,829	$ 48,734	$ 321,744	$ 1,306	$ 38,476	$ 176,426	$ 26,703	$ 955,502	$ -
		Trans Equip Autos	$ 179,412	3	Fixed O&M	$ 7,491	$ 21,182	$ 26,583	$ 8,981	$ 9,151	$ 60,413	$ 245	$ 7,225	$ 33,127	$ 5,014	$ 179,412	$ -
		Trans Equip Hvy Duty Trks	$ 762,269	3	Fixed O&M	$ 31,828.54	$ 89,998	$ 112,943	$ 38,157	$ 38,878	$ 256,677	$ 1,042	$ 30,695	$ 140,747	$ 21,303	$ 762,269	$ -
		Trans Equip Lt Duty Trks	$ 1,243,174	3	Fixed O&M	$ 51,909	$ 146,776	$ 184,198	$ 62,229	$ 63,406	$ 418,612	$ 1,699	$ 50,060	$ 229,542	$ 34,743	$ 1,243,174	$ -
		Trans Equip Not Classified	$ 162,532	3	Fixed O&M	$ 6,787	$ 19,189	$ 24,082	$ 8,136	$ 8,290	$ 54,729	$ 222	$ 6,545	$ 30,010	$ 4,542	$ 162,532	$ -
		Trans Equip Other	$ 231,394	3	Fixed O&M	$ 9,662	$ 27,320	$ 34,285	$ 11,583	$ 11,802	$ 77,917	$ 316	$ 9,318	$ 42,725	$ 6,467	$ 231,394	$ -
		Acquisition - Salem City Water	$ 258,010	5	Net Plant (less int. & acq.)	$ 9,522	$ 11,760	$ 31,121	$ 56,746	$ 71,747	$ 10,496	$ 17,760	$ 35,450	$ 3,527	$ 9,882	$ 258,010	$ -
Plant Depreciation (Water)			$ 190,389,285			$ 6,825,463	$ 12,057,430	$ 22,919,888	$ 24,043,625	$ 28,426,641	$ 16,900,977	$ 40,280,097	$ 22,221,051	$ 8,149,762	$ 8,564,351	$ 190,389,285	$ -
		Vehicle Depr Expense Capitalize Portion	$ -	3	Fixed O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		UOP Property	$ -	3	Fixed O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Boundbrook WW Acq Plant Depreciation	$ -	3	Fixed O&M	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
		Plant Depreciation (Sewer)	$ 11,644,523	5	Net Plant (less int. & acq.)	$ 429,736	$ 530,762	$ 1,404,554	$ 2,561,074	$ 3,238,080	$ 473,689	$ 801,556	$ 1,599,909	$ 159,163	$ 446,002	$ 11,644,523	$ -
		Total Depreciation Expense	**$ 202,033,808**			**$ 7,255,198**	**$ 12,588,192**	**$ 24,324,442**	**$ 26,604,699**	**$ 31,664,721**	**$ 17,374,666**	**$ 41,081,653**	**$ 23,820,961**	**$ 8,308,925**	**$ 9,010,352**	**$ 202,033,808**	**$ -**
Amortization Expense																	
	General Mains	Advances for Construction - Non Taxable Mains	$ (202,566)	K	Mains	$ -	$ -	$ -	$ (100,334)	$ (102,232)	$ -	$ -	$ -	$ -	$ -	$ (202,566)	$ -
	General Mains	Advances for Construction - Non Taxable Ext Deposits	$ (273,001)	K	Mains	$ -	$ -	$ -	$ (135,222)	$ (137,780)	$ -	$ -	$ -	$ -	$ -	$ (273,001)	$ -
	Meters	Advances for Construction - Non Taxable Meters	$ (63,475)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (63,475)	$ -	$ -	$ -	$ (63,475)	$ -
	Hydrants	Advances for Construction - Non Taxable Hydrants	$ (31,126)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (31,126)	$ (31,126)	$ -
	General Mains	Advances for Construction - Non Taxable Other	$ (3,094)	K	Mains	$ -	$ -	$ -	$ (1,532)	$ (1,561)	$ -	$ -	$ -	$ -	$ -	$ (3,094)	$ -
	General Mains	Advances for Construction - Taxable Mains	$ (364,653)	K	Mains	$ -	$ -	$ -	$ (180,618)	$ (184,035)	$ -	$ -	$ -	$ -	$ -	$ (364,653)	$ -
	General Mains	Advances for Construction - Taxable Ext Deposits	$ (36,748)	K	Mains	$ -	$ -	$ -	$ (18,202)	$ (18,546)	$ -	$ -	$ -	$ -	$ -	$ (36,748)	$ -
	Services	Advances for Construction - Taxable Services	$ (139,963)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (139,963)	$ -	$ -	$ (139,963)	$ -
	Meters	Advances for Construction - Taxable Meters	$ (57,775)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (57,775)	$ -	$ -	$ -	$ (57,775)	$ -
	Hydrants	Advances for Construction - Taxable Hydrants	$ (41,892)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (41,892)	$ (41,892)	$ -
	General Mains	Advances for Construction - Taxable Other	$ (852)	K	Mains	$ -	$ -	$ -	$ (422)	$ (430)	$ -	$ -	$ -	$ -	$ -	$ (852)	$ -
	General Mains	Advances for Construction - Taxable Mains FIT	$ (351,559)	K	Mains	$ -	$ -	$ -	$ (174,133)	$ (177,426)	$ -	$ -	$ -	$ -	$ -	$ (351,559)	$ -
	Services	Advances for Construction - Taxable Services FIT	$ (37,782)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (37,782)	$ -	$ -	$ (37,782)	$ -
	Meters	Advances for Construction - Taxable Meters FIT	$ (46,677)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (46,677)	$ -	$ -	$ -	$ (46,677)	$ -
	Hydrants	Advances for Construction - Taxable Hydrants FIT	$ (32,721)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (32,721)	$ (32,721)	$ -
	General Mains	Advances for Construction - Taxable Other FIT	$ (329)	K	Mains	$ -	$ -	$ -	$ (163)	$ (166)	$ -	$ -	$ -	$ -	$ -	$ (329)	$ -
	General Mains	CIAC-Non Taxable - Mains	$ (3,237,924)	K	Mains	$ -	$ -	$ -	$ (1,603,793)	$ (1,634,131)	$ -	$ -	$ -	$ -	$ -	$ (3,237,924)	$ -
	General Mains	CIAC-Non Taxable - Ext Dep	$ (831,078)	K	Mains	$ -	$ -	$ -	$ (411,646)	$ (419,432)	$ -	$ -	$ -	$ -	$ -	$ (831,078)	$ -
	Services	CIAC-Non Taxable - Services	$ (19,770)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (19,770)	$ -	$ -	$ (19,770)	$ -
	Meters	CIAC-Non Taxable - Meters	$ (73,981)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (73,981)	$ -	$ -	$ -	$ (73,981)	$ -
	Hydrants	CIAC-Non Taxable - Hydrants	$ (29,689)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (29,689)	$ (29,689)	$ -
	General Mains	CIAC-Non Taxable - Other	$ (202,902)	K	Mains	$ -	$ -	$ -	$ (100,501)	$ (102,402)	$ -	$ -	$ -	$ -	$ -	$ (202,902)	$ -
	General Mains	CIAC-Taxable - Mains	$ (59,498)	K	Mains	$ -	$ -	$ -	$ (29,470)	$ (30,028)	$ -	$ -	$ -	$ -	$ -	$ (59,498)	$ -
	General Mains	CIAC-Taxable - Ext Dep	$ (28,273)	K	Mains	$ -	$ -	$ -	$ (14,004)	$ (14,269)	$ -	$ -	$ -	$ -	$ -	$ (28,273)	$ -
	Services	CIAC-Taxable - Services	$ (121,539)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (121,539)	$ -	$ -	$ (121,539)	$ -
	Meters	CIAC-Taxable - Meters	$ (7,920)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (7,920)	$ -	$ -	$ -	$ (7,920)	$ -
	Hydrants	CIAC-Taxable - Hydrants	$ (4,280)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (4,280)	$ (4,280)	$ -
	General Mains	CIAC-Taxable - Other	$ (28,830)	K	Mains	$ -	$ -	$ -	$ (14,280)	$ (14,550)	$ -	$ -	$ -	$ -	$ -	$ (28,830)	$ -
	General Mains	CIAC-Taxable - Mains FIT	$ (7,378)	K	Mains	$ -	$ -	$ -	$ (3,654)	$ (3,723)	$ -	$ -	$ -	$ -	$ -	$ (7,378)	$ -
	General Mains	CIAC-Taxable - Ext Dep FIT	$ (22)	K	Mains	$ -	$ -	$ -	$ (11)	$ (11)	$ -	$ -	$ -	$ -	$ -	$ (22)	$ -
	Services	CIAC-Taxable - Services FIT	$ (3,579)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (3,579)	$ -	$ -	$ (3,579)	$ -
	Meters	CIAC-Taxable - Meters FIT	$ (2,539)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,539)	$ -	$ -	$ -	$ (2,539)	$ -
	Hydrants	CIAC-Taxable - Hydrants FIT	$ (753)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (753)	$ (753)	$ -
	General Mains	CIAC-Taxable - Other FIT	$ (15)	K	Mains	$ -	$ -	$ -	$ (7)	$ (7)	$ -	$ -	$ -	$ -	$ -	$ (15)	$ -
		Amort of COR	$ (1,200,000)	6	Rate Base	$ (47,228)	$ (59,296)	$ (154,704)	$ (241,611)	$ (313,476)	$ (60,553)	$ (84,949)	$ (168,407)	$ (22,435)	$ (47,341)	$ (1,200,000)	$ -
		Amort. Of Plant Acquisition Adj.	$ 268,188	6	Rate Base	$ 10,555	$ 13,252	$ 34,575	$ 53,998	$ 70,059	$ 13,533	$ 18,985	$ 37,637	$ 5,014	$ 10,580	$ 268,188	$ -
		Amort. Of Regulatory Asset	$ 70,576	6	Rate Base	$ 2,778	$ 3,487	$ 9,099	$ 14,210	$ 18,437	$ 3,561	$ 4,996	$ 9,905	$ 1,320	$ 2,784	$ 70,576	$ -
		Amort. Of Pension / OPB Deferral	$ 7,208,869	6	Rate Base	$ 283,719	$ 356,211	$ 929,364	$ 1,451,451	$ 1,883,174	$ 363,766	$ 510,321	$ 1,011,687	$ 134,778	$ 284,396	$ 7,208,869	$ -
		Amort. Of WIPA Transacation Costs	$ 150,055	6	Rate Base	$ 5,906	$ 7,415	$ 19,345	$ 30,212	$ 39,199	$ 7,572	$ 10,623	$ 21,059	$ 2,805	$ 5,920	$ 150,055	$ -
		Amort. Of Energy Efficiency Program Costs	$ 17,726	6	Rate Base	$ 698	$ 876	$ 2,285	$ 3,569	$ 4,631	$ 894	$ 1,255	$ 2,488	$ 331	$ 699	$ 17,726	$ -
Total Amortization Expense (Water)			$ 171,232			$ 256,427	$ 321,946	$ 839,965	$ (1,476,162)	$ (1,138,707)	$ 328,774	$ 208,865	$ 591,736	$ 121,813	$ 116,577	$ 171,232	$ -
		Amortization Expense (Sewer)	$ (275,295)														
		Total Amortization Expense	**$ (104,063)**			**$ 256,427**	**$ 321,946**	**$ 839,965**	**$ (1,476,162)**	**$ (1,138,707)**	**$ 328,774**	**$ 208,865**	**$ 591,736**	**$ 121,813**	**$ 116,577**	**$ 171,232**	**$ -**
		Total Depreciation & Amortization	**$ 201,929,745**														
Income Taxes																	
Federal Income Tax																	
		Total Federal Taxes	$ 62,412,900	6	Rate Base	$ 2,456,383	$ 3,084,004	$ 8,046,246	$ 12,566,367	$ 16,304,128	$ 3,149,414	$ 4,418,254	$ 8,758,980	$ 1,166,884	$ 2,462,240	$ 62,412,900	$ -
Total Income Taxes (Water)			$ 62,412,900			$ 2,456,383	$ 3,084,004	$ 8,046,246	$ 12,566,367	$ 16,304,128	$ 3,149,414	$ 4,418,254	$ 8,758,980	$ 1,166,884	$ 2,462,240	$ 62,412,900	$ -
		Income Taxes (Sewer)	4,660,546														
		Total Income Tax Expense	**$ 67,073,447**			**$ 2,456,383**	**$ 3,084,004**	**$ 8,046,246**	**$ 12,566,367**	**$ 16,304,128**	**$ 3,149,414**	**$ 4,418,254**	**$ 8,758,980**	**$ 1,166,884**	**$ 2,462,240**	**$ 62,412,900**	
		Required Net Operating Income (Water)	$ 377,263,820	6	Rate Base	$ 14,847,960	$ 18,641,708	$ 48,636,698	$ 75,959,227	$ 98,552,666	$ 19,037,092	$ 26,706,779	$ 52,944,927	$ 7,053,396	$ 14,883,367	$ 377,263,820	$ -
		Required Net Operating Income (Sewer)	$ 22,946,822														
Required Net Operating Income			$ 400,210,641														
		Other Operating Revenue (Water)	$ (4,523,903)	6	Rate Base	$ (178,047)	$ (223,539)	$ (583,220)	$ (910,854)	$ (1,181,780)	$ (228,280)	$ (320,250)	$ (634,881)	$ (84,580)	$ (178,472)	$ (4,523,903)	$ -
		Other Operating Revenue (Sewer)	$ (10,863)														
Other Operating Revenue			$ (4,534,766)														
		Total Retail Revenue Requirement (Water)	**$ 1,034,427,092**			**$ 48,804,100**	**$ 78,009,111**	**$ 164,131,625**	**$ 153,832,227**	**$ 194,039,395**	**$ 106,122,665**	**$ 82,393,504**	**$ 114,529,350**	**$ 54,347,906**	**$ 38,217,209**	**$ 1,034,427,092**	**$ -**
		Total Retail Revenue Requirement (Sewer)	**$ 60,368,063**			**$ 48,626,053**	**$ 77,785,572**	**$ 163,548,405**	**$ 152,921,374**	**$ 192,857,615**	**$ 105,894,385**	**$ 82,073,254**	**$ 113,894,469**	**$ 54,263,326**	**$ 38,038,737**	**$ 1,029,903,190**	
			$ 1,094,795,155														

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Account Detail

					Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Plant Account																
Intangible Plant																
	Organization	$ 619,085	5	Net Plant (less int. & acq.)	$ 22,847	$ 28,218	$ 74,674	$ 136,160	$ 172,154	$ 25,184	$ 42,615	$ 85,060	$ 8,462	$ 23,712	$ 619,085	$ -
	Franchises	$ 189,755	5	Net Plant (less int. & acq.)	$ 7,003	$ 8,649	$ 22,888	$ 41,734	$ 52,766	$ 7,719	$ 13,062	$ 26,071	$ 2,594	$ 7,268	$ 189,755	$ -
	Other P/E-Intangible	$ 4,971,487	5	Net Plant (less int. & acq.)	$ 183,470	$ 226,602	$ 599,657	$ 1,093,419	$ 1,382,459	$ 202,236	$ 342,214	$ 683,062	$ 67,953	$ 190,415	$ 4,971,487	$ -
Source of Supply																
	Land & Land Rights-Supply	$ 9,287,796	A	Source of Supply	$ 9,287,796	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,287,796	$ -
	Struct & Imp-Supply	$ 81,684,752	A	Source of Supply	$ 81,684,752	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 81,684,752	$ -
	Collect & Impound Reservoirs	$ 17,159,011	A	Source of Supply	$ 17,159,011	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,159,011	$ -
	Lake, River & Other Intakes	$ 17,680,006	A	Source of Supply	$ 17,680,006	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,680,006	$ -
	Wells & Springs	$ 43,520,223	A	Source of Supply	$ 43,520,223	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 43,520,223	$ -
	Supply Mains	$ 24,063,369	A	Source of Supply	$ 24,063,369	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 24,063,369	$ -
	Infiltrain Galleries & Tunne	$ 4,562,965	A	Source of Supply	$ 4,562,965	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,562,965	$ -
	Other P/E-Supply	$ 569,469	A	Source of Supply	$ 569,469	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 569,469	$ -
Water Pumping																
	Land & Land Rights-Pumping	$ 1,211,542	B	Pumping	$ -	$ 1,211,542	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,211,542	$ -
	Struct & Imp-Pumping	$ 55,563,422	B	Pumping	$ -	$ 55,563,422	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 55,563,422	$ -
	Boiler Plant Equip P	$ 120,546	B	Pumping	$ -	$ 120,546	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 120,546	$ -
	Power Generation Equip	$ 37,129,923	B	Pumping	$ -	$ 37,129,923	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 37,129,923	$ -
	Pump Eqp Electric	$ 87,941,693	B	Pumping	$ -	$ 87,941,693	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 87,941,693	$ -
	Pump Eqp Diesel	$ 2,884,868	B	Pumping	$ -	$ 2,884,868	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,884,868	$ -
	Pump Eqp Hydraulic	$ 12,101,464	B	Pumping	$ -	$ 12,101,464	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,101,464	$ -
	Pump Eqp Other	$ 19,345,020	B	Pumping	$ -	$ 19,345,020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 19,345,020	$ -
Water Treatment																
	Land & Land Rights-Treatment	$ 7,058,685	C	Water Treatment	$ -	$ -	$ 7,058,685	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 7,058,685	$ -
	Struct & Imp-Treatment	$ 242,694,459	C	Water Treatment	$ -	$ -	$ 242,694,459	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 242,694,459	$ -
	Struct & Imp-Treatment-Handl	$ 3,051,827	C	Water Treatment	$ -	$ -	$ 3,051,827	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,051,827	$ -
	Other P/E-Treatment	$ 603,490	C	Water Treatment	$ -	$ -	$ 603,490	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 603,490	$ -
	Other P/E-WT Res Hand Equip	$ 3,744,077	C	Water Treatment	$ -	$ -	$ 3,744,077	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,744,077	$ -
	WT Equip Non-Media	$ 377,479,677	C	Water Treatment	$ -	$ -	$ 377,479,677	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 377,479,677	$ -
	WT Equip Filter Media	$ 9,069,749	C	Water Treatment	$ -	$ -	$ 9,069,749	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,069,749	$ -
	Pumping Equipment WT	$ 210,717	C	Water Treatment	$ -	$ -	$ 210,717	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 210,717	$ -
T&D																
	Land & Land Rights-T&D	$ 17,310,040	K	Mains	$ -	$ -	$ -	$ 8,573,928	$ 8,736,113	$ -	$ -	$ -	$ -	$ -	$ 17,310,040	$ -
	Struct & Imp-T&D	$ 14,656,527	K	Mains	$ -	$ -	$ -	$ 7,259,602	$ 7,396,925	$ -	$ -	$ -	$ -	$ -	$ 14,656,527	$ -
	TD Mains Not Classified	$ 697,945,733	K	Mains	$ -	$ -	$ -	$ 345,703,195	$ 352,242,538	$ -	$ -	$ -	$ -	$ -	$ 697,945,733	$ -
	TD Mains 4in & Less	$ 83,384,096	E	Distribution	$ -	$ -	$ -	$ -	$ 83,384,096	$ -	$ -	$ -	$ -	$ -	$ 83,384,096	$ -
	TD Mains 6in to 8in	$ 1,158,797,959	E	Distribution	$ -	$ -	$ -	$ -	$ 1,158,797,959	$ -	$ -	$ -	$ -	$ -	$ 1,158,797,959	$ -
	TD Mains 10in to 16in	$ 638,314,880	D	Transmission	$ -	$ -	$ -	$ 638,314,880	$ -	$ -	$ -	$ -	$ -	$ -	$ 638,314,880	$ -
	TD Mains 18in & Grtr	$ 269,765,521	D	Transmission	$ -	$ -	$ -	$ 269,765,521	$ -	$ -	$ -	$ -	$ -	$ -	$ 269,765,521	$ -
	Fire Mains	$ 1,533,207	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,533,207	$ -	$ 1,533,207	$ -
	Pumping Equipment TD	$ 20,215	K	Mains	$ -	$ -	$ -	$ 10,013	$ 10,202	$ -	$ -	$ -	$ -	$ -	$ 20,215	$ -
	Other P/E-TD	$ (147,568)	K	Mains	$ -	$ -	$ -	$ (73,093)	$ (74,475)	$ -	$ -	$ -	$ -	$ -	$ (147,568)	$ -
Storage																
	Below Ground Tanks	$ 3,664,149	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 3,664,149	$ -	$ -	$ -	$ -	$ 3,664,149	$ -
	Clearwell	$ (20,932)	F	Storage	$ -	$ -	$ -	$ -	$ -	$ (20,932)	$ -	$ -	$ -	$ -	$ (20,932)	$ -
	Dist Reservoirs & Standpipes	$ 32,761,054	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 32,761,054	$ -	$ -	$ -	$ -	$ 32,761,054	$ -
	Elevated Tanks & Standpipes	$ 44,095,020	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 44,095,020	$ -	$ -	$ -	$ -	$ 44,095,020	$ -
	Ground Level Tanks	$ 11,910,228	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 11,910,228	$ -	$ -	$ -	$ -	$ 11,910,228	$ -
	Tank Original Painting	$ 75,482	F	Storage	$ -	$ -	$ -	$ -	$ -	$ 75,482	$ -	$ -	$ -	$ -	$ 75,482	$ -
Meters																
	Meters	$ 270,571,260	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 270,571,260	$ -	$ -	$ -	$ 270,571,260	$ -
	Meter Installations	$ 86,562,418	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 86,562,418	$ -	$ -	$ -	$ 86,562,418	$ -
	Meter Vaults	$ 46,421,950	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ 46,421,950	$ -	$ -	$ -	$ 46,421,950	$ -
Services																
	Services	$ 788,730,759	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 788,730,759	$ -	$ -	$ 788,730,759	$ -
	Backflow Prevention Devices	$ 452,306	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 452,306	$ -	$ -	$ 452,306	$ -
Hydrants																
	Hydrants	$ 211,197,084	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 211,197,084	$ 211,197,084	$ -
General Plant																
	Comm Equip Non-Telephone	$ 9,442,036	3	Fixed O&M	$ 394,252	$ 1,114,782	$ 1,399,001	$ 472,636	$ 481,576	$ 3,179,399	$ 12,905	$ 380,214	$ 1,743,394	$ 263,877	$ 9,442,036	$ -
	Comm Equip Not Classified	$ 52,562,232	3	Fixed O&M	$ 2,194,736	$ 6,205,807	$ 7,788,002	$ 2,631,085	$ 2,680,855	$ 17,699,182	$ 71,842	$ 2,116,586	$ 9,705,180	$ 1,468,957	$ 52,562,232	$ -
	Comm Equip Telephone	$ (385,532)	3	Fixed O&M	$ (16,098)	$ (45,518)	$ (57,123)	$ (19,298)	$ (19,663)	$ (129,819)	$ (527)	$ (15,525)	$ (71,185)	$ (10,774)	$ (385,532)	$ -
	Comp & Periph Equip	$ 1,071,702	3	Fixed O&M	$ 44,749	$ 126,531	$ 158,791	$ 53,646	$ 54,661	$ 360,872	$ 1,465	$ 43,156	$ 197,881	$ 29,951	$ 1,071,702	$ -
	Comp Software Mainframe	$ (4,491,425)	3	Fixed O&M	$ (187,539)	$ (530,284)	$ (665,482)	$ (224,825)	$ (229,078)	$ (1,512,389)	$ (6,139)	$ (180,862)	$ (829,304)	$ (125,522)	$ (4,491,425)	$ -
	Computer Software	$ 76,725,259	3	Fixed O&M	$ 3,203,663	$ 9,058,637	$ 11,368,172	$ 3,840,604	$ 3,913,253	$ 25,835,553	$ 104,867	$ 3,089,587	$ 14,166,682	$ 2,144,241	$ 76,725,259	$ -
	Data Handling Equipment	$ (314,935)	3	Fixed O&M	$ (13,150)	$ (37,183)	$ (46,663)	$ (15,765)	$ (16,063)	$ (106,047)	$ (430)	$ (12,682)	$ (58,150)	$ (8,801)	$ (314,935)	$ -
	Laboratory Equipment	$ (125,364)	C	Water Treatment	$ -	$ -	$ (125,364)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (125,364)	$ -
	Land & Land Rights-General	$ 266,051	3	Fixed O&M	$ 11,109	$ 31,412	$ 39,420	$ 13,318	$ 13,570	$ 89,587	$ 364	$ 10,713	$ 49,124	$ 7,435	$ 266,051	$ -
	Misc Equipment	$ 26,479,083	3	Fixed O&M	$ 1,105,634	$ 3,126,277	$ 3,923,333	$ 1,325,452	$ 1,350,525	$ 8,916,252	$ 36,191	$ 1,066,265	$ 4,889,143	$ 740,011	$ 26,479,083	$ -
	Office Furniture & Equip	$ 16,506,602	3	Fixed O&M	$ 689,233	$ 1,948,867	$ 2,445,738	$ 826,264	$ 841,894	$ 5,558,237	$ 22,561	$ 664,691	$ 3,047,807	$ 461,310	$ 16,506,602	$ -
	Other Office Equipment	$ (419,307)	3	Fixed O&M	$ (17,508)	$ (49,506)	$ (62,128)	$ (20,989)	$ (21,386)	$ (141,192)	$ (573)	$ (16,885)	$ (77,422)	$ (11,718)	$ (419,307)	$ -
	Other P/E-CPS	$ (2,750,057)	3	Fixed O&M	$ (114,829)	$ (324,688)	$ (407,468)	$ (137,658)	$ (140,262)	$ (926,022)	$ (3,759)	$ (110,740)	$ (507,775)	$ (76,856)	$ (2,750,057)	$ -
	Other Tangible Property	$ 2,535,633	3	Fixed O&M	$ 105,875	$ 299,372	$ 375,698	$ 126,925	$ 129,326	$ 853,819	$ 3,466	$ 102,105	$ 468,184	$ 70,863	$ 2,535,633	$ -
	Power Operated Equipment	$ 2,175,970	3	Fixed O&M	$ 90,858	$ 256,908	$ 322,408	$ 108,922	$ 110,982	$ 732,710	$ 2,974	$ 87,622	$ 401,775	$ 60,812	$ 2,175,970	$ -
	Remote Control & Instrument	$ 21,262,079	3	Fixed O&M	$ 887,798	$ 2,510,326	$ 3,150,344	$ 1,064,307	$ 1,084,439	$ 7,159,540	$ 29,061	$ 856,185	$ 3,925,866	$ 594,211	$ 21,262,079	$ -
	Stores Equipment	$ 356,737	3	Fixed O&M	$ 14,896	$ 42,119	$ 52,857	$ 17,857	$ 18,195	$ 120,123	$ 488	$ 14,365	$ 65,869	$ 9,970	$ 356,737	$ -
	Struct & Imp-Cap Lease	$ 6,544	3	Fixed O&M	$ 273	$ 773	$ 970	$ 328	$ 334	$ 2,204	$ 9	$ 264	$ 1,208	$ 183	$ 6,544	$ -
	Struct & Imp-General	$ 93,414,766	3	Fixed O&M	$ 3,900,534	$ 11,029,098	$ 13,841,010	$ 4,676,023	$ 4,764,475	$ 31,455,379	$ 127,678	$ 3,761,644	$ 17,248,261	$ 2,610,663	$ 93,414,766	$ -
	Struct & Imp-HVAC	$ 2,639,826	3	Fixed O&M	$ 110,226	$ 311,673	$ 391,136	$ 132,141	$ 134,640	$ 888,904	$ 3,608	$ 106,301	$ 487,422	$ 73,775	$ 2,639,826	$ -
	Struct & Imp-Misc	$ 132,466	3	Fixed O&M	$ 5,531	$ 15,640	$ 19,627	$ 6,631	$ 6,756	$ 44,605	$ 181	$ 5,334	$ 24,459	$ 3,702	$ 132,466	$ -
	Struct & Imp-Offices	$ 59,142,588	3	Fixed O&M	$ 2,469,499	$ 6,982,723	$ 8,762,996	$ 2,960,475	$ 3,016,476	$ 19,914,973	$ 80,836	$ 2,381,565	$ 10,920,188	$ 1,652,858	$ 59,142,588	$ -
	Struct & Imp-Store,Shop,Gar	$ 4,642,320	3	Fixed O&M	$ 193,840	$ 548,100	$ 687,840	$ 232,379	$ 236,774	$ 1,563,200	$ 6,345	$ 186,938	$ 857,166	$ 129,739	$ 4,642,320	$ -
	Tools,Shop,Garage Equip	$ 13,879,432	3	Fixed O&M	$ 579,536	$ 1,638,688	$ 2,056,478	$ 694,757	$ 707,899	$ 4,673,595	$ 18,970	$ 558,900	$ 2,562,722	$ 387,889	$ 13,879,432	$ -
	Trans Equip Autos	$ 4,061,336	3	Fixed O&M	$ 169,581	$ 479,505	$ 601,757	$ 203,297	$ 207,142	$ 1,367,566	$ 5,551	$ 163,543	$ 749,892	$ 113,502	$ 4,061,336	$ -
	Trans Equip Hvy Duty Trks	$ 16,208,630	3	Fixed O&M	$ 676,791	$ 1,913,686	$ 2,401,588	$ 811,349	$ 826,696	$ 5,457,901	$ 22,154	$ 652,692	$ 2,992,789	$ 452,983	$ 16,208,630	$ -
	Trans Equip Lt Duty Trks	$ 27,606,270	3	Fixed O&M	$ 1,152,700	$ 3,259,359	$ 4,090,346	$ 1,381,875	$ 1,408,015	$ 9,295,808	$ 37,732	$ 1,111,655	$ 5,097,269	$ 771,513	$ 27,606,270	$ -
	Trans Equip Not Classified	$ 4,212,482	3	Fixed O&M	$ 175,892	$ 497,350	$ 624,152	$ 210,862	$ 214,851	$ 1,418,461	$ 5,758	$ 169,629	$ 777,800	$ 117,726	$ 4,212,482	$ -
	Trans Equip Other	$ 5,886,524	3	Fixed O&M	$ 245,792	$ 694,998	$ 872,190	$ 294,659	$ 300,233	$ 1,982,158	$ 8,046	$ 237,040	$ 1,086,898	$ 164,511	$ 5,886,524	$ -
	Capitalized Vehicle Depreciation	$ 1,774,742	3	Fixed O&M	$ 74,104	$ 209,536	$ 262,959	$ 88,837	$ 90,518	$ 597,605	$ 2,426	$ 71,466	$ 327,691	$ 49,599	$ 1,774,742	$ -
	Acquisition - Salem City Water	$ 9,875,149	5	Net Plant (less int. & acq.)	$ 364,438	$ 450,113	$ 1,191,133	$ 2,171,921	$ 2,746,057	$ 401,713	$ 679,760	$ 1,356,805	$ 134,978	$ 378,232	$ 9,875,149	$ -
Net Utility Plant		$ 5,886,900,302			$ 217,253,327	$ 268,327,047	$ 710,073,616	$ 1,294,753,372	$ 1,637,014,424	$ 239,474,015	$ 405,227,328	$ 808,835,829	$ 80,464,819	$ 225,476,525	$ 5,886,900,302	$ -
Additions to Rate Base																
	Cash Working Capital	$ 116,300,000	3	Fixed O&M	$ 4,856,107	$ 13,731,064	$ 17,231,853	$ 5,821,580	$ 5,931,701	$ 39,161,481	$ 158,958	$ 4,683,191	$ 21,473,830	$ 3,250,237	$ 116,300,000	$ -
	Utility Plant Acquisition Adjustment	$ 1,503,533	5	Net Plant (less int. & acq.)	$ 55,487	$ 68,532	$ 181,355	$ 330,684	$ 418,099	$ 61,162	$ 103,496	$ 206,579	$ 20,551	$ 57,587	$ 1,503,533	$ -
	Prepayments	$ 3,123,425	5	Net Plant (less int. & acq.)	$ 115,269	$ 142,367	$ 376,745	$ 686,960	$ 868,554	$ 127,058	$ 215,002	$ 429,146	$ 42,692	$ 119,632	$ 3,123,425	$ -
	Materials & Supplies	$ 26,892,923	5	Net Plant (less int. & acq.)	$ 992,471	$ 1,225,789	$ 3,243,805	$ 5,914,777	$ 7,478,316	$ 1,093,981	$ 1,851,186	$ 3,694,977	$ 367,585	$ 1,030,037	$ 26,892,923	$ -
Total Additions		$ 147,819,881			$ 6,019,333	$ 15,167,751	$ 21,033,758	$ 12,754,001	$ 14,696,670	$ 40,443,682	$ 2,328,642	$ 9,013,892	$ 21,904,658	$ 4,457,492	$ 147,819,881	$ -

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Account Detail

		Post Test Year	Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Variance
Reductions to Rate Base																
	Refund of COR Balance	$ (28,700,000)	5	Net Plant (less int. & acq.)	$ (1,059,160)	$ (1,308,156)	$ (3,461,773)	$ (6,312,222)	$ (7,980,824)	$ (1,167,491)	$ (1,975,577)	$ (3,943,262)	$ (392,285)	$ (1,099,250)	$ (28,700,000)	$ -
	Vehicle depreciation capitalize portion	$ -	5	Net Plant (less int. & acq.)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Customer Advances for Construction															
	Advances for Construction - Non Taxable M	$ (14,573,119)	K	Mains	$ -	$ -	$ -	$ (7,218,289)	$ (7,354,831)	$ -	$ -	$ -	$ -	$ -	$ (14,573,119)	$ -
	Advances for Construction - Non Taxable Ex	$ (19,640,387)	K	Mains	$ -	$ -	$ -	$ (9,728,184)	$ (9,912,203)	$ -	$ -	$ -	$ -	$ -	$ (19,640,387)	$ -
	Advances for Construction - Non Taxable M	$ (908,085)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (908,085)	$ -	$ -	$ -	$ (908,085)	$ -
	Advances for Construction - Non Taxable Hy	$ (1,080,778)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,080,778)	$ (1,080,778)	$ -
	Advances for Construction - Non Taxable Ot	$ (195,792)	K	Mains	$ -	$ -	$ -	$ (96,979)	$ (98,813)	$ -	$ -	$ -	$ -	$ -	$ (195,792)	$ -
	Advances for Construction - Taxable Mains	$ (26,234,001)	K	Mains	$ -	$ -	$ -	$ (12,994,102)	$ (13,239,899)	$ -	$ -	$ -	$ -	$ -	$ (26,234,001)	$ -
	Advances for Construction - Taxable Ext De	$ (2,643,729)	K	Mains	$ -	$ -	$ -	$ (1,309,480)	$ (1,334,250)	$ -	$ -	$ -	$ -	$ -	$ (2,643,729)	$ -
	Advances for Construction - Taxable Service	$ (6,602,008)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (6,602,008)	$ -	$ -	$ (6,602,008)	$ -
	Advances for Construction - Taxable Meters	$ (826,541)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (826,541)	$ -	$ -	$ -	$ (826,541)	$ -
	Advances for Construction - Taxable Hydran	$ (1,454,570)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,454,570)	$ (1,454,570)	$ -
	Advances for Construction - Taxable Other	$ (53,916)	K	Mains	$ -	$ -	$ -	$ (26,706)	$ (27,211)	$ -	$ -	$ -	$ -	$ -	$ (53,916)	$ -
	Advances for Construction - Taxable Mains	$ (25,292,015)	K	Mains	$ -	$ -	$ -	$ (12,527,522)	$ (12,764,493)	$ -	$ -	$ -	$ -	$ -	$ (25,292,015)	$ -
	Advances for Construction - Taxable Servic	$ (2,718,121)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (2,718,121)	$ -	$ -	$ (2,718,121)	$ -
	Advances for Construction - Taxable Meters	$ (667,763)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (667,763)	$ -	$ -	$ -	$ (667,763)	$ -
	Advances for Construction - Taxable Hydran	$ (1,136,141)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,136,141)	$ (1,136,141)	$ -
	Advances for Construction - Taxable Other F	$ (20,834)	K	Mains	$ -	$ -	$ -	$ (10,320)	$ (10,515)	$ -	$ -	$ -	$ -	$ -	$ (20,834)	$ -
	CIAC															
	CIAC-Non Taxable - Mains	$ (103,615,044)	K	Mains	$ -	$ -	$ -	$ (51,322,116)	$ (52,292,928)	$ -	$ -	$ -	$ -	$ -	$ (103,615,044)	$ -
	CIAC-Non Taxable - Ext Dep	$ (59,789,778)	K	Mains	$ -	$ -	$ -	$ (29,614,791)	$ (30,174,987)	$ -	$ -	$ -	$ -	$ -	$ (59,789,778)	$ -
	CIAC-Non Taxable - Services	$ (932,570)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (932,570)	$ -	$ -	$ (932,570)	$ -
	CIAC-Non Taxable - Meters	$ (1,058,380)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,058,380)	$ -	$ -	$ -	$ (1,058,380)	$ -
	CIAC-Non Taxable - Hydrants	$ (1,030,878)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (1,030,878)	$ (1,030,878)	$ -
	CIAC-Non Taxable - Other	$ (12,841,907)	K	Mains	$ -	$ -	$ -	$ (6,360,793)	$ (6,481,114)	$ -	$ -	$ -	$ -	$ -	$ (12,841,907)	$ -
	CIAC-Taxable - Mains	$ (4,280,440)	K	Mains	$ -	$ -	$ -	$ (2,120,167)	$ (2,160,273)	$ -	$ -	$ -	$ -	$ -	$ (4,280,440)	$ -
	CIAC-Taxable - Ext Dep	$ (2,034,031)	K	Mains	$ -	$ -	$ -	$ (1,007,486)	$ (1,026,544)	$ -	$ -	$ -	$ -	$ -	$ (2,034,031)	$ -
	CIAC-Taxable - Services	$ (5,732,971)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (5,732,971)	$ -	$ -	$ (5,732,971)	$ -
	CIAC-Taxable - Meters	$ (113,303)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (113,303)	$ -	$ -	$ -	$ (113,303)	$ -
	CIAC-Taxable - Hydrants	$ (148,614)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (148,614)	$ (148,614)	$ -
	CIAC-Taxable - Other	$ (1,824,694)	K	Mains	$ -	$ -	$ -	$ (903,799)	$ (920,895)	$ -	$ -	$ -	$ -	$ -	$ (1,824,694)	$ -
	CIAC-Taxable - Mains FIT	$ (530,771)	K	Mains	$ -	$ -	$ -	$ (262,899)	$ (267,872)	$ -	$ -	$ -	$ -	$ -	$ (530,771)	$ -
	CIAC-Taxable - Ext Dep FIT	$ (1,566)	K	Mains	$ -	$ -	$ -	$ (775)	$ (790)	$ -	$ -	$ -	$ -	$ -	$ (1,566)	$ -
	CIAC-Taxable - Services FIT	$ (168,817)	H	Services	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (168,817)	$ -	$ -	$ (168,817)	$ -
	CIAC-Taxable - Meters FIT	$ (36,316)	G	Meters	$ -	$ -	$ -	$ -	$ -	$ -	$ (36,316)	$ -	$ -	$ -	$ (36,316)	$ -
	CIAC-Taxable - Hydrants FIT	$ (26,163)	J	Hydrants	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (26,163)	$ (26,163)	$ -
	CIAC-Taxable - Other FIT	$ (922)	K	Mains	$ -	$ -	$ -	$ (457)	$ (466)	$ -	$ -	$ -	$ -	$ -	$ (922)	$ -
	MTBE Settlement	$ (3,895,217)	B	Pumping	$ -	$ (3,895,217)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (3,895,217)	$ -
	Pre-1971 I.T.C.	$ (196,767)	5	Net Plant (less int. & acq.)	$ (7,262)	$ (8,969)	$ (23,734)	$ (43,277)	$ (54,716)	$ (8,004)	$ (13,545)	$ (27,035)	$ (2,690)	$ (7,536)	$ (196,767)	$ -
	Consolidated FIT	$ (15,682,976)	5	Net Plant (less int. & acq.)	$ (578,773)	$ (714,836)	$ (1,891,669)	$ (3,449,283)	$ (4,361,083)	$ (637,970)	$ (1,079,544)	$ (2,154,776)	$ (214,362)	$ (600,680)	$ (15,682,976)	$ -
	Deferred Federal Income Tax	$ (685,880,883)	5	Net Plant (less int. & acq.)	$ (25,312,116)	$ (31,262,699)	$ (82,730,451)	$ (150,851,304)	$ (190,728,030)	$ (27,901,041)	$ (47,212,907)	$ (94,237,205)	$ (9,374,931)	$ (26,270,198)	$ (685,880,883)	$ -
	Excess ADIT-TCJA Liability	$ (225,932,476)	5	Net Plant (less int. & acq.)	$ (8,337,933)	$ (10,298,084)	$ (27,251,810)	$ (49,691,148)	$ (62,826,734)	$ (9,190,738)	$ (15,552,160)	$ (31,042,191)	$ (3,088,147)	$ (8,653,530)	$ (225,932,476)	$ -
Total Reductions		$ (1,258,503,288)			$ (35,295,244)	$ (47,487,961)	$ (115,359,438)	$ (345,852,099)	$ (404,019,470)	$ (38,905,245)	$ (69,444,122)	$ (147,558,957)	$ (13,072,414)	$ (41,508,340)	$ (1,258,503,288)	$ -
TOTAL RATE BASE (Water)		**$ 4,776,216,895**			**$ 187,977,416**	**$ 236,006,838**	**$ 615,747,936**	**$ 961,655,274**	**$ 1,247,691,624**	**$ 241,012,453**	**$ 338,111,849**	**$ 670,290,764**	**$ 89,297,063**	**$ 188,425,678**	**$ 4,776,216,895**	**$ -**
TOTAL RATE BASE (Sewer)		**$ 290,510,231**														
TOTAL NJ RATE BASE		**$ 5,066,727,126**														
	Miscellaneous T&D Operating Expense	$ 2,209,289	1		$ -	$ -	$ -	$ -	$ -	2,237	$ -	$ -	$ -	$ -	2,237	
					-	-	-	-	-	1.00000	-	-	-	-	1.00000	
	Miscellaneous T&D Maintenance Expense	$ 15,686,032	2		$ -	$ -	$ -	$ 1,887,083	$ 1,922,779	$ 9,253,000	$ 51,527	$ 1,518,070	$ -	$ 1,053,574	$ 15,686,032	
					-	-	-	0.12030	0.12258	0.58989	0.00328	0.09678	-	0.06717	1.00000	
	Fixed O&M	$ 73,102,508	3		$ 3,052,395	$ 8,630,913	$ 10,831,399	$ 3,659,261	$ 3,728,480	$ 24,615,670	$ 99,916	$ 2,943,706	$ 13,497,771	$ 2,042,996	$ 73,102,508	
					0.04176	0.11807	0.14817	0.05006	0.05100	0.33673	0.00137	0.04027	0.18464	0.02795	1.00000	
	Labor	$ 23,221,799	4		$ 713,409	$ 7,158,421	$ 2,910,179	$ 2,010,914	$ 2,048,953	$ 2,727,108	$ 9,636	$ 1,531,226	$ 3,052,272	$ 1,059,681	$ 23,221,799	
					0.03072	0.30826	0.12532	0.08660	0.08823	0.11744	0.00041	0.06594	0.13144	0.04563	1.00000	
	Net Plant	$ 5,871,244,826	5		$ 216,675,569	$ 267,613,465	$ 708,185,264	$ 1,291,310,137	$ 1,632,660,989	$ 238,837,164	$ 404,149,677	$ 806,684,831	$ 80,250,833	$ 224,876,899	$ 5,871,244,826	
					0.03690	0.04558	0.12062	0.21994	0.27808	0.04068	0.06884	0.13740	0.01367	0.03830	1.00000	
	Rate Base	$ 4,776,216,895	6		$ 187,977,416	$ 236,006,838	$ 615,747,936	$ 961,655,274	$ 1,247,691,624	$ 241,012,453	$ 338,111,849	$ 670,290,764	$ 89,297,063	$ 188,425,678	$ 4,776,216,895	
					0.03936	0.04941	0.12892	0.20134	0.26123	0.05046	0.07079	0.14034	0.01870	0.03945	1.00000	
	Variable Cost	$ 53,753,209			$ 10,589,432	$ 5,375,380	$ 35,581,344	$ 1,093,187	$ 1,113,866	$ -	$ -	$ -	$ -	$ -	$ 53,753,209	

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Allocator Summary

Alloc	Description	Source of Supply	Pumping	Water Treatment	Transmission	Distribution	Storage	Meters	Services	Customers	Hydrants	Total	Notes
A	Source of Supply	1.00000	-	-	-	-	-	-	-	-	-	1.00000	
B	Pumping	-	1.00000	-	-	-	-	-	-	-	-	1.00000	
C	Water Treatment	-	-	1.00000	-	-	-	-	-	-	-	1.00000	
D	Transmission	-	-	-	1.00000	-	-	-	-	-	-	1.00000	
E	Distribution	-	-	-	-	1.00000	-	-	-	-	-	1.00000	
F	Storage	-	-	-	-	-	1.00000	-	-	-	-	1.00000	
G	Meters	-	-	-	-	-	-	1.00000	-	-	-	1.00000	
H	Services	-	-	-	-	-	-	-	1.00000	-	-	1.00000	
I	Customers	-	-	-	-	-	-	-	-	1.00000	-	1.00000	
J	Hydrants	-	-	-	-	-	-	-	-	-	1.00000	1.00000	
K	Mains	-	-	-	0.49532	0.50468	-	-	-	-	-	1.00000	
1	T/D Oper. Expense	-	-	-	-	-	1.00000	-	-	-	-	1.00000	
2	T/D Maint.. Expense	-	-	-	0.12030	0.12258	0.58989	0.00328	0.09678	-	0.06717	1.00000	
3	Fixed O&M	0.04176	0.11807	0.14817	0.05006	0.05100	0.33673	0.00137	0.04027	0.18464	0.02795	1.00000	
4	Labor	0.03072	0.30826	0.12532	0.08660	0.08823	0.11744	0.00041	0.06594	0.13144	0.04563	1.00000	
5	Net Plant (less int. & acq.)	0.03690	0.04558	0.12062	0.21994	0.27808	0.04068	0.06884	0.13740	0.01367	0.03830	1.00000	
6	Rate Base	0.03936	0.04941	0.12892	0.20134	0.26123	0.05046	0.07079	0.14034	0.01870	0.03945	1.00000	
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Alloc	Description	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Notes
1	Total Usage	0.73629	0.00797	0.05194	0.08120	0.12149	0.00111	-	1.00000	
1A	Total Usage w/o Manasquan	0.74220	-	0.05236	0.08186	0.12247	0.00112	-	1.00000	
2	Base/Extra Daily	0.80344	0.00553	0.04112	0.05639	0.09275	0.00077	-	1.00000	
2A	Base/Extra Daily w/o Manasquan	0.80790	-	0.04135	0.05671	0.09326	0.00078	-	1.00000	
3	---	-	-	-	-	-	-	-	-	
4	Base/Extra Daily w/ Fire	0.80024	0.00550	0.04090	0.05604	0.09222	0.00169	0.00341	1.00000	
5	Base/Extra Hourly w/ Fire	0.98214	0.00153	0.00120	0.00506	-	0.00328	0.00679	1.00000	
6	Storage	0.74706	-	0.04257	0.04047	0.06571	0.03156	0.07262	1.00000	
7	Meters	0.99348	0.00060	0.00418	0.00175	-	-	-	1.00000	
8	Services	0.71722	0.00033	0.00229	0.00095	-	0.27921	-	1.00000	
9	Customers	0.98033	0.00001	0.00001	0.00004	0.00001	0.01925	0.00035	1.00000	
10	Hydrants	-	-	-	-	-	0.06164	0.93836	1.00000	
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New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Class Allocators

1. VARIABLE COST

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Units
Total Usage	1,736,980	18,791	122,531	191,570	286,614	2,622	-	2,359,108	Hundred Gallons
Allocator	**0.7363**	**0.0080**	**0.0519**	**0.0812**	**0.1215**	**0.0011**	**-**	**1.0000**	
Allocator - No Manasquan	**0.7422**	**-**	**0.0524**	**0.0819**	**0.1225**	**0.0011**	**-**	**1.0000**	

2. BASE/EXTRA DAILY

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Units
Average Daily Use	1,736,980	18,791	122,531	191,570	286,614	2,622	-	2,359,108	Hundred Gallons
Extra Capacity	1,439,856	-	24,905	-	41,289			1,506,050	Hundred Gallons
System Capacity Factor	0.6944								
Average Day Allocator	0.5113	0.0055	0.0361	0.0564	0.0844	0.0008	-	0.6944	
Extra Capacity Allocator	0.2921	-	0.0051	-	0.0084	-	-	0.3056	
Allocator	**0.8034**	**0.0055**	**0.0411**	**0.0564**	**0.0927**	**0.0008**	**-**	**1.0000**	
Allocator - No Manasquan	**0.8079**	**-**	**0.0414**	**0.0567**	**0.0933**	**0.0008**	**-**	**1.0000**	

4. BASE/EXTRA DAILY (w FIRE PROTECTION)

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Units
Average Daily Use	1,736,980	18,791	122,531	191,570	286,614	2,622	-	2,359,108	Hundred Gallons
Extra Capacity	1,439,856	-	24,905	-	41,289	4,559	16,819	1,527,428	Hundred Gallons
System Capacity Factor	0.6901	assuming fire protection							
Average Day Allocator	0.5081	0.0055	0.0358	0.0560	0.0838	0.0008	-	0.6901	
Extra Capacity Allocator	0.2921	-	0.0051	-	0.0084	0.0009	0.0034	0.3099	
Combined Allocator	**0.8002**	**0.0055**	**0.0409**	**0.0560**	**0.0922**	**0.0017**	**0.0034**	**1.0000**	

5. BASE/EXTRA HOURLY (w FIRE PROTECTION)

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Units
Average Hourly Use	72,374	204	107	674	-	109	-	73,469	Hundred Gallons
Extra Capacity	108,714	-	100	-	-	609	1,682	111,105	Hundred Gallons
System Capacity Factor	0.5516	assuming fire protection							
Average Day Allocator	0.5434	0.0015	0.0008	0.0051	-	0.0008	-	0.5516	
Extra Capacity Allocator	0.4387	-	0.0004	-	-	0.0025	0.0068	0.4484	
Combined Allocator	**0.9821**	**0.0015**	**0.0012**	**0.0051**	**-**	**0.0033**	**0.0068**	**1.0000**	

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Class Allocators

6. STORAGE

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Units
Average Hourly Use	72,374	-	5,105	7,982	11,942	109	-	97,513	
Extra Capacity	108,714	-	4,772	-	1,474	-----	-----	114,960	
Fire Allocator	-	-	-	-	-	0.29922	0.70078	1.00000	
System Capacity Factor	0.5516	assuming fire protection							
Average Day Allocator	0.4094	-	0.0289	0.0452	0.0676	0.0006	-	0.5516	
Extra Capacity Allocator	0.4240	-	0.0186	-	0.0057	-	-	0.4484	
Allocator	0.8334	-	0.0475	0.0452	0.0733	0.0006	-	1.0000	
Non-Fire Allocation of Storage	0.89637								
Fire Allocaton of Storage	0.10363								
Non-Fire Allocator	0.7471	-	0.0426	0.0405	0.0657	0.0006	-	0.8964	
Fire Allocator	-	-	-	-	-	0.0310	0.0726	0.1036	
Combined Allocator	**0.7471**	**-**	**0.0426**	**0.0405**	**0.0657**	**0.0316**	**0.0726**	**1.0000**	

7. WATER MONITORING TAXES

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Units
Combined Allocator	**0.9341**	**-**	**0.0659**	**-**	**-**	**-**	**-**	**1.0000**	

8. MAINS

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Units
Factor 4	0.8002	0.0055	0.0409	0.0560	0.0922	0.0017	0.0034	1.0000	Hundred Gallons
Factor 5	0.9821	0.0015	0.0012	0.0051	-	0.0033	0.0068	1.0000	Hundred Gallons
Tranmission Weighting	0.2690								
Distribution Weighting	0.7310								
Combined Allocator	**0.9332**	**0.0026**	**0.0119**	**0.0188**	**0.0248**	**0.0029**	**0.0059**	**1.0000**	

9. HYDRANTS

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total
Total Hydrants	-	-	-	-	-	3,080	46,887	49,967
Allocator	**-**	**-**	**-**	**-**	**-**	**0.06164**	**0.93836**	**1.00000**

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Class Allocators

10. METERS

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Weighting
5/8-METER	581,213	1	10	-	-	-		581,224	1.0
3/4-METER	18,113	-	3	-	-	-		18,116	1.5
1-METER	46,155	2	6	-	-	-		46,163	2.5
1.5-METER	4,557	-	12	-	-	-		4,569	5.0
2-METER	12,914	2	62	1	-	-		12,979	8.0
3-METER	938	1	40	3	-	-		982	15.0
4-METER	918	4	34	16	-	-		972	25.0
6-METER	215	5	12	12	-	-		244	50.0
8-METER	98	2	3	4	-	-		107	80.0
10-METER	36	-	7	1	-	-		44	100.0
12-METER	3	-	2	1	-	-		6	125.0
16-METER	-	-	-	-	-	-		-	200.0
Total	909,452	547	3,826	1,598	-	-	-	915,423	-----
Allocator	**0.99348**	**0.00060**	**0.00418**	**0.00175**	**-**	**-**	**-**	**1.00000**	

11. SERVICES

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	Weighting
5/8-METER	581,213	1	10	-	-	-		581,224	1.0
3/4-METER	18,113	-	3	-	-	-		18,116	1.0
1-METER	46,155	2	6	-	-	-		46,163	1.7
1.5-METER	4,557	-	12	-	-	-		4,569	3.3
2-METER	12,914	2	62	1	-	1,625		14,604	5.3
3-METER	938	1	40	3	-	122		1,104	10.0
4-METER	918	4	34	16	-	3,009		3,981	16.7
6-METER	215	5	12	12	-	4,354		4,598	33.3
8-METER	98	2	3	4	-	1,694		1,801	53.3
10-METER	36	-	7	1	-	168		212	66.7
12-METER	3	-	2	1	-	60		66	83.3
16-METER	-	-	-	-	-	2		2	133.3
Total	801,016	365	2,552	1,065	-	311,834	-	1,116,833	-----
Allocator	**0.71722**	**0.00033**	**0.00229**	**0.00095**	**-**	**0.27921**	**-**	**1.00000**	

12. CUSTOMERS

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total
Total Customers	660,110	6	6	29	5	12,965	236	673,358
Allocator	**0.98033**	**0.00001**	**0.00001**	**0.00004**	**0.00001**	**0.01925**	**0.00035**	**1.00000**

13. METERED CUSTOMERS

Item	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total
Total Customers	660,110	6	6	29	5	12,965	-	673,122
Allocator	**0.98067**	**0.00001**	**0.00001**	**0.00004**	**0.00001**	**0.01926**	**-**	**1.00000**

New Jersey-American Water Company, Inc.
2024
Cost of Service Study - Usage Statistics

	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Total	
Total Usage	633,997,523	6,858,695	44,723,769	69,923,107	104,614,140	957,151	-	861,074,385	Hundred Gallons
Average Day Usage	1,736,980	18,791	122,531	191,570	286,614	2,622	-	2,359,108	Hundred Gallons
Max Day Capacity Factor	1.83	1.00	1.20	1.00	1.14	---	---	---	
Max Day Usage	3,176,835	18,791	147,436	191,570	327,903	7,181	16,819	3,886,536	Hundred Gallons
Extra Capacity	1,439,856	-	24,905	-	41,289	4,559	16,819	1,527,428	Hundred Gallons
Fire Allocator	-	-	-	-	-	0.2992	0.7008	1.0000	40,000 gpm for 10 hours
Distribution Multiplier	1.00	0.26	0.02	0.08	-	1.00	1.00	N/A	
Average Hourly Usage	72,374	204	107	674	-	109	-	73,469	Hundred Gallons
Max Hour Capacity Factor	2.50	1.00	1.93	1.00	1.12	---	---	---	
Max Hour Usage	181,088	204	206	674	-	718	1,682	184,573	Hundred Gallons
Extra Capacity	108,714	-	100	-	-	609	1,682	111,105	Hundred Gallons
Customers	660,110	6	6	29	5	12,965	236	673,358	
Hydrants	-	-	-	-	-	3,080	46,887	49,967	
Revenue	$ 749,439,609	$ 1,871,639	$ 18,306,691	$ 19,435,894	$ 32,226,604	$ 32,917,944	$ 33,636,673	$ 887,835,054	

	General	Manasquan Resale	Optional Ind. Whole.	Resale CD	Resale SOS	Private Fire	Public Fire	Meter Weighting	Service Weighting
5/8-METER	581,213	1	10	-	-	-	-	1.0	1.0
3/4-METER	18,113	-	3	-	-	-	-	1.5	1.0
1-METER	46,155	2	6	-	-	-	-	2.5	1.7
1.5-METER	4,557	-	12	-	-	-	-	5.0	3.3
2-METER	12,914	2	62	1	-	1,625	-	8.0	5.3
3-METER	938	1	40	3	-	122	-	15.0	10.0
4-METER	918	4	34	16	-	3,009	-	25.0	16.7
6-METER	215	5	12	12	-	4,354	-	50.0	33.3
8-METER	98	2	3	4	-	1,694	-	80.0	53.3
10-METER	36	-	7	1	-	168	-	100.0	66.7
12-METER	3	-	2	1	-	60	-	125.0	83.3
16-METER	-	-	-	-	-	2	-	200.0	133.3

System Load Factor:	0.6944	3,397,115	max day - hundred gallons per day	141,546.47	Average system hourly flow on max day
System Load Factor (fire):	0.6901	3,418,493	max day with fire - hundred gallons per day	142,437.21	Average system hourly flow on max day
System Load Factor (Hourly)	0.5587	131,509	max hour - hundred gallons per day		
System Load Factor (Hourly fire)	0.5516	133,191	max hour with fire - hundred gallons per day		

Mains Statistics

Type	Feet	Pct
10-Inch and Larger	14,246,801	0.2690
Under 10-inch	38,717,630	0.7310
Total	52,964,431	1.0000

Storage Statistics

Total Capacity	206,286	Distribution Tanks
Fire Allocation	0.1036	percentage of storage needed for maximum fire protection day
Non-Fire Allocation	0.8964	

New Jersey-American Water Company
2024 - Rate Design Comparison

Rates for General Service, OIW, and Resale Customers

Meter Size	Group 1 Non-Exempt Current Meter Charge	Group 1 Non-Exempt Proposed Meter Charge	Group 1 Exempt Current Meter Charge	Group 1 Exempt Proposed Meter Charge	Sch. A-15 Current Meter Charge	Sch. A-15 Proposed Meter Charge	Sch. A-16 Current Meter Charge	Sch. A-16 Proposed Meter Charge	Sch. A-17 Current Meter Charge	Sch. A-17 Proposed Meter Charge	Sch. A-18 Current Meter Charge	Sch. A-18 Proposed Meter Charge	Sch. A-19 Current Meter Charge	Sch. A-19 Proposed Meter Charge	Sch. A-20 Current Meter Charge	Sch. A-20 Proposed Meter Charge
5/8" Monthly	$ 19.85	$ 23.80	$ 17.14	$ 20.55	$ 17.30	$ 23.80	$ 17.30	$ 23.80	$ 34.17	$ 23.80	$ -	$ 5.00	$ 30.87	$ 30.87	$ 30.98	$ 30.98
3/4" Monthly	$ 29.80	$ 35.70	$ 25.74	$ 30.83	$ 22.00	$ 35.70	$ 22.00	$ 35.70	$ 34.17	$ 35.70	$ -	$ 7.50	$ 61.41	$ 61.41	$ 62.85	$ 62.85
1" Monthly	$ 49.65	$ 59.60	$ 42.88	$ 51.47	$ 28.30	$ 59.60	$ 28.30	$ 59.60	$ 44.19	$ 59.60	$ 7.08	$ 12.50	$ 110.15	$ 110.15	$ 110.30	$ 110.30
1 1/2" Mthly	$ 99.30	$ 119.20	$ 85.77	$ 102.94	$ 41.60	$ 119.20	$ 41.60	$ 119.20	$ 251.96	$ 119.20	$ 8.33	$ 25.00	$ 244.99	$ 244.99	$ 245.25	$ 245.25
2" Monthly	$ 159.00	$ 190.90	$ 137.33	$ 164.87	$ 56.55	$ 190.90	$ 56.55	$ 190.90	$ 307.43	$ 190.90	$ 16.67	$ 40.10	$ 429.22	$ 429.22	$ 429.26	$ 429.26
3" Monthly	$ 298.00	$ 357.80	$ 257.39	$ 309.00	$ 90.00	$ 357.80	$ 90.00	$ 357.80	$ 469.06	$ 357.80		$ 75.20			$ 614.10	$ 614.10
4" Monthly	$ 496.30	$ 596.00	$ 428.67	$ 514.72	$ 133.00	$ 596.00	$ 133.00	$ 596.00	$ 515.02	$ 596.00		$ 125.20			$ 1,226.25	$ 1,226.25
6" Monthly	$ 992.50	$ 1,191.90	$ 857.25	$ 1,029.35	$ 992.50	$ 1,191.90	$ 992.50	$ 1,191.90		$ 1,191.90		$ 250.40			$ 1,837.25	$ 1,837.25
8" Monthly	$ 1,588.00	$ 1,907.00	$ 1,371.60	$ 1,646.93	$ 1,588.00	$ 1,907.00		$ 1,907.00		$ 1,907.00		$ 400.60			$ 3,571.63	$ 3,571.63
10" Monthly	$ 1,985.00	$ 2,383.70	$ 1,714.50	$ 2,058.61	$ 1,985.00	$ 2,383.70		$ 2,383.70		$ 2,383.70		$ 500.80				
12" Monthly	$ 2,481.00	$ 2,979.40	$ 2,142.91	$ 2,573.07	$ 2,481.00	$ 2,979.40		$ 2,979.40		$ 2,979.40		$ 625.90				
16" Monthly	$ 3,970.00	$ 4,767.40	$ 3,428.99	$ 4,117.23	$ 3,970.00	$ 4,767.40		$ 4,767.40		$ 4,767.40		$ 1,001.60				

Note: Group 1 refers to all rate schedules for which monthly meter charges currently apply except for Schedules A-15, A-16, A-18, A-17, A-19, and A-20.

Volumetric Rates		Current Volumetric Charge	Proposed Volumetric Charge
Schedule A-1	All	$ 0.77752	$ 0.97710
Schedule A-14	All	$ 0.77752	$ 0.97710
Schedule A-15	All	$ 0.77752	$ 0.97710
Schedule A-16	All	$ 0.39158	$ 0.49150
Schedule A-17	All	$ 0.70000	$ 0.97710
Schedule A-18	All	$ 0.70000	$ 0.97710
Schedule A-19	Block 1	$ 0.84600	$ 0.84600
	Block 2	$ 1.01300	$ 1.01300
Schedule A-20	Block 1	$ 0.84600	$ 0.84600
	Block 2	$ 1.01300	$ 1.01300
Schedule A-2	All	$ 0.77752	$ 0.97710
Schedule F	Non-Exempt	$ 0.40117	$ 0.51200
Schedule F	Exempt	$ 0.34650	$ 0.44220
Schedule C	Commodity - N.E.	$ 0.05952	$ 0.07540
Schedule C	Demand - N.E.	$ 7.06721	$ 8.94690
Schedule C	Commodity - Exempt	$ 0.05141	$ 0.06510
Schedule C	Demand - Exempt	$ 6.10400	$ 7.72670
Schedule D	Commodity	$ 0.05952	$ 0.07540
Schedule D	Demand	$ 6.50000	$ 8.23430
Schedule G	Non-Exempt	$ 0.31251	$ 0.39380
Schedule G	Exempt	$ 0.26992	$ 0.34010
Schedule E	Uninterruptible	$ 0.19390	$ 0.25080
Schedule E	Interruptible	$ 0.77752	$ 0.97710
Schedule H	Non-Exempt	$ 0.96542	$ 1.14450
Schedule I	Non-Exempt	$ 0.57031	$ 0.67810
Schedule J	Uninterruptible	$ 0.27885	$ 0.35790

Current Private Fire Rates

Present Rate	Sch. L-1	Sch. L-2	Sch. L-3	Sch. L-7	Sch. L-9	Sch. L-10 with hose	Sch. L-10 w/o hose	Sch. L-11	Sch. L-12	Sch. L-13	Sch. L-14	Statewide Bulk Hydrant
2" service	$ 24.60	$ 24.60	$ 45.00	$ 24.60	$ 26.75	$ 155.00	$ 52.00	$ 24.60	$ -	$ 62.50	$ 53.01	$ 159.00
3" service	$ 55.34	$ 55.34	$ 88.40	$ 55.34	$ 60.18	$ 155.00	$ 109.00	$ 55.34	$ -	$ 62.50	$ -	$ -
4" service	$ 98.37	$ 98.37	$ 142.54	$ 98.37	$ 106.97	$ 258.00	$ 182.00	$ 98.37	$ -	$ 62.50	$ 249.06	$ -
6" service	$ 221.34	$ 221.34	$ 264.41	$ 221.34	$ 240.68	$ 516.00	$ 364.00	$ 221.34	$ -	$ 133.33	$ 438.86	$ -
8" service	$ 393.51	$ 393.51	$ 451.50	$ 393.51	$ 427.90	$ 826.00	$ 582.00	$ 393.51	$ -	$ 250.00	$ 619.14	$ -
10" service	$ 615.00	$ 615.00	$ 589.59	$ 615.00	$ 668.75	$ 1,280.00	$ 909.00	$ 615.00	$ -	$ -	$ 805.36	$ -
12" service	$ 885.60	$ 885.60	$ 848.98	$ 885.60	$ 963.00	$ -	$ -	$ 885.60	$ -	$ 583.33	$ -	$ -
16" service	$ 1,574.40	$ 1,574.40	$ 1,668.15	$ 1,574.40	$ 1,712.00	$ -	$ -	$ 1,574.40	$ -	$ -	$ -	$ -
20" service	$ -	$ -	$ 3,040.13	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sprinkler Head	$ -	$ 1.25	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.36	$ -
Private Hydrants	$ 221.34	$ 54.00	$ 62.84	$ 44.96	$ 37.80	$ 70.50	$ 70.50	$ 33.20	$ 32.80	$ 10.42	$ -	$ -
Usage Per TG	$ 0.77752	$ -	$ 0.77752	$ 0.77752	$ 0.77752	$ -	$ 0.77752	$ -	$ 0.39158	$ 0.70000	$ -	$ 0.77752
Bulk Tanker Rate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.996	$ -

Proposed Private Fire Rates

Present Rate	Sch. L-1	Sch. L-2	Sch. L-3	Sch. L-7	Sch. L-9	Sch. L-10 with hose	Sch. L-10 w/o hose	Sch. L-11	Sch. L-12	Sch. L-13	Sch. L-14	Statewide Bulk Hydrant
2" service	$ 30.16	$ 30.16	$ 55.18	$ 30.16	$ 30.16	$ 190.00	$ 63.74	$ 30.16	$ -	$ 68.70	$ 53.01	$ 190.90
3" service	$ 67.85	$ 67.85	$ 108.40	$ 67.85	$ 67.85	$ 190.00	$ 133.61	$ 67.85	$ -	$ 68.70	$ -	$ -
4" service	$ 120.60	$ 120.60	$ 174.79	$ 120.60	$ 120.61	$ 316.26	$ 223.09	$ 120.60	$ -	$ 68.70	$ 249.06	$ -
6" service	$ 271.37	$ 271.37	$ 324.23	$ 271.37	$ 271.36	$ 632.52	$ 446.18	$ 271.37	$ -	$ 146.56	$ 438.86	$ -
8" service	$ 482.45	$ 482.45	$ 553.64	$ 482.45	$ 482.45	$ 1,012.52	$ 713.40	$ 482.45	$ -	$ 274.80	$ 619.14	$ -
10" service	$ 754.00	$ 754.00	$ 722.97	$ 754.00	$ 754.00	$ 1,569.18	$ 1,114.22	$ 754.00	$ -	$ -	$ 805.36	$ -
12" service	$ 1,085.76	$ 1,085.76	$ 1,041.04	$ 1,085.76	$ 1,085.76	$ -	$ -	$ 1,085.76	$ -	$ 641.20	$ -	$ -
16" service	$ 1,930.24	$ 1,930.24	$ 2,045.52	$ 1,930.24	$ 1,930.24	$ -	$ -	$ 1,930.24	$ -	$ -	$ -	$ -
20" service	$ -	$ -	$ 3,727.87	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Sprinkler Head	$ -	$ 1.53	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 0.36	$ -
Private Hydrants	$ 66.00	$ 61.50	$ 65.50	$ 52.50	$ 45.30	$ 66.00	$ 66.00	$ 40.30	$ 40.30	$ 15.00	$ -	$ 15.00
Usage Per TG	$ 0.97710	$ -	$ 0.97710	$ 0.97710	$ 0.97710	$ 0.97710	$ 0.97710	$ 0.97710	$ 0.97710	$ 0.97710	$ -	$ 0.97710
Bulk Tanker Rate	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1.99600	$ -

Public Fire Rates

Schedule	Present Rate	Proposed Rate
Sch M-1 - Statewide	$ 58.90	$ 66.00
Sch M-2 - Logan/Ortley	$ 54.00	$ 61.50
Sch M-3 - Adelphia	$ 54.00	$ 61.50
Sch M-5 Zone 2A	$ 53.00	$ 60.50
Sch M-5 Zone 2C	$ 58.90	$ 66.00
Sch M-5 Zone 2D	$ 59.00	$ 66.00
Sch M-5 Zone 2E	$ 61.00	$ 66.00
Sch M-5 Zone 2F	$ 61.00	$ 66.00
Sch M-5 Zone 2G	$ 61.00	$ 66.00
Sch M-5 Zone 2H	$ 63.74	$ 66.00
Sch M-5 Zone 2I	$ 65.78	$ 66.00
Sch M-5 Zone 2J	$ 66.67	$ 66.00
Sch M-5 Zone 2K	$ 70.59	$ 66.00
Sch M-5 Zone 2L	$ 70.59	$ 66.00
Sch M-6 Zone 3A	$ 35.00	$ 42.50
Sch M-6 Zone 3B	$ 40.25	$ 47.80
Sch M-6 Zone 3C	$ 44.75	$ 52.30
Sch M-6 Zone 3D	$ 49.25	$ 56.80
Sch M-6 Zone 3G	$ 56.00	$ 63.50
Sch M-7 (SA 1A)	$ 44.96	$ 52.50
Sch M-8 (SA 1B)	$ 37.80	$ 45.30
Sch M-9 (SA 1C)	$ 70.50	$ 66.00
Sch M-10 (SA 1D)	$ 33.20	$ 40.30
Sch M-11 (SA 1F)	$ 32.80	$ 40.30
Sch. M-12	$ 10.42	$ 15.00

Current Sewer Rates

Non-Exempt	Ocean City Sch 1-A	Lakewood Sch 2-A	Adelphia Sch 3-A	Gen Class A Sch 5-A	Gen Class B Sch 5-A	State Vol Sch 6-A	Municipal Contracts	Contracts Sch 8-A	EDC Bulk Sch 8-A	Jensen Sch 10-A	Haddonfield Sch 11-A	Elk Sch 12-A	Long Hill Sch 15-A	Egg Harbor Sch 16-A	Salem Sch 22-A	Manville Sch 23-A
Min Per TG	$ 1.3500															
Fixed Charge		$ 15.00	$ 15.00	$ 81.00	$ 97.87	$ 50.00	$ 148.75	$ 120.00	$ -	$ 30.00	$ 6.00	$ 20.00	$ 15.47	$ 58.33	$ 56.880	$ 7.20
Usage	$ 0.23250	$ 0.45170	$ 0.47100			$ 0.76000	$ 0.31238		$ 0.74900	$ 0.74000	$ 0.36750	$ 0.85000	$ 1.93830		$ 0.88500	$ 0.17136
Unmetered All		$ 33.07														

Proposed Sewer Rates

Non-Exempt	Ocean City Sch 1-A	Lakewood Sch 2-A	Adelphia Sch 3-A	Gen Class A Sch 5-A	Gen Class B Sch 5-A	State Vol Sch 6-A	Municipal Contracts	Contracts Sch 8-A	EDC Bulk Sch 8-A	Jensen Sch 10-A	Haddonfield Sch 11-A	Elk Sch 12-A	Long Hill Sch 15-A	Egg Harbor Sch 16-A	Salem Sch 22-A	Manville Sch 23-A
Min Per TG	$ 1.64															
Fixed Charge		$ 18.20	$ 18.20	$ 86.00	$ 100.00	$ 65.50	$ 148.75	$ 153.80		$ 40.00	$ 12.50	$ 18.20	$ 15.93	$ 46.40	$ 56.88	$ 7.20
Usage	$ 0.40212	$ 0.59890	$ 0.59890			$ 1.03990	$ 0.48178		$ 0.96010	$ 1.03990	$ 0.56680	$ 0.59890	$ 1.99640		$ 0.88500	$ 0.17136
Unmetered All		$ 42.20														

Schedule Sch 13-A Mt. Ephraim	Present Rate	Proposed Rate
Single Family dwelling	$9.11	$ -
Unrecirculated Air-Con Unit	$2.27	$ -
Self service laundries	$3.64	$ -
Lodges, meeting halls	$4.56	$ -
Post offices	$7.29	$ -
Gas Service Stations	$18.22	$ -
Drive In Restaurants < 50 seats	$27.32	$ -
Restaurants 51-75 seats	$36.42	$ -
Restaurants 76-100 seats	$45.54	$ -
Each additional Employee	$1.82	$ -
Fixed Charge	$0.00	$ 12.50
Usage	$0.00	$ 0.03590

Long Hill Sch 14-A	Present Rate	Proposed Rate
Fixed Charge	$15.47	$ 15.93
Unmetered Residential	$50.84	$ 52.37
Unmetered Commercial	$106.09	$ 109.27

Egg Harbor Sch 17-A	Present Rate	Proposed Rate
ixed Charge 5/8"-1"	$ 10.83	$ 12.50
ixed Charge Over 1"	21.67	$ 12.50
Usage	$ 0.7500	$ 0.42260

Bound Brook Sch 18-A	Present Rate	Proposed Rate
Bound Brook Fixed Charge	$39.58	$ 40.77
Bulk Fixed Charge	32.50	$ 32.50

Bound Brook Sch 19-A	Present Rate	Proposed Rate
Fixed Charge	$5.00	$ 5.15
Class 1 Usage Charge	0.64000	0.65920
Multiple Dwellings Usage Charge	0.70400	0.72510
Class 2 Usage Charge	0.80000	0.82400

Somerville Sch 20-A	Present Rate	Proposed Rate
Somerville Usage Charge	$0.87	$ 0.34759
Somerville Unmetered Charge	$45.00	$ 32.00
Bridgewater Usage Charge	$ 1.00267	$ 0.48128
Bridgewater Unmetered Charge	$ 40.33	$ 40.33

EDC Sch 21-A	Present Rate	Proposed Rate
Fixed Charge	$68.95	$ 39.97
Townhouse & Condo Fixed Charge	$ 57.43	$ 39.97
Unmetered Flat Charge	$ -	$ 81.57
Usage	$ -	$ 1.03990

New Jersey-American Water Company
2024 - Residential Bill Comparison

Statewide - Schedule A-1

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 27.91	$ 28.96	$ 1.05	3.8%
5/8-METER	1,000	2,000	$ 36.23	$ 39.28	$ 3.05	8.4%
5/8-METER	2,000	3,000	$ 44.56	$ 49.60	$ 5.04	11.3%
5/8-METER	3,000	4,000	$ 52.88	$ 59.92	$ 7.04	13.3%
5/8-METER	4,000	5,000	$ 61.20	$ 70.23	$ 9.03	14.8%
5/8-METER	5,000	6,000	$ 69.53	$ 80.55	$ 11.02	15.8%
5/8-METER	6,000	7,000	$ 77.85	$ 90.87	$ 13.02	16.7%
5/8-METER	7,000	8,000	$ 86.17	$ 101.19	$ 15.02	17.4%
5/8-METER	8,000	9,000	$ 94.49	$ 111.51	$ 17.02	18.0%
5/8-METER	9,000	10,000	$ 102.82	$ 121.83	$ 19.01	18.5%
5/8-METER	10,000	12,000	$ 115.30	$ 137.31	$ 22.01	19.1%
5/8-METER	12,000	14,000	$ 131.95	$ 157.94	$ 25.99	19.7%
5/8-METER	14,000	16,000	$ 148.59	$ 178.58	$ 29.99	20.2%
5/8-METER	16,000	18,000	$ 165.24	$ 199.22	$ 33.98	20.6%
5/8-METER	18,000	20,000	$ 181.89	$ 219.86	$ 37.97	20.9%
5/8-METER	20,000	25,000	$ 211.02	$ 255.97	$ 44.95	21.3%
5/8-METER	25,000	30,000	$ 252.63	$ 307.56	$ 54.93	21.7%
5/8-METER	30,000	35,000	$ 294.24	$ 359.16	$ 64.92	22.1%
5/8-METER	35,000	40,000	$ 335.86	$ 410.75	$ 74.89	22.3%
5/8-METER	40,000	45,000	$ 377.47	$ 462.34	$ 84.87	22.5%
5/8-METER	45,000	50,000	$ 419.09	$ 513.94	$ 94.85	22.6%
5/8-METER	50,000	100,000	$ 647.97	$ 797.70	$ 149.73	23.1%

New Jersey-American Water Company
2024 - Residential Bill Comparison

Haddonfield - Schedule A-15

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 25.36	$ 28.96	$ 3.60	14.2%
5/8-METER	1,000	2,000	$ 33.68	$ 39.28	$ 5.60	16.6%
5/8-METER	2,000	3,000	$ 42.01	$ 49.60	$ 7.59	18.1%
5/8-METER	3,000	4,000	$ 50.33	$ 59.92	$ 9.59	19.1%
5/8-METER	4,000	5,000	$ 58.65	$ 70.23	$ 11.58	19.7%
5/8-METER	5,000	6,000	$ 66.98	$ 80.55	$ 13.57	20.3%
5/8-METER	6,000	7,000	$ 75.30	$ 90.87	$ 15.57	20.7%
5/8-METER	7,000	8,000	$ 83.62	$ 101.19	$ 17.57	21.0%
5/8-METER	8,000	9,000	$ 91.94	$ 111.51	$ 19.57	21.3%
5/8-METER	9,000	10,000	$ 100.27	$ 121.83	$ 21.56	21.5%
5/8-METER	10,000	12,000	$ 112.75	$ 137.31	$ 24.56	21.8%
5/8-METER	12,000	14,000	$ 129.40	$ 157.94	$ 28.54	22.1%
5/8-METER	14,000	16,000	$ 146.04	$ 178.58	$ 32.54	22.3%
5/8-METER	16,000	18,000	$ 162.69	$ 199.22	$ 36.53	22.5%
5/8-METER	18,000	20,000	$ 179.34	$ 219.86	$ 40.52	22.6%
5/8-METER	20,000	25,000	$ 208.47	$ 255.97	$ 47.50	22.8%
5/8-METER	25,000	30,000	$ 250.08	$ 307.56	$ 57.48	23.0%
5/8-METER	30,000	35,000	$ 291.69	$ 359.16	$ 67.47	23.1%
5/8-METER	35,000	40,000	$ 333.31	$ 410.75	$ 77.44	23.2%
5/8-METER	40,000	45,000	$ 374.92	$ 462.34	$ 87.42	23.3%
5/8-METER	45,000	50,000	$ 416.54	$ 513.94	$ 97.40	23.4%
5/8-METER	50,000	100,000	$ 645.42	$ 797.70	$ 152.28	23.6%

New Jersey-American Water Company
2024 - Residential Bill Comparison

Roxbury - Schedule A-16

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 23.43	$ 26.53	$ 3.10	13.2%
5/8-METER	1,000	2,000	$ 27.90	$ 31.99	$ 4.09	14.7%
5/8-METER	2,000	3,000	$ 32.36	$ 37.46	$ 5.10	15.8%
5/8-METER	3,000	4,000	$ 36.82	$ 42.92	$ 6.10	16.6%
5/8-METER	4,000	5,000	$ 41.29	$ 48.38	$ 7.09	17.2%
5/8-METER	5,000	6,000	$ 45.75	$ 53.84	$ 8.09	17.7%
5/8-METER	6,000	7,000	$ 50.21	$ 59.31	$ 9.10	18.1%
5/8-METER	7,000	8,000	$ 54.68	$ 64.77	$ 10.09	18.5%
5/8-METER	8,000	9,000	$ 59.14	$ 70.23	$ 11.09	18.8%
5/8-METER	9,000	10,000	$ 63.60	$ 75.70	$ 12.10	19.0%
5/8-METER	10,000	12,000	$ 70.30	$ 83.89	$ 13.59	19.3%
5/8-METER	12,000	14,000	$ 79.23	$ 94.82	$ 15.59	19.7%
5/8-METER	14,000	16,000	$ 88.15	$ 105.74	$ 17.59	20.0%
5/8-METER	16,000	18,000	$ 97.08	$ 116.67	$ 19.59	20.2%
5/8-METER	18,000	20,000	$ 106.01	$ 127.59	$ 21.58	20.4%
5/8-METER	20,000	25,000	$ 121.63	$ 146.71	$ 25.08	20.6%
5/8-METER	25,000	30,000	$ 143.95	$ 174.02	$ 30.07	20.9%
5/8-METER	30,000	35,000	$ 166.26	$ 201.34	$ 35.08	21.1%
5/8-METER	35,000	40,000	$ 188.58	$ 228.65	$ 40.07	21.2%
5/8-METER	40,000	45,000	$ 210.90	$ 255.96	$ 45.06	21.4%
5/8-METER	45,000	50,000	$ 233.22	$ 283.28	$ 50.06	21.5%
5/8-METER	50,000	100,000	$ 355.96	$ 433.50	$ 77.54	21.8%

New Jersey-American Water Company
2024 - Residential Bill Comparison

Egg Harbor City - Schedule A-17

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 37.94	$ 28.96	$ (8.98)	-23.7%
5/8-METER	1,000	2,000	$ 45.49	$ 39.28	$ (6.21)	-13.7%
5/8-METER	2,000	3,000	$ 53.04	$ 49.60	$ (3.44)	-6.5%
5/8-METER	3,000	4,000	$ 60.59	$ 59.92	$ (0.67)	-1.1%
5/8-METER	4,000	5,000	$ 68.13	$ 70.23	$ 2.10	3.1%
5/8-METER	5,000	6,000	$ 75.68	$ 80.55	$ 4.87	6.4%
5/8-METER	6,000	7,000	$ 83.23	$ 90.87	$ 7.64	9.2%
5/8-METER	7,000	8,000	$ 90.78	$ 101.19	$ 10.41	11.5%
5/8-METER	8,000	9,000	$ 98.33	$ 111.51	$ 13.18	13.4%
5/8-METER	9,000	10,000	$ 105.87	$ 121.83	$ 15.96	15.1%
5/8-METER	10,000	12,000	$ 117.19	$ 137.31	$ 20.12	17.2%
5/8-METER	12,000	14,000	$ 132.29	$ 157.94	$ 25.65	19.4%
5/8-METER	14,000	16,000	$ 147.39	$ 178.58	$ 31.19	21.2%
5/8-METER	16,000	18,000	$ 162.48	$ 199.22	$ 36.74	22.6%
5/8-METER	18,000	20,000	$ 177.58	$ 219.86	$ 42.28	23.8%
5/8-METER	20,000	25,000	$ 203.99	$ 255.97	$ 51.98	25.5%
5/8-METER	25,000	30,000	$ 241.73	$ 307.56	$ 65.83	27.2%
5/8-METER	30,000	35,000	$ 279.47	$ 359.16	$ 79.69	28.5%
5/8-METER	35,000	40,000	$ 317.21	$ 410.75	$ 93.54	29.5%
5/8-METER	40,000	45,000	$ 354.95	$ 462.34	$ 107.39	30.3%
5/8-METER	45,000	50,000	$ 392.69	$ 513.94	$ 121.25	30.9%
5/8-METER	50,000	100,000	$ 600.25	$ 797.70	$ 197.45	32.9%

New Jersey-American Water Company
2024 - Residential Bill Comparison

Egg Harbor City Irrigation - Schedule A-18

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 3.77	$ 10.16	$ 6.39	169.5%
5/8-METER	1,000	2,000	$ 11.32	$ 20.48	$ 9.16	80.9%
5/8-METER	2,000	3,000	$ 18.87	$ 30.80	$ 11.93	63.2%
5/8-METER	3,000	4,000	$ 26.42	$ 41.12	$ 14.70	55.6%
5/8-METER	4,000	5,000	$ 33.96	$ 51.43	$ 17.47	51.4%
5/8-METER	5,000	6,000	$ 41.51	$ 61.75	$ 20.24	48.8%
5/8-METER	6,000	7,000	$ 49.06	$ 72.07	$ 23.01	46.9%
5/8-METER	7,000	8,000	$ 56.61	$ 82.39	$ 25.78	45.5%
5/8-METER	8,000	9,000	$ 64.16	$ 92.71	$ 28.55	44.5%
5/8-METER	9,000	10,000	$ 71.70	$ 103.03	$ 31.33	43.7%
5/8-METER	10,000	12,000	$ 83.02	$ 118.51	$ 35.49	42.7%
5/8-METER	12,000	14,000	$ 98.12	$ 139.14	$ 41.02	41.8%
5/8-METER	14,000	16,000	$ 113.22	$ 159.78	$ 46.56	41.1%
5/8-METER	16,000	18,000	$ 128.31	$ 180.42	$ 52.11	40.6%
5/8-METER	18,000	20,000	$ 143.41	$ 201.06	$ 57.65	40.2%
5/8-METER	20,000	25,000	$ 169.82	$ 237.17	$ 67.35	39.7%
5/8-METER	25,000	30,000	$ 207.56	$ 288.76	$ 81.20	39.1%
5/8-METER	30,000	35,000	$ 245.30	$ 340.36	$ 95.06	38.8%
5/8-METER	35,000	40,000	$ 283.04	$ 391.95	$ 108.91	38.5%
5/8-METER	40,000	45,000	$ 320.78	$ 443.54	$ 122.76	38.3%
5/8-METER	45,000	50,000	$ 358.52	$ 495.14	$ 136.62	38.1%
5/8-METER	50,000	100,000	$ 566.08	$ 778.90	$ 212.82	37.6%

*There are no proposed changes to Rate Schedule A-19 (Salem).

*PWAC Rate of $0.05477 per hundred gallons is included in monthly bill calculations.

New Jersey-American Water Company
2024 - Commercial/Industrial Bill Comparison

Statewide - Schedule A-1

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 27.91	$ 28.96	$ 1.05	3.8%
5/8-METER	1,000	2,000	$ 36.23	$ 39.28	$ 3.05	8.4%
5/8-METER	2,000	3,000	$ 44.56	$ 49.60	$ 5.04	11.3%
5/8-METER	3,000	4,000	$ 52.88	$ 59.92	$ 7.04	13.3%
5/8-METER	4,000	5,000	$ 61.20	$ 70.23	$ 9.03	14.8%
5/8-METER	5,000	10,000	$ 86.17	$ 101.19	$ 15.02	17.4%
5/8-METER	10,000	15,000	$ 127.79	$ 152.78	$ 24.99	19.6%
5/8-METER	15,000	20,000	$ 169.40	$ 204.38	$ 34.98	20.6%
1-METER	20,000	25,000	$ 246.67	$ 291.77	$ 45.10	18.3%
1-METER	25,000	30,000	$ 288.28	$ 343.36	$ 55.08	19.1%
1-METER	30,000	40,000	$ 350.70	$ 420.75	$ 70.05	20.0%
1-METER	40,000	50,000	$ 433.93	$ 523.94	$ 90.01	20.7%
1-METER	50,000	75,000	$ 579.58	$ 704.52	$ 124.94	21.6%
1-METER	75,000	100,000	$ 787.65	$ 962.49	$ 174.84	22.2%
1-METER	100,000	200,000	$ 1,307.84	$ 1,607.41	$ 299.57	22.9%
1-METER	200,000	300,000	$ 2,140.13	$ 2,639.28	$ 499.15	23.3%
1-METER	300,000	400,000	$ 2,972.42	$ 3,671.15	$ 698.73	23.5%
1-METER	400,000	500,000	$ 3,804.71	$ 4,703.02	$ 898.31	23.6%
1-METER	500,000	1,000,000	$ 6,301.58	$ 7,798.63	$ 1,497.05	23.8%
1-METER	1,000,000	1,500,000	$ 10,463.03	$ 12,957.98	$ 2,494.95	23.8%
1-METER	1,500,000	2,000,000	$ 14,624.48	$ 18,117.33	$ 3,492.85	23.9%
1-METER	2,000,000	2,500,000	$ 18,785.93	$ 23,276.68	$ 4,490.75	23.9%
1-METER	2,500,000	5,000,000	$ 31,270.28	$ 38,754.73	$ 7,484.45	23.9%
1-METER	5,000,000	10,000,000	$ 62,481.15	$ 77,449.85	$ 14,968.70	24.0%

Haddonfield - Schedule A-15

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 25.36	$ 28.96	$ 3.60	14.2%
5/8-METER	1,000	2,000	$ 33.68	$ 39.28	$ 5.60	16.6%
5/8-METER	2,000	3,000	$ 42.01	$ 49.60	$ 7.59	18.1%
5/8-METER	3,000	4,000	$ 50.33	$ 59.92	$ 9.59	19.1%
5/8-METER	4,000	5,000	$ 58.65	$ 70.23	$ 11.58	19.7%
5/8-METER	5,000	10,000	$ 83.62	$ 101.19	$ 17.57	21.0%
5/8-METER	10,000	15,000	$ 125.24	$ 152.78	$ 27.54	22.0%
5/8-METER	15,000	20,000	$ 166.85	$ 204.38	$ 37.53	22.5%
1-METER	20,000	25,000	$ 225.32	$ 291.77	$ 66.45	29.5%
1-METER	25,000	30,000	$ 266.93	$ 343.36	$ 76.43	28.6%
1-METER	30,000	40,000	$ 329.35	$ 420.75	$ 91.40	27.8%
1-METER	40,000	50,000	$ 412.58	$ 523.94	$ 111.36	27.0%
1-METER	50,000	75,000	$ 558.23	$ 704.52	$ 146.29	26.2%
1-METER	75,000	100,000	$ 766.30	$ 962.49	$ 196.19	25.6%
1-METER	100,000	200,000	$ 1,286.49	$ 1,607.41	$ 320.92	24.9%
1-METER	200,000	300,000	$ 2,118.78	$ 2,639.28	$ 520.50	24.6%
1-METER	300,000	400,000	$ 2,951.07	$ 3,671.15	$ 720.08	24.4%
1-METER	400,000	500,000	$ 3,783.36	$ 4,703.02	$ 919.66	24.3%
1-METER	500,000	1,000,000	$ 6,280.23	$ 7,798.63	$ 1,518.40	24.2%
1-METER	1,000,000	1,500,000	$ 10,441.68	$ 12,957.98	$ 2,516.30	24.1%
1-METER	1,500,000	2,000,000	$ 14,603.13	$ 18,117.33	$ 3,514.20	24.1%
1-METER	2,000,000	2,500,000	$ 18,764.58	$ 23,276.68	$ 4,512.10	24.0%
1-METER	2,500,000	5,000,000	$ 31,248.93	$ 38,754.73	$ 7,505.80	24.0%
1-METER	5,000,000	10,000,000	$ 62,459.80	$ 77,449.85	$ 14,990.05	24.0%

Roxbury - Schedule A-16

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 23.43	$ 26.53	$ 3.10	13.2%
5/8-METER	1,000	2,000	$ 27.90	$ 31.99	$ 4.09	14.7%
5/8-METER	2,000	3,000	$ 32.36	$ 37.46	$ 5.10	15.8%
5/8-METER	3,000	4,000	$ 36.82	$ 42.92	$ 6.10	16.6%
5/8-METER	4,000	5,000	$ 41.29	$ 48.38	$ 7.09	17.2%
5/8-METER	5,000	10,000	$ 54.68	$ 64.77	$ 10.09	18.5%
5/8-METER	10,000	15,000	$ 76.99	$ 92.08	$ 15.09	19.6%
5/8-METER	15,000	20,000	$ 99.31	$ 119.40	$ 20.09	20.2%
1-METER	20,000	25,000	$ 138.48	$ 182.51	$ 44.03	31.8%
1-METER	25,000	30,000	$ 160.80	$ 209.82	$ 49.02	30.5%
1-METER	30,000	40,000	$ 194.27	$ 250.79	$ 56.52	29.1%
1-METER	40,000	50,000	$ 238.91	$ 305.42	$ 66.51	27.8%
1-METER	50,000	75,000	$ 317.02	$ 401.02	$ 84.00	26.5%
1-METER	75,000	100,000	$ 428.61	$ 537.59	$ 108.98	25.4%
1-METER	100,000	200,000	$ 707.58	$ 879.01	$ 171.43	24.2%
1-METER	200,000	300,000	$ 1,153.93	$ 1,425.28	$ 271.35	23.5%
1-METER	300,000	400,000	$ 1,600.28	$ 1,971.55	$ 371.27	23.2%
1-METER	400,000	500,000	$ 2,046.63	$ 2,517.82	$ 471.19	23.0%
1-METER	500,000	1,000,000	$ 3,385.68	$ 4,156.63	$ 770.95	22.8%
1-METER	1,000,000	1,500,000	$ 5,617.43	$ 6,887.98	$ 1,270.55	22.6%
1-METER	1,500,000	2,000,000	$ 7,849.18	$ 9,619.33	$ 1,770.15	22.6%
1-METER	2,000,000	2,500,000	$ 10,080.93	$ 12,350.68	$ 2,269.75	22.5%
1-METER	2,500,000	5,000,000	$ 16,776.18	$ 20,544.73	$ 3,768.55	22.5%
1-METER	5,000,000	10,000,000	$ 33,514.30	$ 41,029.85	$ 7,515.55	22.4%

Egg Harbor City - Schedule A-17

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 37.94	$ 28.96	$ (8.98)	-23.7%
5/8-METER	1,000	2,000	$ 45.49	$ 39.28	$ (6.21)	-13.7%
5/8-METER	2,000	3,000	$ 53.04	$ 49.60	$ (3.44)	-6.5%
5/8-METER	3,000	4,000	$ 60.59	$ 59.92	$ (0.67)	-1.1%
5/8-METER	4,000	5,000	$ 68.13	$ 70.23	$ 2.10	3.1%
5/8-METER	5,000	10,000	$ 90.78	$ 101.19	$ 10.41	11.5%
5/8-METER	10,000	15,000	$ 128.52	$ 152.78	$ 24.26	18.9%
5/8-METER	15,000	20,000	$ 166.25	$ 204.38	$ 38.13	22.9%
1-METER	20,000	25,000	$ 214.01	$ 291.77	$ 77.76	36.3%
1-METER	25,000	30,000	$ 251.75	$ 343.36	$ 91.61	36.4%
1-METER	30,000	40,000	$ 308.36	$ 420.75	$ 112.39	36.4%
1-METER	40,000	50,000	$ 383.84	$ 523.94	$ 140.10	36.5%
1-METER	50,000	75,000	$ 515.92	$ 704.52	$ 188.60	36.6%
1-METER	75,000	100,000	$ 704.61	$ 962.49	$ 257.88	36.6%
1-METER	100,000	200,000	$ 1,176.35	$ 1,607.41	$ 431.06	36.6%
1-METER	200,000	300,000	$ 1,931.12	$ 2,639.28	$ 708.16	36.7%
1-METER	300,000	400,000	$ 2,685.89	$ 3,671.15	$ 985.26	36.7%
1-METER	400,000	500,000	$ 3,440.66	$ 4,703.02	$ 1,262.36	36.7%
1-METER	500,000	1,000,000	$ 5,704.97	$ 7,798.63	$ 2,093.66	36.7%
1-METER	1,000,000	1,500,000	$ 9,478.82	$ 12,957.98	$ 3,479.16	36.7%
1-METER	1,500,000	2,000,000	$ 13,252.67	$ 18,117.33	$ 4,864.66	36.7%
1-METER	2,000,000	2,500,000	$ 17,026.52	$ 23,276.68	$ 6,250.16	36.7%
1-METER	2,500,000	5,000,000	$ 28,348.07	$ 38,754.73	$ 10,406.66	36.7%
1-METER	5,000,000	10,000,000	$ 56,651.94	$ 77,449.85	$ 20,797.91	36.7%

Egg Harbor City Irrigation - Schedule A-18

Meter Size	Lower Limit	Upper Limit	Current Monthly Bill	Proposed Monthly Bill	Monthly Increase	Percentage Monthly Increase
5/8-METER	-	1,000	$ 3.77	$ 10.16	$ 6.39	169.5%
5/8-METER	1,000	2,000	$ 11.32	$ 20.48	$ 9.16	80.9%
5/8-METER	2,000	3,000	$ 18.87	$ 30.80	$ 11.93	63.2%
5/8-METER	3,000	4,000	$ 26.42	$ 41.12	$ 14.70	55.6%
5/8-METER	4,000	5,000	$ 33.96	$ 51.43	$ 17.47	51.4%
5/8-METER	5,000	10,000	$ 56.61	$ 82.39	$ 25.78	45.5%
5/8-METER	10,000	15,000	$ 94.35	$ 133.98	$ 39.63	42.0%
5/8-METER	15,000	20,000	$ 132.08	$ 185.58	$ 53.50	40.5%
1-METER	20,000	25,000	$ 176.90	$ 244.67	$ 67.77	38.3%
1-METER	25,000	30,000	$ 214.64	$ 296.26	$ 81.62	38.0%
1-METER	30,000	40,000	$ 271.25	$ 373.65	$ 102.40	37.8%
1-METER	40,000	50,000	$ 346.73	$ 476.84	$ 130.11	37.5%
1-METER	50,000	75,000	$ 478.81	$ 657.42	$ 178.61	37.3%
1-METER	75,000	100,000	$ 667.50	$ 915.39	$ 247.89	37.1%
1-METER	100,000	200,000	$ 1,139.24	$ 1,560.31	$ 421.07	37.0%
1-METER	200,000	300,000	$ 1,894.01	$ 2,592.18	$ 698.17	36.9%
1-METER	300,000	400,000	$ 2,648.78	$ 3,624.05	$ 975.27	36.8%
1-METER	400,000	500,000	$ 3,403.55	$ 4,655.92	$ 1,252.37	36.8%
1-METER	500,000	1,000,000	$ 5,667.86	$ 7,751.53	$ 2,083.67	36.8%
1-METER	1,000,000	1,500,000	$ 9,441.71	$ 12,910.88	$ 3,469.17	36.7%
1-METER	1,500,000	2,000,000	$ 13,215.56	$ 18,070.23	$ 4,854.67	36.7%
1-METER	2,000,000	2,500,000	$ 16,989.41	$ 23,229.58	$ 6,240.17	36.7%
1-METER	2,500,000	5,000,000	$ 28,310.96	$ 38,707.63	$ 10,396.67	36.7%
1-METER	5,000,000	10,000,000	$ 56,614.83	$ 77,402.75	$ 20,787.92	36.7%

*There are no proposed changes to Rate Schedule A-20 (Salem)

*PWAC Rate of $0.05477 per hundred gallons is included in monthly bill calculations.

New Jersey-American Water Company
2024 - Customer Impacts OIW/Resale

GENERAL SERVICE SFR - SCHEDULE A2

Number	Rate	Demand	Usage	Current Fixed Revenue	Current Volumetric Revenue	Current Total Revenue	Proposed Fixed Revenue	Proposed Volumetric Revenue	Proposed Total Revenue	Increase
1	A2		2,090,000	$ 85,495	$ 1,739,486	$ 1,824,982	$ 85,814	$ 2,156,608	$ 2,242,423	22.9%
2	A2		2,411,720	$ 41,326	$ 2,007,250	$ 2,048,576	$ 41,480	$ 2,488,582	$ 2,530,062	23.5%
3	A2		164,855	$ 14,249	$ 137,207	$ 151,456	$ 14,303	$ 170,109	$ 184,412	21.8%
4	A2		421,730	$ 14,249	$ 351,002	$ 365,251	$ 14,303	$ 435,171	$ 449,473	23.1%
5	A2		348,129	$ 21,375	$ 289,744	$ 311,119	$ 21,455	$ 359,224	$ 380,679	22.4%
			5,436,434	176,694	4,524,690	4,701,384	177,355	5,609,693	5,787,049	23.1%

COMMODITY DEMAND - SCHEDULE C D

Number	Rate	Demand	Usage	Current Fixed Revenue	Current Volumetric Revenue	Current Total Revenue	Proposed Fixed Revenue	Proposed Volumetric Revenue	Proposed Total Revenue	Increase
6	C	49,440	698,460	$ 7,125	$ 429,230	$ 436,355	$ 7,152	$ 533,253	$ 540,405	23.8%
7	C	72,000	2,190,000	$ 7,125	$ 759,134	$ 766,259	$ 7,152	$ 929,249	$ 936,401	22.2%
8	C	6,000	182,500	$ -	$ 63,261	$ 63,261	$ -	$ 77,437	$ 77,437	22.4%
9	C	97,440	2,967,780	$ 14,249	$ 1,027,817	$ 1,042,066	$ 14,303	$ 1,258,102	$ 1,272,405	22.1%
10	C	42,473	1,346,185	$ 7,125	$ 454,024	$ 461,149	$ 7,152	$ 555,238	$ 562,390	22.0%
11	C	12,000	9,673,920	$ 35,620	$ 1,190,439	$ 1,226,059	$ 35,753	$ 1,366,617	$ 1,402,370	14.4%
12	C	120,000	1,498,095	$ 14,249	$ 1,019,282	$ 1,033,532	$ 14,303	$ 1,268,635	$ 1,282,938	24.1%
13	C	192,000	5,840,000	$ 22,799	$ 2,024,358	$ 2,047,157	$ 22,884	$ 2,477,998	$ 2,500,882	22.2%
14	C	96,000	2,743,285	$ 21,375	$ 991,982	$ 1,013,357	$ 21,455	$ 1,215,996	$ 1,237,451	22.1%
15	C	124,320	3,781,370	$ 14,249	$ 1,310,768	$ 1,325,018	$ 14,303	$ 1,604,500	$ 1,618,802	22.2%
16	C	32,880	1,014,730	$ 7,125	$ 348,343	$ 355,469	$ 7,152	$ 426,261	$ 433,413	21.9%
17	C	90,000	1,922,480	$ 20,811	$ 855,769	$ 876,580	$ 20,888	$ 1,055,470	$ 1,076,359	22.8%
18	C	120,000	3,686,491	$ 42,748	$ 1,269,394	$ 1,312,142	$ 42,908	$ 1,553,499	$ 1,596,407	21.7%
19	C	34,560	1,044,205	$ 7,125	$ 363,585	$ 370,710	$ 7,152	$ 445,129	$ 452,281	22.0%
20	C	15,000	456,170	$ 7,125	$ 158,144	$ 165,269	$ 7,152	$ 193,583	$ 200,735	21.5%
21	C	72,000	2,190,000	$ 22,799	$ 759,134	$ 781,933	$ 22,884	$ 929,249	$ 952,133	21.8%
22	C	6,000	183,465	$ 4,278	$ 63,371	$ 67,649	$ 4,294	$ 77,563	$ 81,857	21.0%
23	C	6,000	200,710	$ 4,278	$ 65,342	$ 69,620	$ 4,294	$ 79,808	$ 84,101	20.8%
24	C	12,600	768,930	$ 7,125	$ 176,928	$ 184,053	$ 7,152	$ 212,823	$ 219,975	19.5%
25	C	15,600	474,500	$ 7,125	$ 164,479	$ 171,604	$ 7,152	$ 201,337	$ 208,489	21.5%
26	C	260,088	7,911,065	$ 28,498	$ 2,742,252	$ 2,770,751	$ 28,604	$ 3,356,765	$ 3,385,369	22.2%
27	C	144,000	4,380,565	$ 22,799	$ 1,518,333	$ 1,541,132	$ 22,884	$ 1,858,572	$ 1,881,456	22.1%
28	C	180,000	5,496,625	$ 14,249	$ 1,900,307	$ 1,914,556	$ 14,303	$ 2,325,938	$ 2,340,240	22.2%
29	C	21,600	657,000	$ 7,125	$ 227,740	$ 234,866	$ 7,152	$ 278,775	$ 285,927	21.7%
30	C	18,840	466,245	$ 7,125	$ 186,433	$ 193,559	$ 7,152	$ 229,251	$ 236,403	22.1%
31	C	88,800	2,505,595	$ 12,308	$ 789,388	$ 801,696	$ 12,353	$ 967,785	$ 980,138	22.3%
32	D	7,200	218,400	$ 7,125	$ 71,761	$ 78,886	$ 7,152	$ 87,716	$ 94,868	20.3%
33	D	19,810	599,960	$ 28,499	$ 197,334	$ 225,833	$ 28,606	$ 241,218	$ 269,824	19.5%
34	D	148,585	4,500,001	$ 37,048	$ 1,480,107	$ 1,517,155	$ 37,187	$ 1,809,258	$ 1,846,445	21.7%
35	D	4,953	150,000	$ -	$ 49,337	$ 49,337	$ -	$ 60,309	$ 60,309	22.2%
		2,105,236	69,598,732	$ 439,233	$ 22,608,442	$ 23,047,675	$ 440,877	$ 27,617,024	$ 28,057,901	21.7%

SALES TO OTHER SYSTEMS - SCHEDULE G

Number	Rate	Demand	Usage	Current Fixed Revenue	Current Volumetric Revenue	Current Total Revenue	Proposed Fixed Revenue	Proposed Volumetric Revenue	Proposed Total Revenue	Increase
36	G		16,838,170	$ -	$ 5,262,097	$ 5,262,097	$ -	$ 6,630,871	$ 6,630,871	26.0%
37	G		17,520,000	$ -	$ 5,475,175	$ 5,475,175	$ -	$ 6,899,376	$ 6,899,376	26.0%
38	G		43,975,970	$ -	$ 13,742,930	$ 13,742,930	$ -	$ 17,317,737	$ 17,317,737	26.0%
39	G		15,330,000	$ -	$ 4,790,778	$ 4,790,778	$ -	$ 6,036,954	$ 6,036,954	26.0%
40	G		10,950,000	$ -	$ 2,955,624	$ 2,955,624	$ -	$ 3,724,095	$ 3,724,095	26.0%
			104,614,140	$ -	$ 32,226,604	$ 32,226,604	$ -	$ 40,609,033	$ 40,609,033	26.0%

PEAKING SERVICE - SCHEDULE H

Number	Rate	Demand	Usage	Current Fixed Revenue	Current Volumetric Revenue	Current Total Revenue	Proposed Fixed Revenue	Proposed Volumetric Revenue	Proposed Total Revenue	Increase
41	H		22,625	$ 22,799	$ 23,082	$ 45,881	$ 22,884	$ 27,133	$ 50,017	9.0%
42	H		200,000	$ 22,799	$ 204,038	$ 226,837	$ 22,884	$ 239,854	$ 262,738	15.8%
			222,625	$ 45,598	$ 227,120	$ 272,717	$ 45,768	$ 266,987	$ 312,755	14.7%

BULK SERVICE - SCHEDULE I

Number	Rate	Demand	Usage	Current Fixed Revenue	Current Volumetric Revenue	Current Total Revenue	Proposed Fixed Revenue	Proposed Volumetric Revenue	Proposed Total Revenue	Increase
43	I		535,035	$ 39,330	$ 305,136	$ 344,466	$ 39,478	$ 362,807	$ 402,285	16.8%
44	I		45,101	$ -	$ 25,722	$ 25,722	$ -	$ 30,583	$ 30,583	18.9%

OPTIONAL INDUSTRIAL WHOLESALE - SCHEDULE F

Number	Rate	Demand	Usage	Current Fixed Revenue	Current Volumetric Revenue	Current Total Revenue	Proposed Fixed Revenue	Proposed Volumetric Revenue	Proposed Total Revenue	Increase
45	OIW		1,776,010	$ 14,249	$ 809,754	$ 824,003	$ 14,303	$ 1,006,589	$ 1,020,892	23.9%
46	OIW		1,460,000	$ 575,634	$ 665,672	$ 1,241,306	$ 577,776	$ 827,484	$ 1,405,260	13.2%
47	OIW		9,636,000	$ 61,560	$ 4,393,438	$ 4,454,997	$ 61,788	$ 5,461,396	$ 5,523,184	24.0%
48	OIW		16,197,079	$ 325,063	$ 7,384,896	$ 7,709,960	$ 326,276	$ 9,180,019	$ 9,506,295	23.3%
49	OIW		2,372,500	$ 56,997	$ 1,081,718	$ 1,138,715	$ 57,209	$ 1,344,662	$ 1,401,871	23.1%
50	OIW		13,282,180	$ 49,229	$ 5,230,655	$ 5,279,884	$ 49,407	$ 6,501,760	$ 6,551,167	24.1%
			44,723,769	$ 1,082,732	$ 19,566,133	$ 20,648,865	$ 1,086,759	$ 24,321,909	$ 25,408,668	23.1%

MANASQUAN - SCHEDULE E J

Number	Rate	Non-Int. Usage	Interruptible Usage	Current Fixed Revenue	Current Volumetric Revenue	Current Total Revenue	Proposed Fixed Revenue	Proposed Volumetric Revenue	Proposed Total Revenue	Increase
51	E	460,000	41,170	$ 16,532	$ 123,459	$ 139,991	$ 16,594	$ 157,850	$ 174,444	24.6%
52	E	1,050,000	1,685	$ 30,637	$ 204,997	$ 235,634	$ 30,751	$ 265,079	$ 295,830	25.5%
53	E	2,000,000	131,260	$ 41,326	$ 497,046	$ 538,372	$ 41,480	$ 637,043	$ 678,524	26.0%
54	E	1,211,800	73,455	$ 22,087	$ 296,103	$ 318,191	$ 22,170	$ 379,715	$ 401,885	26.3%
55	E	365,000	224,325	$ 23,657	$ 257,477	$ 281,134	$ 23,746	$ 323,016	$ 346,762	23.3%
56	J	1,300,000		$ 21,660	$ 362,505	$ 384,165	$ 21,740	$ 465,270	$ 487,010	26.8%
		6,386,800	471,895	$ 155,898	$ 1,741,589	$ 1,897,486	$ 156,481	$ 2,227,973	$ 2,384,454	25.7%

*Non-Exempt PWAC rate of $0.05477 per hundred gallons is included in non-exempt monthly bill calculations.
*Exempt PWAC rate of $0.04731 per hundred gallons is included in exempt monthly bill calculations.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Charles B. Rea

Exhibit P-9

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

NEW JERSEY-AMERICAN WATER COMPANY, INC.

I. INTRODUCTION

1. Q. Please state your name and business address.

A. My name is Charles B. Rea. My business address is 3409 Research Parkway, Davenport, IA 52806.

2. Q. By whom are you employed and in what capacity?

A. I am employed by the American Water Works Service Company, Inc. ("AWWSC"). My title is Senior Director, Enterprise-Wide Regulatory Pricing and Affordability.

3. Q. What are your responsibilities in this position?

A. My primary responsibility in my role as Senior Director, Rates and Regulatory is to serve as a subject matter expert on cost of service, rate design, revenue, and affordability of service issues for AWWSC's operating company affiliates, including New Jersey-American Water Company, Inc. ("New-Jersey American Water", NJAWC", or "Company"). I am responsible for the development and preparation of cost of service and rate design analyses and filings, as well as rate design proposals to our internal and external stakeholders. I am also responsible for projections of revenues for rate case purposes, and I am responsible for developing and presenting information on the affordability of our water and wastewater service to our customers.

4. Q. Please describe your educational background and business experience.

A. Please refer to Appendix A for a summary of my educational background and business experience.

5. Q. Have you previously testified in regulatory proceedings?

A. Yes. I provided testimony regarding cost of service and rate design proposals for New Jersey-American Water in two of its previous base rate cases, before the Board of Public Utilities ("Board" or the "BPU") in BPU Docket Nos. WR19121516 and WR22010019. I have also provided testimony on behalf of Virginia-American Water Company, Maryland-American Water Company, West Virginia-American Water Company, Iowa-American Water Company, Illinois-American Water Company, Indiana-American Water Company, Kentucky-American Water Company and Missouri-American Water Company. Additionally, I have testified on numerous occasions in Iowa, Illinois, and South Dakota on issues regarding energy efficiency and electric and natural gas cost of service and rate design.

6. Q. What is the purpose of your testimony in this proceeding?

A. In this proceeding, I am sponsoring an analysis of the affordability of New Jersey-American Water's water and wastewater services to its customers in this rate proceeding. Consistent with my affordability analysis, I will explain and propose the Universal Affordability Tariff ("UAT") by which New Jersey-American Water seeks to enhance the affordability of service to all of its customers. I am also sponsoring New Jersey-American Water's calculations and analyses for adjustments in this proceeding for residential, commercial, and public authorities'

usage that feeds into the development of revenues in this case. Finally, I will describe the Company's proposed Revenue Decoupling Mechanism ("RDM") and explain why it is in the best interest of the Company and its customers.

7. Q. Are you sponsoring any schedules and/or exhibits in this proceeding.

A. I am sponsoring the following schedules with my Direct Testimony:

- Schedule CBR-1: Water Affordability Analysis
- Schedule CBR-2: Wastewater Affordability Analysis
- Schedule CBR-3: Residential Usage Analysis
- Schedule CBR-4: Commercial Usage Analysis
- Schedule CBR-5: Public Authorities Usage Analysis
- Schedule CBR-6: Revenue Decoupling Mechanism Calculation
- Schedule CBR-7: NARUC Resolution

8. Q. Were each of these Schedules prepared by you or under your direction and supervision?

A. Yes.

9. Q. How is your Direct Testimony organized?

A. My Direct Testimony is organized in the following sections:

- Affordability of Service
- Universal Affordability
- Statistical Analysis of NJAWC Usage
- Revenue Decoupling

II. AFFORDABILITY OF SERVICE

A. Introduction

10. Q. Please describe the concept of affordability.

A. The concept of affordability for water and wastewater service is based on the idea that everyone should have access to drinking water and wastewater service that is: (1) safe, meaning it complies with the U.S. Safe Drinking Water Act and regulations promulgated by the U.S. Environmental Protection Agency ("EPA"); (2) reliable, so that it is resilient in the face of floods, droughts, and other climate risks; and (3) affordable

11. Q. Why is affordability of water and wastewater service an important issue to the Company?

A. The Company knows that its water and wastewater service is essential, and we know how important it is for that service to remain affordable. Maintaining affordability of service is an important objective for NJAWC as discussed in the direct testimony of Company President Mark McDonough.

12. Q. How does the Company assess the affordability of its water and wastewater service?

A. The Company assesses the affordability of its water and wastewater service by comparing annual bills for water and wastewater service to household income in the communities that we serve. Such an assessment requires at least two data points – the average monthly or annual bill for water service and some measure of household income for the customer population. For the broader residential

customer base, commonly available household income measures are measures of income at different percentiles. Median Household Income ("MHI"), which is household income at a 50th percentile level (50% of households in a given population have incomes greater than the median and 50% of households have incomes lower than the median), can be measured at a statewide or community level and can be paired with a data set that provides the number of customers served in each community to arrive at a weighted number that represents MHI for the Company's entire service territory

At a more detailed level, individual household income is considered, and affordability can then be assessed, across a full range of households based on their various income levels and bills for water and/or wastewater service. A variety of household income data is readily and publicly available from the U.S. Census Bureau through the American Community Survey ("ACS") at the state, county, and community levels.

13. Q. What types of affordability analyses does the Company conduct?

A. The Company conducts two different types of affordability analysis for its water and wastewater service. The first analysis is an Enterprise-Level analysis of affordability which considers affordability of service at a high level over a multi-year period. The second analysis is a Community-Level analysis of affordability which takes a deep dive into the affordability of service at the individual customer level under current or proposed rates and current economic conditions.

14. Q. Has the Company provided an affordability analysis of its water and wastewater service for the proposed rates in this case?

A. Yes. The Company's affordability study for water service is provided in Schedule CBR-1 and the affordability study for wastewater service is provided in Schedule CBR-2. Each Schedule contains both the Enterprise-Level Analysis and a Community-Level Analysis for the applicable service.

B. Enterprise-Level Analysis

15. Q. Please describe the Company's Enterprise-Level Analysis of affordability of service.

A. The Enterprise-Level Analysis of affordability for water and wastewater service is a historical comparison of average monthly bills for NJAWC residential customers to household income for the Company's residential customers. The metric used to describe affordability is the Bill-to-Income ("BTI") Ratio, which is defined as annual water bills divided by estimated annual household income. This view looks at average residential monthly bills for all customers over time compared to MHI for the Company's residential customer base.

16. Q. What is the purpose of this Enterprise-Level Analysis?

A. The purpose of the Enterprise-Level analysis is to provide a high-level perspective on how the affordability of service has been trending over time and how it is expected to continue to trend under proposed rates. Although the Company is proposing to increase customer rates in this proceeding, the important metric to consider is the impact that proposed rates and bills have on customer finances and

how those impacts have trended over time and are expected to trend going forward. This metric must consider not only trends in rates and bills but trends in household income. The BTI Ratio proposed by the Company considers all of these factors. The Company's BTI Ratio as presented in the Company's affordability analyses is the appropriate metric to use when looking at the impact of the Company's rates for water and wastewater service on customers.

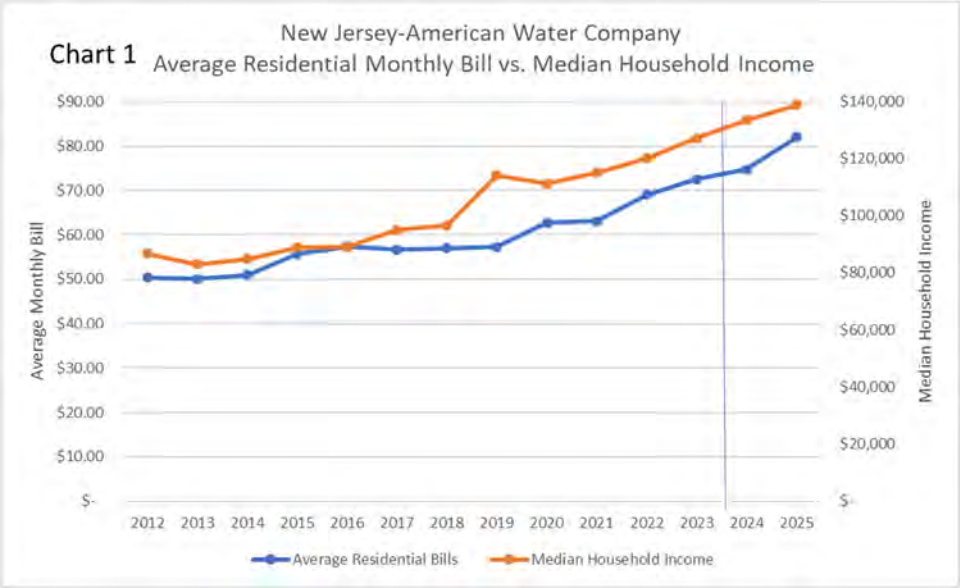
17. Q. How do you determine MHI for the customers in the Company's service territory?

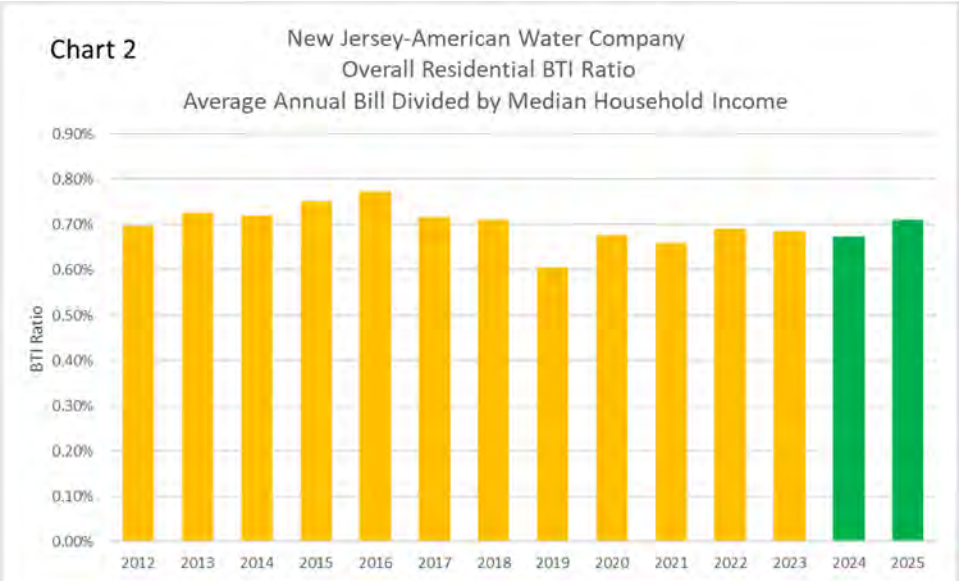
A. The MHI for the Company's service territory is a weighted average of the number of customers the Company serves in each community in the service territory and the median household income in each of those communities for owner-occupied and single-unit renter occupied homes as reported by data in the ACS based on the most recent year's available data (2022 in this proceeding). The relationship between this service territory specific figure and the MHI for the State of New Jersey for 2022 (also provided at the community level through the ACS) is then applied to historical MHI data for the State of New Jersey to arrive at historical MHI data for the NJAWC service territory.

18. Q. What are the results of your Enterprise-Level analysis of affordability for water service?

A. The charts below compare historical average monthly water bills to MHI for New Jersey-American Water customers from 2012 through 2023 stated in absolute terms and stated in terms of BTI Ratio, along with estimated average monthly bills under

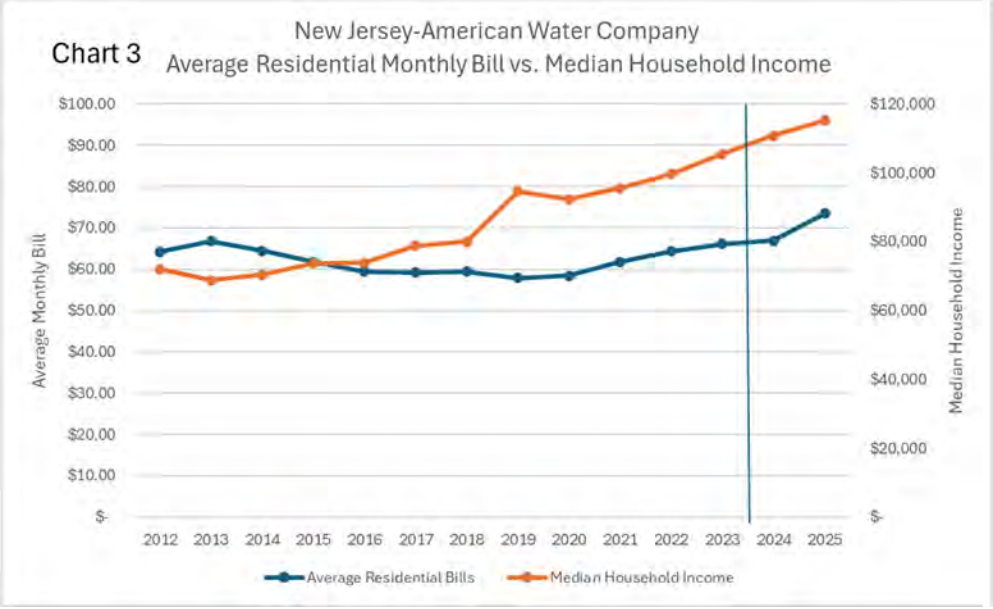
the Company's proposed rates in this case and estimated MHI for New Jersey-American Water customers during the forecasted test year. The data shows that the BTI Ratios for water service for New Jersey-American Water customers have held steady from 2012 to 2023 between 0.6% and 0.8% of MHI. The BTI Ratio at the median income level is expected to be 0.71% under the Company's proposed rates in this case.



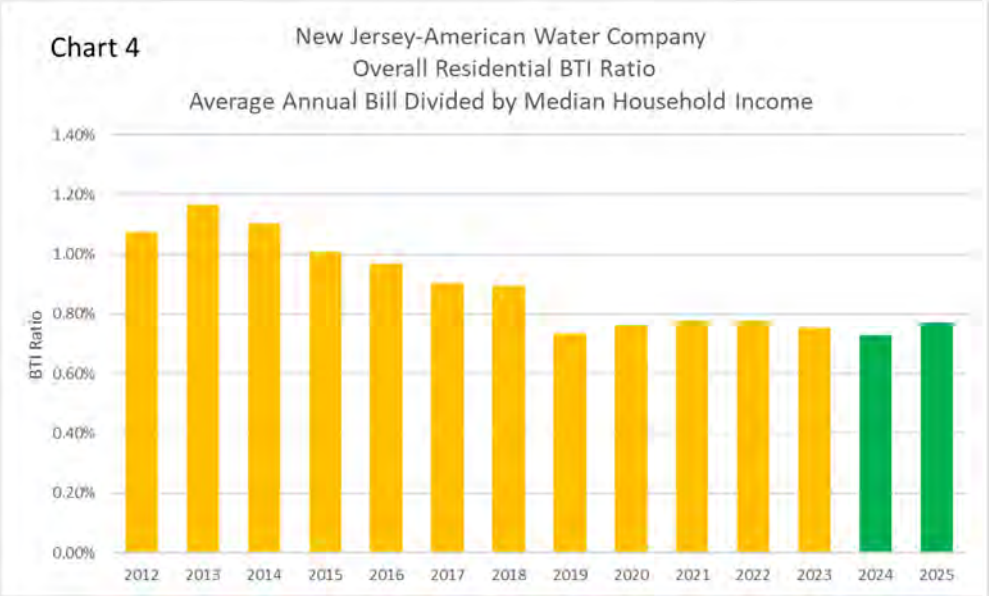


19. Q. What are the results of your Enterprise-Level analysis of affordability for wastewater service?

A. The charts below compare historical average monthly wastewater bills to MHI for New Jersey-American Water customers from 2012 through 2023 stated in absolute terms and stated in terms of BTI Ratio, along with estimated average monthly bills under the Company's proposed rates in this case and estimated MHI for New Jersey-American Watter customers during the forecasted test year. The data shows that the BTI Ratios for wastewater service for New Jersey-American Water customers have come down from 2021 levels and have held steady from 2019 to 2023 between 0.7% and 0.8% of MHI. The BTI Ratio at the median income level is expected to be 0.77% under the Company's proposed rates in this case.



NEW JERSEY-AMERICAN WATER COMPANY, INC.



20. Q. Is there a generally accepted standard for the affordability of water and wastewater service expressed as a percentage of MHI?

A. There is no definitive standard for affordability as a percentage of MHI. Benchmarks for affordability expressed as a total bill's percentage of MHI is a policy decision. However, bills that are less than 2.0% or 2.5% of MHI for water and 4.0% to 4.5% of MHI for combined water/wastewater are considered "affordable" by some.[1]

21. Q. In your opinion can the assessment of affordability of service be reduced to basically a yes or no answer?

A. No, the affordability of water or wastewater service will never be that simple. One can generally measure average water bills against any given benchmark and come

[1] Teodoro, Manuel P. "Measuring Household Affordability for Water and Sewer Utilities." Journal AWWA, 2018, doi:10.5942/jawwa.2018.110.0002.

up with a yes or no answer, but affordability of service is a continuum, and that is what the Company's Community-Level analysis, which I describe next in my Direct Testimony, shows. There will always be customers for whom water service is more affordable than for others depending on demographics and income levels. This is true across all of the communities that NJAWC serves, including even among the wealthiest communities.

C. Community-Level Analysis

22. Q. Please describe the Company's Community-Level Analysis of affordability of service.

A. The Community-Level Analysis takes a deeper dive into the affordability of water and wastewater service at a local level across different customer demographics and proposed rates for each community that the Company serves. For larger communities, the analysis is done at a zip-code level.

23. Q. What is the purpose of this Community-Level Analysis?

A. The purpose of the Community-Level Analysis is to identify, at an individual customer level, the percentages of household income that bills for water and wastewater service are expected to take up under the Company's proposed rates, and to identify demographic trends either by geographic location or by income level for customers where affordability of service may be an issue based on BTI Ratios measured at the individual customer level.

24. Q. How is this analysis different from the Enterprise-Level Analysis you previously presented?

A. The Enterprise-Level Analysis and the Community-Level Analysis are two different but complementary views of affordability. As previously stated, the purpose of the Enterprise-Level analysis is to provide a high-level historical perspective on how the affordability of service has been trending over time and how it is expected to continue to trend under proposed rates. The Community-Level analysis takes a deeper dive into the affordability of service at the individual customer level under current or proposed rates and current economic conditions.

25. Q. Is there academic research that supports the Company's approach to assessing affordability of service at this detailed level?

A. Yes. Cardoso and Wichman[2] outline a framework for assessing affordability of water service that uses the full distribution of household income at the local level rather than MHI or some other static representative level of income and uses varying levels of water usage at the individual household level instead of a static representative level of water usage. While my methodology differs from Cardoso and Wichman in certain areas, the goal remains the same, which is to analyze affordability at the individual customer level and identify customer groups where affordability of service may be an issue.

[2] Cardoso, Diego S. and Wichman, Casey J. "Water Affordability in the United States", Water Resources Research, 2020. Volume 58, Issue 12.

26. Q. What information is needed to conduct an analysis of the affordability of service at this detailed level?

A. The following information is used to assess affordability of service at the community and individual customer level:

- The number of customers served in each community.
- The distribution of owner-occupied households and renter-occupied households by income level in each community.
- The percentage of occupied housing units that are owner-occupied households or renter-occupied households that are not in multi-dwelling buildings in each community.
- The average number of persons per household in each community for both owner-occupied and renter-occupied households.
- The distribution of the size of households (one-person, two-person, etc,) for households of different income levels.
- The standard definition of Basic Water Service.
- Current or proposed rate structures.

I will return to the Community-Level Analysis after I discuss the concept of Basic Water Service.

27. Q. Please describe the concept of Basic Water Service.

A. Basic Water Service is a water usage level that reflects the level of water consumption for basic human services (cooking, cleaning, sanitation, and general health requirements), which is then assumed to be constant from month-to-month

and not subject to significant seasonality or weather conditions. This standard can be expressed in terms of gallons per resident per day. This service is different from discretionary seasonal water usage for filling swimming pools, lawn irrigation, etc. This definition of Basic Water Service can be used to customize a level of usage that accurately reflects water service for different sizes of households.

28. Q. How do you define Basic Water Service for the purposes of your customer-level affordability analysis?

A. For the purpose of the Company's affordability analyses, Basic Water Service is defined to be 40 gallons of water per household member per day. This figure is based on the review of relevant literature on the subject and a review of Company billing data for residential customers in months with minimum levels of discretionary water usage, all of which supports the definition of 40 gallons of water per household member per day.

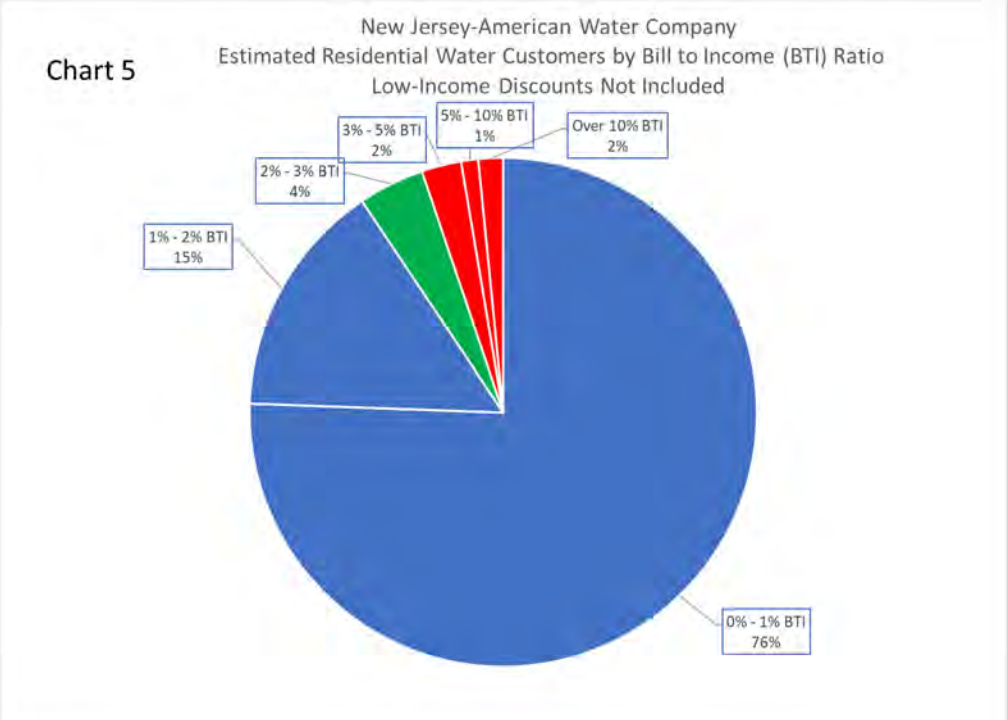
29. Q. What demographic information does your Community-Level Analysis provide?

A. The demographic information provided by this analysis is primarily economic in nature, although the analysis can be expanded to provide information on various identifiers such as race, languages spoken, etc. The primary demographic (economic) information provided by the analysis is the estimated number of customers at different levels of Federal Poverty Level ("FPL") and at different levels of household income. FPL is a measurement set by the U.S. Department of Health and Human Services of the minimum amount of annual income that is

needed for individuals and families to pay for essentials, such as room and board, clothes, and transportation. The FPL takes into account the number of people in a household, their income, and the state in which they live. For New Jersey, the FPL guidelines for 2024 are set at $14,580 for a household size of one and $5,140 per year for each additional household member.

30. Q. What information does your Community-Level Analysis show?

A. Charts 5 and 6 below show, for both water and wastewater service, the relationship between residential customers' bills for Basic Water Service under the Company's proposed rates and level of household income.



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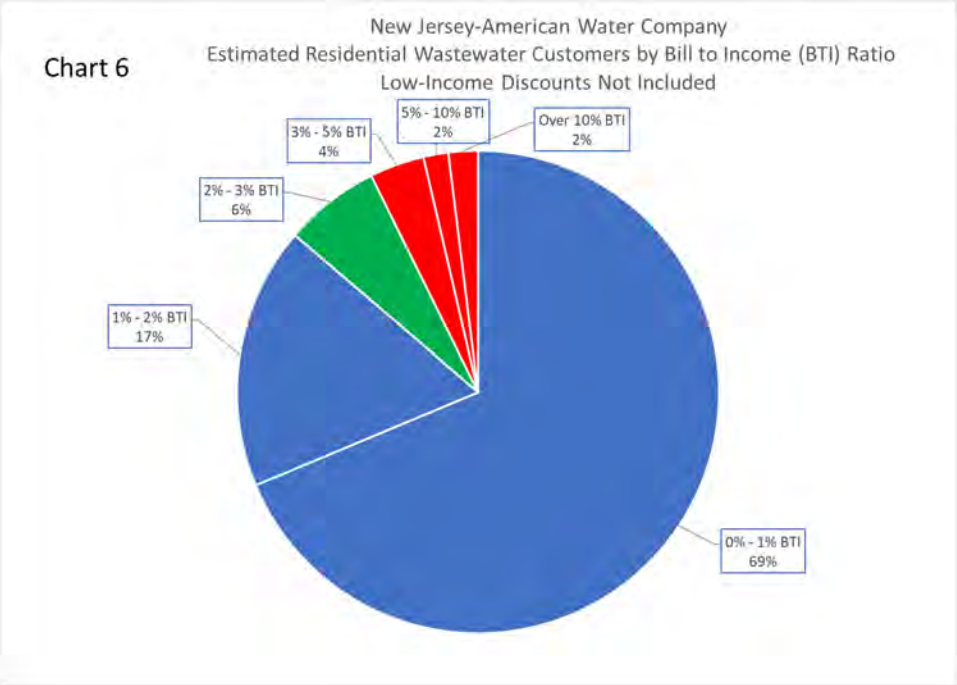

These charts show that under the Company's proposed rate structure, the Affordability Index metric (discussed below) for the Company's service territory in total is 91% under proposed rates for water service and 86% under proposed rates for wastewater service, meaning that 91% of our residential water customers and 86% of our residential wastewater customers can expect to see bills for Basic Water Service to be less than 2% of their household income. The Company estimates that there are approximately 57,000 residential water customers and 9,000 wastewater customers that will see bills for Basic Water Service above 2% of their household income, which is approximately 9% and 14% of the total customer population for water and wastewater service respectively.

31. Q. Please describe the Affordability Index.

A. The Affordability Index ("AI") is a metric that reflects the percentage of a group of customers for whom Basic Water Service is expected to be less than a given percentage of annual household income. Consistent with my previous discussion in testimony regarding standards for affordability, the Company uses 2% of household income as the benchmark for this metric, which is at the conservative end of the range of affordability often cited. As an example, if, for a certain group of customers, it is estimated that 80% of those customers will have bills for Basic Water Service less than 2% of annual household income, the AI value for that group of customers is 80%.

The AI metric is designed to reflect the percentage of residential customers in a state, community, or demographic group for whom Basic Water Service is expected to cost 2% or less of annual household income. An AI value of 100% means that all customers within a selected group can expect Basic Water Service at less than 2% of household income. An AI value of 70% means that approximately 70% of customers within a selected group can expect Basic Water Service at less than 2% of household income, and 30% of customers in that group can expect Basic Water Service to cost more than 2% of household income. The AI value is calculated based on modeling of proposed rates and community-level demographic information I previously described in my testimony, which assesses affordability across the entire range of customer demographics in each community we serve.

32. Q. Why do you use 2% of household income as your benchmark for affordability of service?

A. The 2% benchmark is generally consistent with industry standards for affordability at the individual household level and is slightly lower than the 4.5% benchmark for combined water and wastewater service used by Cardoso and Wichman.[3]

33. Q. Is affordability of service uniform across the Company's service territory?

A. No, it is not. While the Company's water rates are virtually the same for the vast majority of our customers and wastewater rates result in bills that are generally comparable across the Company's wastewater territory, household income can vary significantly across the Company's service territory. NJAWC has a very diverse service territory and serves customers in urban, suburban, and rural communities with household incomes that vary widely. The Company's affordability analyses provided in Schedules CBR-1 and CBR-2 provide information on the number of customers served in each community, the MHI for each community, and the BTI Ratios for Basic Water Service in each community.

34. Q. Do you have information on the Affordability Indices of service by income group?

A. Table 1 below shows AI values for the Company's residential customers by income level for water and wastewater service.

[3] Cardoso, Diego S. and Wichman, Casey J. "Water Affordability in the United States", Water Resources Research, 2020. Volume 58, Issue 12.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE 1 ***Affordability Index by Income Level***	**Water Affordability Index**	**Wastewater Affordability Index**
Above $150k	100%	100%
$100k - $150k	100%	100%
$75k - $100k	100%	100%
$50k - $75k	98%	95%
$35k - $50k	84%	74%
$25k - $35k	61%	55%
$20k - $25k	37%	33%
$15k - $20k	0%	18%
$10k - $15k	0%	29%
$5k - $10k	0%	17%
$0k - $5k	0%	1%

35. Q. Does your analysis consider customers who rent in multi-family buildings without individual meters?

A. No. The Company's Community-Level Analysis only considers customers that are assumed to be direct customers of the Company, meaning that they are directly responsible for payment of services to the Company. Direct customers are assumed to be owner-occupied households and single-family renter occupied households as reported by ACS data.

36. Q. Why does your Community-Level Analysis only concentrate on customers that are direct customers of the Company?

A. The Company's affordability analysis concentrates on customers that are direct customers of the Company for two reasons:

- The use of an MHI statistic, which best estimates household income for direct customers of the Company, is consistent with the calculation of the average bill, which is also based on direct customers.
- For indirect customers of the Company (e.g., renters in multi-family buildings), it is impossible to know definitively what these households pay in rent for water or wastewater service. Presumably, building owners that receive water and/or wastewater service from NJAWC are recovering those costs through rents, but there is no way to know if owners are overcharging or undercharging renters or if they are also charging renters for building water or wastewater service that renters are themselves not actually using.

37. Q. Will the Company's proposed change in rates impact people who use the Company's service but are not direct customers of the Company?

A. It is impossible to know what the impact of the Company's proposed rates will be on indirect customers of the Company. Rents may increase in part to recover increases in water service costs, but rents increase for many reasons, and the extent to which any increases can be attributable to the Company's proposed rates and the timing of such increases cannot be determined.

D. Conclusions

38. Q. How is all of this affordability information useful?

A. Assessing affordability information of water and wastewater service for the entire residential customer population can demonstrate whether customers, in general, are having or would have difficulty paying their water bills under the Company's

current or proposed tariff structure. Assessing affordability information of water and wastewater service for lower-income customers can indicate the number of customers that may be having trouble paying their utility bills, where the customers are in the Company's service territory, and the extent to which those bills may pose challenges for certain customers. This can, in turn, inform decision-makers about the size and scope of efforts that may be needed to help these vulnerable customers better afford water and wastewater service, both in terms of general rate design proposals that can reduce the cost of Basic Water Service for all customers, including lower-income customers, and customer assistance programs that may include customer grants, tariff discounts, levelized billing, and outreach programs.

39. Q. What conclusions do you draw based on the Company's Community-Level Affordability study?

A. There are three conclusions that can be drawn from Company's affordability study:

- The affordability of the Company's water and wastewater service from 2012 through the forecast test period indicates that the way the Company has invested in and managed its water and wastewater systems has indeed been for the long-term benefit of our customers.
- The Company's water and wastewater service has been, is, and is expected to continue to be affordable for the vast majority of its residential customers, including under the rates proposed in this case.
- There are, however, groups of customers for whom affordability of water and wastewater service may be challenging.

40. Q. How do the Company's affordability analyses and mitigation strategies enhance the value of the Company's water and wastewater service?

A. All stakeholders (regulators, customers, consumer advocates, community leaders, employees, shareholders, etc.) benefit from a financially sound utility providing safe, reliable, and affordable service to its customers. The Company's analyses provide important insights into the affordability of its services and can help inform all stakeholders on strategies for improving affordability for customer groups that may be struggling financially.

III. UNIVERSAL AFFORDABILITY

A. Introduction

41. Q. Does the Company currently have a low-income discount program available for customers?

A. Yes. The Company currently has a low-income discount for water and wastewater service. Through this program, the Company provides a discount off of the customer's monthly bill which is set equal to the customer's applicable water Fixed Service Charge (not greater than a 1" meter charge). If the customer is also provided wastewater service by the Company, the customer is also eligible for a wastewater service discount equal to the water service discount amount, in an amount not to exceed the wastewater service charge. Additionally, residential customers who receive Social Security benefits or Medicare coverage can qualify for a credit equal to the current DSIC surcharge rate per Rate Schedule K on their

monthly bill (not greater than the current 1" meter DSIC surcharge).[4] Eligible customers for these programs are customers whose household incomes are less than 300% of FPL.

42. Q. Is the Company proposing a new low-income tariff in this proceeding?

A. Yes. The Company is proposing a new low-income tariff in this proceeding called the Universal Affordability Tariff ("UAT") to better address the affordability of water and wastewater service for lower income customers.

B. Description Of Proposal

43. Q. Please describe the Company's proposed Universal Affordability Tariff.

A. The Company's proposed Universal Affordability Tariff for water service includes multiple tiers of discounts based on different levels of household income stated as multiples of FPL. The tariff offers discounts on both the monthly meter charge and the volumetric charges for water service and would offer discounts on both fixed service charge and volumetric charges for wastewater service. The Company's proposed discount schedule is as follows:

TABLE 2 Household Income	**Water Fixed Charge Discount**	**Water Volumetric Discount**	**Wastewater Fixed Charge Discount**	**Wastewater Volumetric Discount**
0% - 50% FPL	80%	80%	80%	80%
51% - 100% FPL	60%	60%	60%	60%
101% - 150% FPL	40%	40%	40%	40%
151% - 200% FPL	20%	20%	20%	20%

[4] Fifth Revised Sheet; No. 11.

44. Q. What is the driving principle behind the Company's new Universal Affordability tariff?

A. The driving principle behind the Company's proposed Universal Affordability tariff is to provide all participating customers discounts such that the expected bill for Basic Water Service (40 gallons of water per household member per day) will be no more than 2% of their annual household income

45. Q. Why is the Company proposing this new Universal Affordability Tariff?

A. As I stated previously, the Company is proposing this UAT to better address affordability of waste of water and wastewater service for lower income customers. The charts below show water bills for Basic Water Service as a percentage of household income for customers whose household incomes are at different levels of FPL based on proposed rates in this case before and after application of the current low-income discount tariff:

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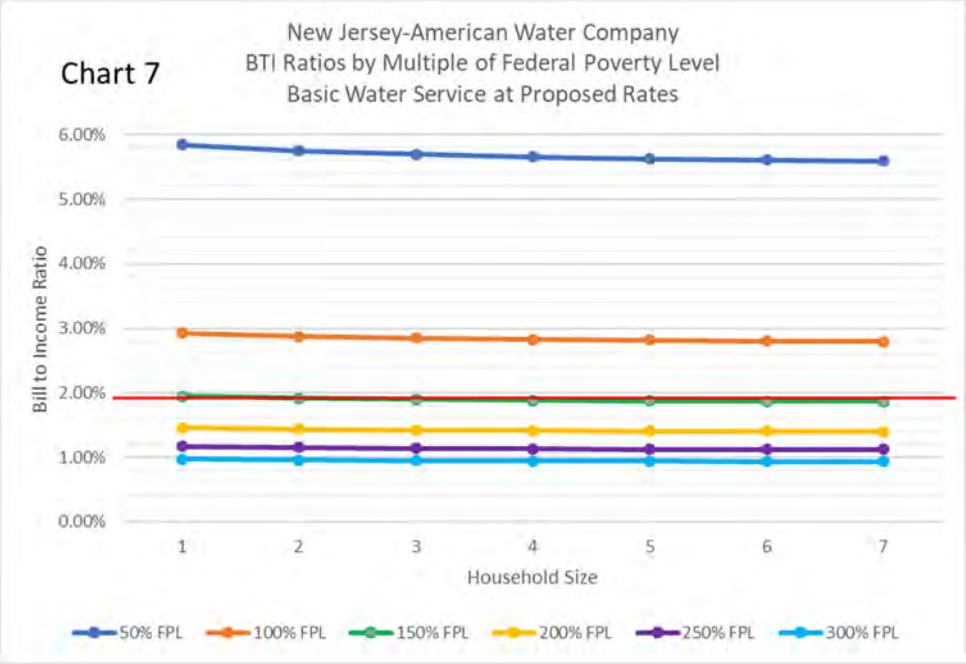
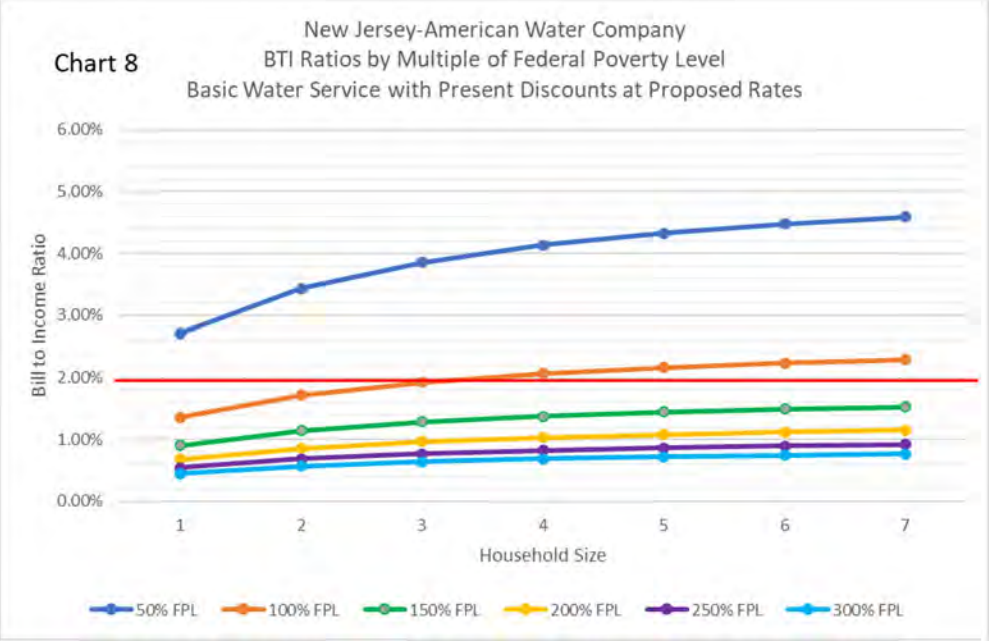




The charts show that under proposed rates, customers with household incomes above 150% of FPL will likely see bills for Basic Water Service at or below 2% of household income. Customers at 100% of FPL or below will likely see bills for Basic Water Service above 2% of household income before discounts. Under the

current discount program, bills will be reduced in each income group, but customers whose household incomes are less than 100% of FPL could still see bills above 2% of household income.

46. Q. What is the total number of customers that would be eligible for discounts under the Company's proposed tariff?

A. Table 3 below shows the estimated number of customers from the Company's water and wastewater affordability analyses by household income level that would be eligible for the Company's proposed UAT.

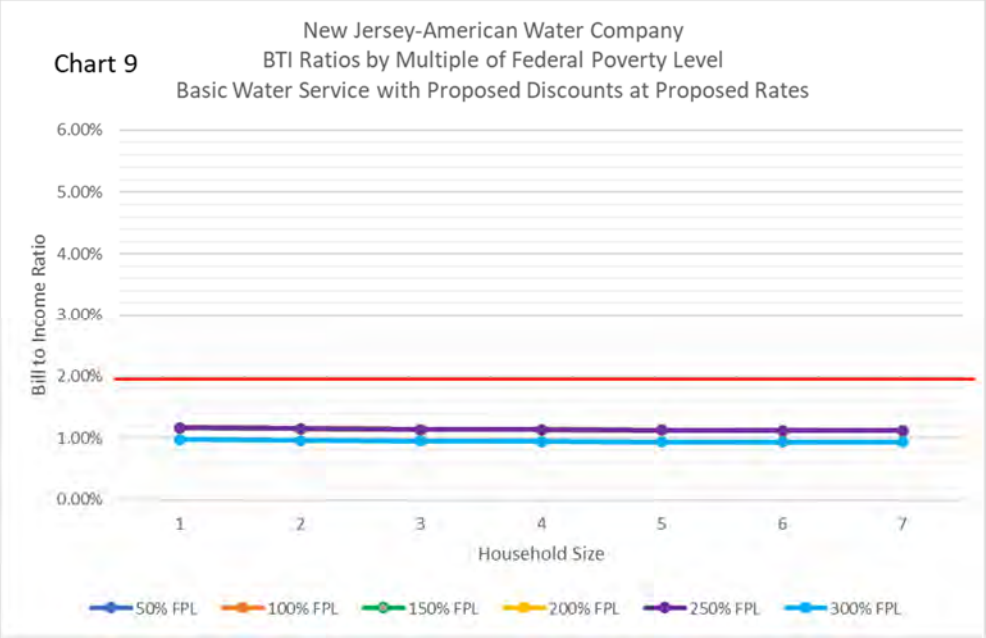
TABLE 3 ***Eligible Customers***	**Water Customers**	**Wastewater Customers**
0% - 50% FPL	14,047	2,223
50% - 100% FPL	17,854	3,407
100% - 150% FPL	27,361	4,800
150% - 200% FPL	28,832	4,439

C. Customer Impact

47. Q. What impact will this proposed tariff have on the affordability of water service for lower-income customers?

A. The chart below shows water bills for Basic Water Service as a percentage of household income for customers whose household incomes are at different levels of FPL based on proposed rates in this case before and after application of the Company's proposed UAT.

NEW JERSEY-AMERICAN WATER COMPANY, INC.



This chart shows that under the Company's proposed rates and the proposed discounts offered under the UAT, all participating customers will have Basic Water Service at approximately 1% of household income. Comparing this chart to Charts 7 and 8, the proposed UAT discounts are clearly more effective at improving the affordability of service for lower income customer groups than the current fixed charge discount.

48. Q. Is the Company proposing to roll an assumed level of discounts offered under this tariff into base rates to be paid for by other water service customers?

A. Yes. The Company has calculated an estimated level of discounts to be offered through this proposed UAT tariff based on participation levels in the current low-income discount program and is proposing to roll that level of discounts into base rates in lieu of the current level of discounts under the current program.

49. Q. How is the Company proposing to spread the costs of the assumed discounts across the different volumetric rates in the Company's proposed rate design that you testified to previously?

A. The Company is proposing to spread the costs of the discounts in the same manner as the costs of the current low-income program, which reallocates the assumed level of discounts directly back to the GMS volumetric rate.

D. Justification

50. Q. What is the justification for offering a Universal Affordability Tariff?

A. The justification for offering this UAT is simply that the proposed UAT will be more effective at improving affordability of service for customers that need it the most than the current discount program and at a lower total cost. The current discount program offers discounts to customers between 200% and 300% of FPL where Basic Water Service is already well under 2% of household income. The Company's proposed UAT eliminates discounts in that household income bracket but targets much higher levels of discounts to customers at lower income levels thus improving overall affordability of service across all residential customers at potentially a much lower cost.

IV. ANALYSIS OF NJAWC CUSTOMER USAGE

A. Introduction

51. Q. Are there revenue adjustments the Company is proposing in this case that require quantitative analysis of water consumption by NJAWC's water customers?

A. In this section of testimony I will explain the modeling used to develop the revenue forecasts for the residential, commercial and OPA customers. For those customers, the Company is proposing adjustments for the normalization of historical billing determinants related to trends in declining use and weather normalization, and the impact of the COVID-19 public health emergency on water consumption for New Jersey-American Water's water customers. These adjustments require the Company to analyze water consumption and determine (1) if there is a significant and pervasive rate of decline in water use per customer over time, (2) if there are significant relationships between water consumption and weather conditions in the Company's service territory (and, if weather was different from normal during this historical base period, is a weather normalization adjustment to usage appropriate to reflect more normal weather conditions for a forecast period, and (3) if the COVID-19 public health emergency has had a significant impact on water consumption for New Jersey-American Water's customers (again to determine if a COVID-related adjustment to usage is appropriate for the Forecast Year).

52. Q. How do you determine the parameters and relationships necessary to analyze declining water use, weather impacts on water consumption, and the impact of COVID-19 on water consumption for NJAWC's customers?

A. The parameters and relationships necessary to analyze declining use, weather, and COVID-19 on water consumption for NJAWC's customers are estimated through the use of statistical linear regression modeling

A. Statistical Analysis

53. Q. What is a statistical linear regression model?

A. Statistical linear regression modeling is a commonly used type of mathematical predictive analysis. The overall idea of regression modeling is to examine two things: (1) whether a set of independent explanatory variables does a good job of predicting an outcome (dependent) variable, and (2) which independent explanatory variables are significant predictors of the dependent variable, and in what way in particular do they help predict the results of the dependent variable.

There are three major uses for statistical linear regression analysis. These major uses are: (1) determining the predictive power of independent explanatory variables; (2) forecasting the effect that independent variables have on a dependent variable; and (3) trend forecasting. First, the regression analysis can be used to identify the strength of the effect that independent explanatory variables have on a dependent variable. A typical question is: "What is the strength of the relationship between summer heat, precipitation, and water sales?" Second, regression analysis can be used to forecast effects or impacts of changes. That is, the regression analysis helps us understand how much the dependent variable changes with a change in one or more of the independent variables. A typical question is: "What volume of water sales can the Company expect to lose for each inch of rainfall above normal in any given period?" Third, regression analysis can predict trends and future values. The regression analysis can be used to get point estimates of future values of the dependent variable based on assumed values for the

independent variables. A typical question can be: "Given current trends in water sales, what can we expect water sales to be each month next year assuming normal weather?"

54. Q. What does a statistical regression model produce?

A. A statistical linear regression analysis is a way of mathematically validating which independent variables have a significant impact on the dependent variable – the main factor, the one you are trying to better understand or predict. A statistical linear regression model produces an equation that describes a historical relationship between a set of independent variables and a single dependent variable that can be used to forecast future values of the dependent variable based on assumed values of the independent variables. An example of such an equation is shown below:

UPCn = a0 + (a1 x RAINn) + (a2 x CDDn) + (a3 x HDDn) +
(a4 x COVIDn) + (a5 x TIMEn)

Where:
UPCn = Use per customer in month n
RAINn = Rainfall in month n
CDDn = Cooling Degree Days ("CDD") in month n
HDDn = Heating Degree Days ("HDD") in month n
COVIDn = COVID-19 effect in month n (0% to 100%)
TIMEn = Year/Month for month n

and:
a0 = constant term
a1 = coefficient for RAIN
a2 = coefficient for CDD

a3 = coefficient for HDD

a4 = coefficient for COVID-19 impact

a5 = coefficient for TIME (declining use value)

In this example, use per customer is the dependent variable (outcome) and all other variables are independent variables (predictors).

55. Q. Can statistical linear regression models be used to weather normalize historical water sales for different customer classes?

A. Yes. In the statistical model in the example above, the a1 coefficient for RAIN can be used to estimate the impact of rainfall on use per customer in any given historical period and estimate what the usage per customer would have been if rainfall had been different, especially when actual precipitation was higher or lower than normal. Below is a sample calculation of how weather normalization works with a statistical regression model that uses weather as a strong predictive independent variable that affects the use per customer dependent variable.

IMPACTn = a1 x (ACTUAL RAINn – NORMAL RAINn)

Where: IMPACTn = Weather impact due to abnormal rainfall in period n

ACTUAL RAINn = Actual Rainfall (in inches) in period n

NORMAL RAINn = Average Rainfall (in inches) in period n

If the value of the a1 coefficient for rainfall is -0.30 in this example, actual rainfall for the period is 6 inches and normal rainfall for the period is 4 inches, the weather impact for the period due to higher-than-normal rainfall is a negative 600 gallons

per customer meaning that the Company sold 600 fewer gallons per customer of water than it otherwise would have [-0.30 x (6 – 4) = -0.60]. If there are multiple weather variables in the statistical regression analysis, this calculation is completed separately for each variable and the sum of the calculations is rolled up into a single weather impact. This approach to weather normalization allows an analyst to independently assess the impact of each weather component, and also allows an analyst to state the weather impacts over time both in terms of consumption and in terms of revenues by multiplying the consumption impact by a volumetric price.

56. Q. Can statistical linear regression models be used to estimate the impacts of COVID-19 on water sales for different customer classes?

A. Yes. In the statistical model example above, the a4 coefficient for COVID-19 is the estimate of the impact of the COVID-19 public health emergency on monthly use per customer. The historical data set contains a variable for each month that indicates the assumed qualitative level impact from COVID-19 in that month. In all months prior to April 2020 that value was set at 0%. From April 2020 on, that value is set at 100% when maximum COVID-19 impacts are observed, or at a level less than 100% where we see reduced COVID-19 impacts on usage. The coefficient for the COVID-19 impact variable estimates the average monthly use per customer based on the months that have been designated as COVID-19 months. This coefficient can then be used to (1) identify a normal level of usage that is not influenced by the impact of COVID-19, in a manner similar to a normalization calculation that adjusts for the influence on water usage associated with weather

conditions that depart from normal, and (2) reflect estimates of future impacts of the COVID-19 public health emergency.

57. Q. Can these models be used to estimate trends in declining use per customer for different customer classes

A. Yes. In the same statistical model example represented above, the a5 coefficient for TIME is the estimate of declining use per customer per month. This coefficient measures the rate of decline in use per customer over the historical data set independent of the effect of any other variable in the model. The historical data set contains a variable for each month that is a timestamp that starts at one for the first month in the dataset and increases by one for every month going forward. This acts as a trend variable for both historical periods in the dataset and future forecast periods. The coefficient for this trend variable is applied to future increasing values of the trend which results in decreasing forecasts of use per customer.

58. Q. How does one assess the accuracy of a statistical linear regression model?

A. A statistical linear regression model produces a set of statistics that can be used to judge the accuracy and fitness of the model. The most common statistics are (1) the "R-Squared" value, which is a statistical measure in a regression model that determines the proportion of variance in the dependent variable that can be explained by the independent variables, and (2) values and standard deviations for the coefficients, which can be used to determine "t-statistics" and "p-values" which tell how accurately and precisely the different coefficients are being calculated and

whether the associated independent variables are strong predictors of the dependent variable.

In the equation described above, the "R-Squared" value is a statistic that measures the percentage of variation from time period to time period in the dependent variable (water use per customer) that is explained by the mathematical relationship with the independent variables. The R-Squared can range from 0% (no explanatory ability) to 100% (perfect explanatory accuracy). In general, the higher the R-squared, the better the predictive value of the model.

The second major test involves comparisons of the values of each of the model coefficients and their associated standard errors. Because a statistical regression model estimates an explanatory relationship between a dependent variable and a set of independent variables, there will always be some degree of uncertainty around what that explanatory relationship actually is. As a result, each model coefficient has a level of uncertainty around it, and this level of uncertainty is represented by measuring how many standard errors each coefficient is away from zero, which the model also calculates.

Dividing the value of each coefficient by its standard error yields a t-statistic which can be used to judge the predictive power of the independent variable that the coefficient represents. For example, in the case of the generic statistical model described above, if the value of the a1 coefficient for rainfall is -0.30 and the standard error for that coefficient is 0.05 (meaning that the real value of the

coefficient could be anywhere between -0.35 and -0.25 with -0.30 being the most likely value), the value of the t-statistic is -6.0 (-0.30 divided by 0.05 = 6.0). Generally speaking, t-statistic values greater than 2.0 for positive coefficients or less than -2.0 for negative coefficients indicate an acceptable predictive relationship between that independent variable and the dependent variable of interest. The higher the t-statistic value, the greater the confidence we have in the coefficient as a predictor. Values between 2.0 and -2.0 indicate that the predictive power of that independent variable may not be very strong.

59. Q. Are there other more qualitative ways to determine whether a statistical linear regression model is accurate and produces reasonable results?

A. Yes. There are also several qualitative ways to determine whether a statistical regression model accurately describes the relationship that a chosen set of independent variables has with the dependent variable:

- **Does the model represent reality?** If it is generally known that water consumption is seasonal and is driven in the summertime by heat and precipitation, it is logical to assume that a statistical model that attempts to describe and predict seasonal water consumption would have explanatory variables related to summer heat and precipitation, and those explanatory variables would be shown to have a strong predictive value in the model. Models that attempt to accurately describe the drivers behind water consumption that do not contain statistically significant coefficients for

independent variables that are logically known to drive water consumption are likely not strong predictive models.

- **Are the signs of the coefficients for major independent variables correct?** If water consumption increases in the summertime with increasing heat and decreases in the summertime with increasing precipitation, it is logical to expect that the coefficients for the independent variables that represent summertime heat and summertime precipitation would be positive and negative, respectively.
- **Is the model based on a robust data set?** It is easy for a statistical model with many independent variables and relatively few observations of the dependent variable to accurately explain variation in the dependent variable, but that does not mean that the model has strong predictive power if the data set being analyzed is small in scope. A statistical model that attempts to describe water consumption that has good predictive explanatory power over multiple years of monthly historical data is very useful and accurate in projecting future trends and in explaining how changes in strong predictive independent variables will affect levels of the dependent variable.
- **Do the impacts on the dependent variable that the model describes make logical sense?** It is possible outside of a statistical linear regression model to make ballpark estimates of other facts like the impact of COVID-19 on water consumption and long-term trends in declining use. This can be done with a simple linear plot of annual usage data by year. For example, if a linear plot of

annual usage data suggests that there is a downward trend of approximately 1,000 gallons per customer per year, one would expect that a statistical model that is measuring that impact would yield a result that is similar. The same is true when looking at the potential impacts of COVID-19 on water consumption. If a visual examination of data suggests that water use per customer for a commercial class has decreased by 2,000 gallons per customer in 2020 due to the COVID-19 emergency, it is logical to expect a statistical regression model that attempts to statistically measure that impact to yield estimates consistent with that expectation.

60. Q. Please explain why this statistical modeling of usage for the residential, commercial, and public authority classes is preferable to simply taking an average of usage over a number of years to develop projections of usage for different customer classes.

A. This statistical approach to modeling residential, commercial, and public authority usage is more appropriate than taking a simple multi-year average because we know that weather impacts usage for both classes and we know that there has been a significant and pervasive downward trend in residential use per customer. We also know that the COVID-19 pandemic impacted usage for these classes. Simple averaging cannot account for these known and measurable impacts with any degree of precision and can only do so at a very general high level. The statistical modeling I have described can accurately identify the effects of all of these impacts and

normalize them going forward. This is why the statistical approach is more appropriate.

61. Q. Is developing a multi-year average of usage a form of statistical modeling?

A. Yes. If one were to run the statistical modeling I have described in my testimony on usage data but leave out all of the explanatory variables except for the monthly indicator variables, you would get precisely the same resulting forecast as you would get by using a multi-year average approach over the same data set. Leaving out all explanatory variables from the statistical model except for monthly indicator variables yields the same results as using a multi-year average, but the explanatory power of the model is much weaker than if you use a more robust model with explanatory variables known to affect usage, and the results from such an effort are much less realistic than with a more robust modeling approach.

62. Q. Is statistical modeling always preferable to using multi-year averages?

A. Not necessarily. In cases where variations in usage can't be explained by observable and forecastable variables (variations in industrial usage, for example), there is not much to be gained by a more robust statistical approach. However, when variations in usage can be explained by observable and forecastable variables, the statistical modeling approach I have described will always be more accurate.

C. NJAWC-Specific Information

63. Q. Please describe the statistical linear regression model you are using to analyze water consumption data for NJAWC.

A. In this proceeding, we are using multiple regression statistical models to analyze use per customer for the residential, commercial, and public authority classes that relate the dependent variable (i.e., water use per customer) to a collection of independent variables. Each regression model uses independent variables that can be broken down into four categories to explain monthly use per customer. The models all use 120 months of data running from July 2013 through June 2023. The four categories are:

- **Weather:** The weather variables used in the models are Cooling Degree Days ("CDDs"), Heating Degree Days ("HDD"), and precipitation. These weather variables are a weighted average of current month and lagged month weather readings taken by the National Oceanic and Atmospheric Administration at various points within NJAWC's service territory. This weighted average lagged approach is used to account for the differences between billing month sales and calendar month weather. Coefficients from these variables show the impact of weather on monthly use per customer over the 10-year period. Weather variables are modeled as monthly deviations from normal for each month in the data set (actual weather for the month less normal weather for the month for each individual weather variable). Normal weather is calculated for each month of the year based on the weather over the ten-year period that the historical data spans.
- **Time:** The time variable is a trending variable that notes the passage of time in the model and produces a coefficient that estimates the monthly trend in usage

per customer over the 10-year model. The time variable captures the range of conservation efforts that have been implemented by customers over time, such as the installation of more water-efficient fixtures and appliances, as well as any other factors that influence usage trends over time. Time on its own is of no consequence, but it is a powerful variable because it is the medium for capturing the conservation effect.

- **COVID-19 indicator**: For the residential and OPA classes, the COVID-19 indicator variable is set at 0% for months prior to April 2020 and 100% for the months of April 2020 through December 2021. For the commercial class, the COVID-19 indicator variable is set at 0% for months prior to April 2020 and 100% for the months of April 2020 through December 2022. The effect of this variable in the model is to look specifically for increases or decreases in use per customer for the April 2020 through December 2022 timeframe that may have happened due to systemic changes in the amounts of water customers use as a result of the COVID-19 public health emergency. The reduction in the COVID effect from 100% in 2020 down to 50% in 2021 and 2022 recognizes the immediate impact that the COVID-19 pandemic had on usage changes in 2020 and the diminished effect of COVID in calendar years 2021 and 2022, with a full return to a pre-COVID usage pattern in calendar years 2023 and beyond.
- **Monthly indicators**: The monthly indicator variables in the model measure structural monthly and/or seasonal changes in use per customer that cannot be explained by any of the other variables in the model.

64. Q. What information do these models provide that is useful for developing pro forma adjustments to revenues that you are sponsoring in your testimony?

A. Each model produces a set of weather coefficients that can be used to weather-normalize historical sales, a coefficient that indicates the monthly trend in declining use per customer for each class, and a coefficient that shows for each class the average use per customer impact associated with changes in usage due to COVID-19.

65. Q. You mentioned that you have developed models for customer usage relating to the residential, commercial, and public authority classes. Are you also modeling usage for the industrial and sales for resale customer classes?

A. No. The statistical modeling in this case is only for the residential, commercial, and public authorities' classes. Usage estimates for the industrial class and the sales for resale classes are developed individually for each customer using a simple multi-year average and are described by Company witness Heath Brooks.

66. Q. You previously discussed the various statistical tests used for accuracy and predictability. Please discuss the results of these tests for your models and why they are appropriate to use in this proceeding.

A. As shown in Schedules CBR-3, CBR-4, and CBR-5, the Adjusted R-Squared statistic for the residential usage model is 96%. The adjusted R-Squared statistics for the commercial and OPA models are 92% and 85% respectively. This indicates that the explanatory variables (weather, COVID-19 impacts, declining use, etc.) strongly explain the variability in use per customer over time. The values of the

coefficients, standard errors, and t-statistics for the major explanatory variables in the models are as follows:

TABLE 4
Residential Model Major Explanatory Variables

	Coefficient	Standard Error	t-Statistic
Declining Use Trend	-.0036	.0010	-3.6243
Precipitation	-.3641	.0355	-10.2579
CDD	.0062	.0011	5.4710
COVID-19 Impact	.3535	.1117	3.1638

TABLE 5
Commercial Model Major Explanatory Variables

	Coefficient	Standard Error	t-Statistic
Declining Use Trend	-.0067	.0055	-1.2187
Precipitation	-.9406	.1970	-4.7753
CDD	.0327	.0063	5.1818
COVID-19 Impact	-3.3266	.6199	-5.3667

TABLE 6
OPA Model Major Explanatory Variables

	Coefficient	Standard Error	t-Statistic
Declining Use Trend	-.0048	.0082	-.5901
Precipitation	-1.4933	.2969	-5.0301
CDD	.0406	.0109	3.7112
COVID-19 Impact	-7.6220	.9612	-7.9296

The statistics for the individual explanatory independent variables above show a high degree of explanatory power with all parameters having t-statistics all outside of the +/- 2.00 range with the exception of the usage trend variables for the commercial and OPA models. The signs for the precipitation variable are all negative as expected, meaning that more rainfall over the summer period results in

less seasonal water usage from our residential customers. The sign for the CDD and HDD variables are positive, which indicates that the hotter the weather gets in the summer and the colder the weather gets in the winter, customers use more water which is expected, and the COVID-19 impact variable indicates that residential usage went up as a result of COVID-19 and that commercial and OPA usage went down. The sign for the declining use variable is negative and is statistically significant for residential usage which means that there is a pervasive decline in use per customer for residential customers over the ten-year historical period.

67. Q. What assumptions are you making going forward regarding the impacts on customer usage related to the COVID-19 pandemic?

A. Analysis of the usage data shows that usage has generally returned to a level consistent with that seen before the COVID-19 pandemic, both in terms of actual levels and in terms of general trends, the Company assumes no impact on usage from COVID in the forecast period.

D. <u>Continuing Trends</u>

68. Q. Your regression models show a trend of declining use per customer. What is the amount of declining use your models have identified?

A. The annual amount of declining use identified for residential customers is approximately 520 gallons per year per customer. The annual amount of declining use identified for commercial and OPA customers is 970 gallons per year per customer for the commercial class and 695 gallons per year per customer for the OPA class.

69. Q. Why do you believe that declining use is a valid trend for residential and commercial customers that will continue?

A. Consumption patterns for the Company's customers are similar to those for other American Water operating companies which have experienced a decline in consumption per customer over the last 10 years. According to the 2010 Water Research Foundation report, "many water utilities across the United States and elsewhere are experiencing declining water sales among households." The report further states: "A pervasive decline in household consumption has been determined at the national and regional levels.[5]

70. Q. What is causing the decline in customers' usage?

A. Several factors drive the decline in usage. These factors include the incremental introduction of low-flow fixtures and appliances, new regulations that lead to further reductions in fixture flow rates, conservation programs, and public initiatives that have led to greater consumer water conservation awareness.

Plumbing fixtures such as toilets, showerheads, and faucets available to consumers today are more water-efficient than those fixtures manufactured in the past. Similarly, appliances such as dishwashers and washing machines are also more water efficient. When a customer replaces an older toilet, washing machine, or dishwasher with a new unit, the new unit will almost certainly use less water than the one it replaced. Similarly, the construction of new homes results in the

[5] Coomes, Paul et al., North America Residential Water Usage Trends Since 1992 – Project #4031, page 1 (Water Research Foundation, 2010).

installation of water-efficient fixtures meeting new, more efficient, regulatory standards.

71. Q. How much water do the new fixtures and appliances save?

A. The Energy Policy Act of 1992 mandated the manufacture of water-efficient toilets, showerheads, and faucet fixtures. For example, a toilet manufactured after 1994 must use no more than 1.6 gallons per flush, compared to a pre-1994 toilet, which typically used from 3.5 to 7 gallons per flush. In fact, toilets using only 1.28 gallons per flush or less are becoming more prevalent in the marketplace. Replacing an old toilet with a new one, therefore, can save from 2 to nearly 6 gallons per flush.

The Energy Independence & Security Act of 2007, which established stringent efficiency standards for dishwashers and washing machines, has further reduced indoor water consumption. Dishwashers manufactured after 2009 and washing machines manufactured after 2010 must use 54% and 30% less water, respectively. All other factors being equal, a typical residential household in a new home constructed in 2015, with water-efficient toilets, washing machines, dishwashers, and other fixtures, uses approximately 35% less water for indoor purposes than a non-retrofitted home built prior to 1994.

72. Q. Are there other factors contributing to the continued decline in water consumption patterns?

A. Yes. Programs to raise customer awareness and interest in the benefits of conserving water and energy continue to increase. As awareness of water and

energy efficiency increases, customers may decide to replace a fixture or appliance even before it has broken. Additionally, customers may further reduce consumption by changing their household water use habits in other various ways.

73. Q. Do you expect the trend of declining usage to continue in the future?

A. Yes. Water-efficient fixtures and other drivers such as conservation education and government-mandated standards will continue to drive further efficiency into residential and non-residential usage per customer. In fact, the trend is well established and continues to affect water usage on the Company's system as well as most water utilities across the United States. The rate of the continued trend is dependent on the pace of fixture replacement within the Company's footprint as well as the broadening acceptance of a conservation ethic through raised customer and business awareness programs, government conservation policy, and similar behavior modification-related programs.

Technology is now available for newer, more water-efficient products that further improve on Energy Policy Act levels, and there has been a growing movement to codify these more stringent specifications. The introduction of progressive code modifications – such as the International Code Council's International Green Construction Code and the International Association of Plumbing and Mechanical Officials Green Plumbing and Mechanical Code Supplement (2011) – support uniform implementation of increased water efficiency standards. An article in the June 2012 issue of the AWWA Journal entitled "Insights into declining single-family residential water demands" recognizes this decline in water consumption:

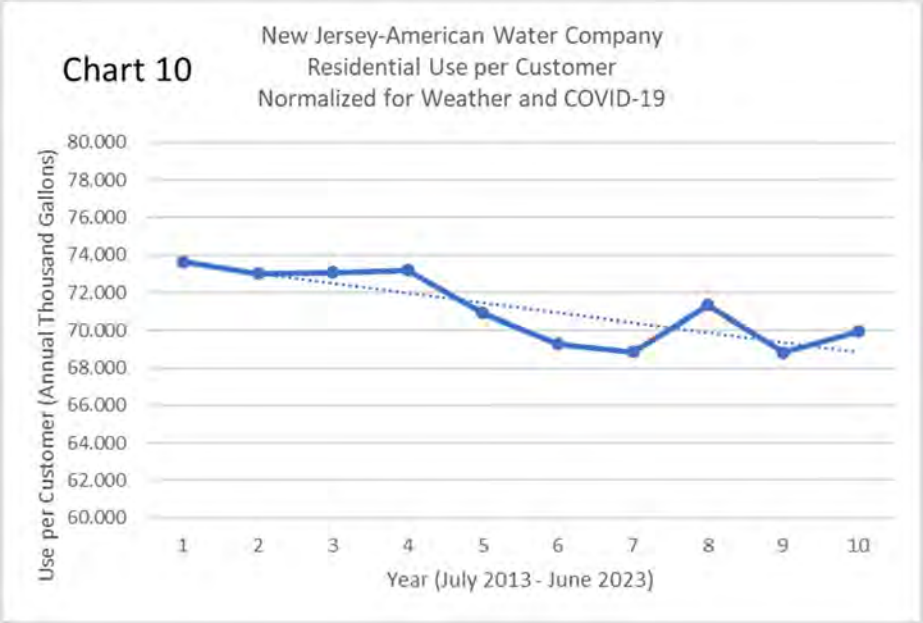
"[r]educed residential demand is a cornerstone of future urban water resource management. Great progress has been made in the last 15 years and the industry appears poised to realize further demand reductions in the future." The trend of declining water consumption based on improved water efficiency has continued over time.

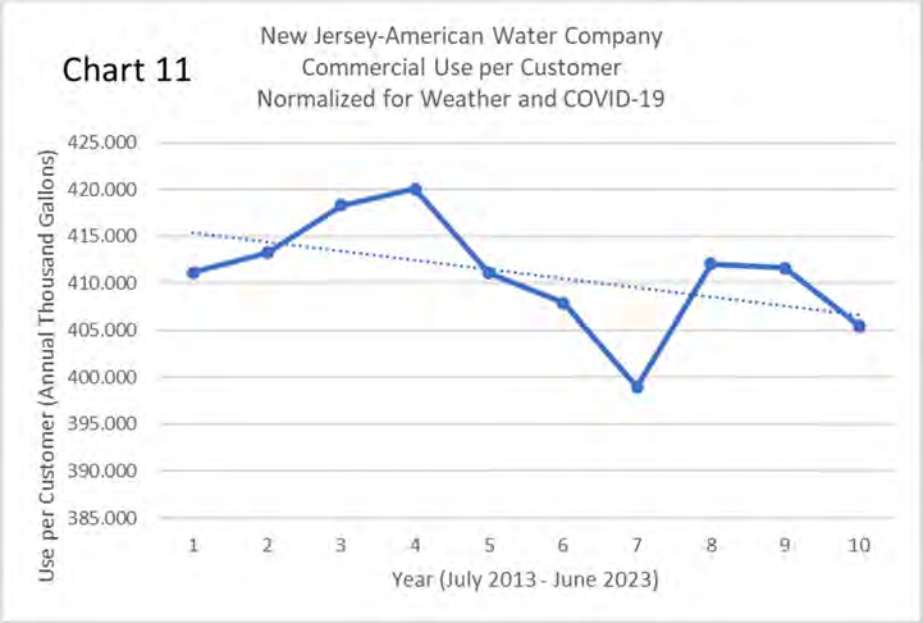
B. Conclusions

74. Q. Normalizing historical usage for weather and the COVID-19 emergency, what has the overall trend been for use per customer for the residential, commercial, and public authority classes?

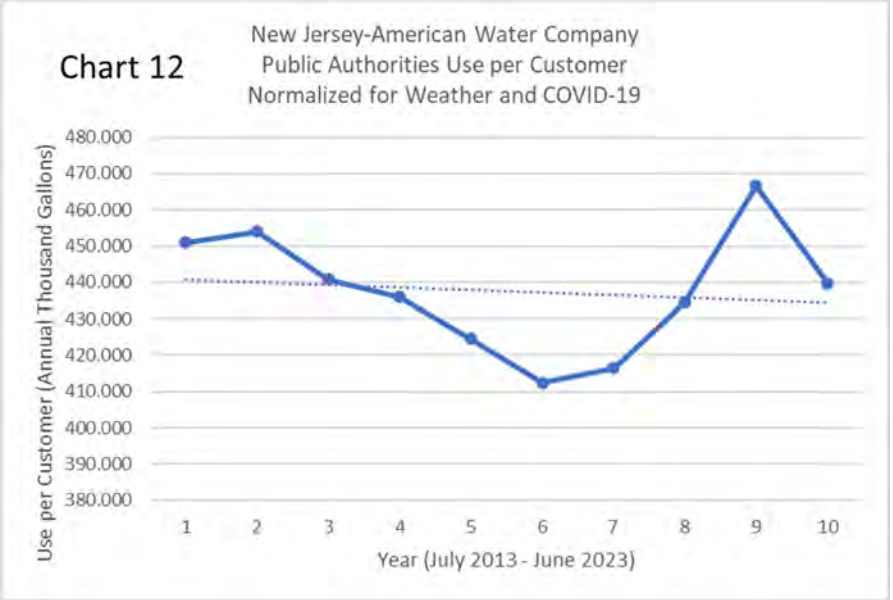
A. The statistical analysis of usage for these customer groups shows that once weather effects and the one-time effects of COVID-19 have been accounted for, there is a downward trend in usage for all customer classes and a significant downward trend in usage for residential customers. The charts below show use per customer for the residential class for the ten years ended June 2023, adjusted for the weather impacts and COVID-19 impacts I previously described in my testimony.

NEW JERSEY-AMERICAN WATER COMPANY, INC.





NEW JERSEY-AMERICAN WATER COMPANY, INC.



75. Q. What conclusions do you draw from this chart and your supporting analysis?

A. The charts and the supporting analyses demonstrate that there has been a significant and pervasive decline in normalized use per customer in the NJAWC service territory. The Company's modeling normalizes for weather and COVID-19 and shows that there has been a pervasive decline in usage over the past ten years. The historical trends in adjusted monthly use per customer will continue through the for the relevant time periods going forward.

V. REVENUE DECOUPLING

A. Introduction

76. Q. Is the Company offering a proposal for a revenue decoupling in this case?

A. Yes. The Company is proposing in this proceeding a Revenue Decoupling Mechanism ("RDM") for water service.

77. Q. What is the purpose of the RDM?

A. The RDM is an alternative rate design mechanism whose purpose is to harmonize revenue actually collected with the revenue requirement and associated fixed costs approved by the Board in this case.

78. Q. Is recovery of fixed costs a ratemaking concern?

A. Yes. Approximately 67% of the Company's water service revenues will be collected through volumetric rates under the Company's proposed rate structure in this case, which means that revenues will vary up or down depending on how much water our customers use. At the same time, approximately 95% of the Company's costs are fixed costs, which do not vary depending on how much water our customers use. If water sales are less than the levels used to set the Company's water service rates in this proceeding, the Company's revenues will be less than the authorized level in this proceeding, and as a result, the Company's ability to recover the costs that the Board determines to be prudent will be diminished. Likewise, if revenues exceed the authorized level in this proceeding due to higher than anticipated water sales, customers will be paying more than the rate levels authorized in this proceeding. The RDM will allow the Company a better opportunity to recover the levels of revenue requirement and fixed cost authorized in this case, as the difference between those amounts and actual revenues will be charged or credited back to customers in the subsequent year.

79. Q. What are some of the factors that jeopardize the Company's ability to recover its fixed costs of providing service?

A. The primary factor that causes revenue volatility and the associated risk in matching revenue collected to the fixed costs from year to year is variations in seasonal weather conditions. Seasonal weather conditions can cause water sales to either increase or decrease from expected going-forward levels, which, in turn, causes revenues to increase or decrease from expected going levels. Cold winters and hot dry summers tend to increase water sales, and warmer winters and cooler wetter summers tend to decrease water sales. Weather volatility in either direction causes volatility in revenues and a mismatch with cost recovery.

80. Q. Does the Company have any control over either seasonal weather conditions?

A. No, it does not.

81. Q. Are there other factors that can cause the Company's revenue to deviate from expected levels?

A. Yes. The recent COVID-19 pandemic situation is a prime example of an external event that can cause the Company's revenues to vary from expected or approved levels. During the pandemic, the Company saw increased sales volumes for residential customers beyond expected levels due to the COVID-19 pandemic as more people were staying home from work and schools. Over the same period, the Company saw decreases in sales volumes from expected levels in the commercial and municipal classes. These changes in volumes, whether temporary or permanent, cause changes in revenues from expected or authorized levels and increase the Company's revenue volatility. In addition, the failure of a sales forecast adequately to capture a long-term trend of declining use per customer can

also result in revenue under or overcollection. Implementation of a well-structured RDM can stabilize customer bills over time and help avoid over-recovery or under-recovery of fixed costs because of revenue volatility due to circumstances beyond either's control.

82. Q. Does the Company have the ability to significantly change its cost structure in order to compensate for changes in revenues?

A. To some extent, the Company experiences a reduction in variable costs associated with the reduced cost of treating and pumping less water. For the most part, however, the Company's ability to reduce its fixed costs during periods when water sales are lower is limited, and it is generally not in the long-term best interests of our customers for the Company to do so. One simple example of this is employee counts. The Company can hardly hire and fire its well-trained work force based on short-term trends in weather or economic conditions simply to keep expenses in line with revenues. Similarly, although maintenance could be deferred in a period of reduced revenue, that would merely forestall the inevitable, could degrade the quality of service provided to NJAWC's customers, and increase the cost of service over time.

83. Q. How is a volatile revenue stream not in the long-term best interests of the Company's customers?

A. The Company is committed to helping customers use water efficiently and providing quality service that is affordable. As I explain below, the Company's ability to reliably recover its revenue requirement and recover its fixed cost of

providing service over the long term through rates is an important part of the Company's ability to continue to properly operate, maintain, and invest in the water system at a reasonable cost. This ability to prudently manage the system at a reasonable cost is in the long-term best interests of our customers.

B. Description of Proposal

84. Q. Please describe the Company's proposed RDM.

A. The Company's proposed RDM is an alternative rate design mechanism that couples traditional rate design with elements of Straight Fixed Variable ("SFV") Pricing. This mechanism couples the benefits of traditional rate design that customers see and will continue to see (cost causation, affordability, gradualism, efficiency of use, simplicity, feasibility, etc.) with the revenue stability that would be provided to the utility and its customers through a SFV rate design. This mechanism compares the revenues collected under traditional customer-facing rate design with the revenues that would have been collected through a SFV rate design on a forward-looking basis and accrues the differences to be either credited to customers or collected from customers at a later time. The proposed RDM identifies three cost components as the basis for revenues that would be collected through the SFV rate design that form the basis of the revenue comparisons going forward. These cost components are:

- **Volumetric Charge (VC)**: A charge in dollars per hundred gallons that applies to all water volumes sold to customers.

- **Residential Fixed Charge (RC)**: A flat dollar charge per month that applies to all residential customers.
- **Non-Residential Fixed Charge (NC)**: A flat dollar amount that applies to all non-residential customers.

85. Q. What is SFV Pricing?

A. SFV Pricing is a rate design that collects all of a utility's fixed costs through fixed charges and all of a utility's variable costs through volumetric charges. For utilities where nearly all of the revenue requirement is fixed cost, SFV results in monthly charges to customers that are relatively high and volumetric rates that are relatively low. SFV pricing aligns cost recovery with the nature of the costs being recovered, provides a stable and reliable revenue stream for the utility, and very effectively satisfies the revenue stability rate design principle. On the other hand, SFV is arguably not consistent with generally accepted cost causation principles at a customer class level, can lead to inefficient use of resources because of low volumetric charges, tends to disadvantage lower income customers from an affordability perspective, and is nearly impossible to achieve in practice for a water utility where nearly all the revenue requirement recovers fixed costs.

86. Q. How are the cost components of the proposed RDM determined?

A. The three different cost components are calculated based on the allocated revenue requirements to customer class, the level of production costs identified in the class cost of service studies sponsored by Company witness Brooks, and the total

volumes of water approved in this proceeding that form the basis of the billing determinants for water service. Specifically, the calculation for the different cost components is as follows:

- **Volumetric Charge (VC)**: Total Production Costs allocated to eligible customers divided by total volumetric sales associated with eligible customers.
- **Residential Fixed Charge (RC)**: Total revenue requirement allocated to residential customers for rate design purposes less the Volumetric Charge multiplied by total volumetric sales associated with residential customers divided by the total number of residential customers in the case.
- **Non-Residential Fixed Charge (NC)**: Total revenue requirement allocated to eligible non-residential customers for rate design purposes less the Volumetric Charge multiplied by total volumetric sales associated with eligible non-residential eligible customers divided by the total number of non-residential customers in the case.

87. Q. Do you have a calculation of these cost components?

A. Yes. Schedule CBR-6 provides a calculation of the three RDM cost components based on the cost of service studies supported by Company Witness Brooks.

TABLE 7
Water

RDM Cost Components	**Amount**	**Description**
Residential Fixed Charge	$79.08	$ per residential customer per month
Nonresidential Fixed Charge	$425.26	$ per nonresidential customer per month
Volumetric Charge	$.0599	$ per hundred gallons sold

88. Q. Can you provide an example of how the RDM would work on a forward-looking basis?

A. The proposed RDM works by comparing actual revenues recovered from eligible customers in a given month or year to the revenues that would result from applying the RDM cost-components described above. If actual revenues are higher than would have been collected under the RDM formula, the difference is credited to customers in the following year. If actual revenues are lower than would have been collected under the RDM formula, the difference is collected from customers in the following year. As I've previously described, the RDM cost components are developed based on approved customer counts, sales, production costs, and total revenue requirements in this case. On a monthly basis, the RDM is as follows:

RDM Res = REV – (VC * Res Usage) – (RC * ResCust)

Where: RDM Res = amount of revenue to be accrued from residential

REV = total revenue in the month from eligible customers

VC = Volumetric Charge

Res Usage = total water volumes sold to residential customers

RC = Residential Fixed Charge

ResCust = number of residential customers for the month

RDM Com = REV – (VC * Usage) – (NC * ComCust)

Where: RDMNon = revenue to be accrued from nonresidential customers

REV = total revenue in the month from eligible customers

VC = Volumetric Charge

Usage = total water volumes sold to nonresidential customers

NC = Nonresidential Fixed Charge

NonCust = number of nonresidential customers for the month

89. Q. Please describe how the Company proposes to implement the RDM.

A. The Company's proposed RDM will apply to water service. The recovery/credit mechanisms are proposed to be volumetric and apply separately for each customer class. Amounts accrued over the course of the year that will be credited to or collected from customers will be applied in the following year to forecasted sales volumes and a volumetric credit/surcharge will be calculated on a dollar per hundred gallons basis.

90. Q. Are the cost components of the RDM calculation themselves fixed or do they change over time depending on changes in revenue requirements?

A. The cost components of the RDM shown above in Table 7 are fixed and will not change until a future rate case with a different set of revenue requirements and calculations for cost components.

91. Q. What customer classes are included in the Company's proposed RDM?

A. The proposed RDM will apply to all residential and non-residential customers in the General Metered Service ("GMS") rate class.

92. Q. Please describe the Company's proposed method for RDM reporting and reconciliation filings with the BPU.

A. Each month the Company will compare the actual metered revenues for the applicable customer classes to the calculated authorized revenues under the RDM cost component structure. If the actual revenues fall short of the RDM calculation, the difference in the revenue will be temporarily deferred to a regulatory asset account. If the actual revenues are more, the difference would be temporarily deferred to a regulatory liability account.

Then, the Company proposes to make a filing with the BPU on or before January 31 of each year that includes the RDM calculation and support for any annual adjustments to be effective under the RDM tariff. The Board Staff and other interested parties would have 60 days to review. If either a charge or a credit is in order, the reconciliation amount would be charged from April 1 through December 31 for that calendar year.

93. Q. How does the Company propose to treat customer growth through acquisitions in the RDM process?

A. Any acquisitions that are completed by the Company that are not already included in this proceeding will not be included in the proposed RDM until such time that they are included in rate base and revenue requirement calculations in a future proceeding. For any acquisitions that may occur that are not already included in this case, sales and revenues will be tracked separately and excluded from the calculations used to support charges or credits under the Company's proposed RDM.

C. Comparison to Revenue Stabilization Mechanisms

94. Q. Has the Company filed a proposal for a Revenue Stabilization Mechanism ("RSM") in previous rate cases in New Jersey?

A. Yes. The Company included an RSM in its 2019 rate case filing in Docket WR19121516 and its 2017 rate case filing in Docket WR17090985.

95. Q. Are there significant differences between the Company's proposed RDM in this case and the RSM that it has proposed in previous cases?

A. Yes. These differences are listed below:

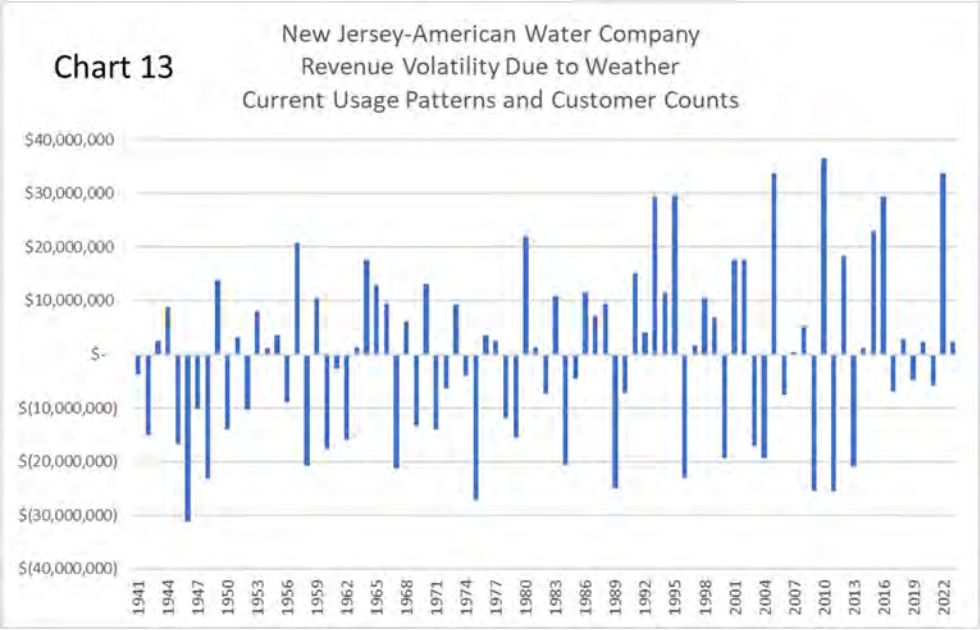
- Proposed RSMs in the past were primarily an accounting tool that is designed to align the Company's revenues going forward (i.e., beyond the conclusion of that proceeding) with the level of authorized revenue ultimately approved by the Board in that proceeding. While there is accounting involved in the Company's proposed RDM, the RDM is much more of a rate design tool that couples the best of rate design principles afforded through traditional rate design with the revenue stability afforded through SFV pricing. The focus on rate design issues in the Company's proposed RDM sets it apart from the RSM proposals the Company has made in the past.
- Proposed RSMs were based on a static revenue requirement to be approved in that case and going-forward comparisons in the RSM compared revenues to that approved static revenue requirement. The proposed RDM in this case is not based on a static revenue requirement. If volumes sold going forward fluctuate up or down, the revenue calculations under the RDM will go up or

down accordingly, but only to the extent that changes in volumes sold cause changes in short-term variable costs. Similarly, if there is customer growth or customer reductions (exclusive of acquisitions), the revenue calculations under the RDM will increase or decrease accordingly based on the approved level of fixed cost per customer required to serve customers as identified in this case.

A. Customer Impacts

96. Q. Do you have a chart that shows the long-term variability that climate has on the Company's revenue stream?

A. Yes. The chart below shows a long-term view of the weather impacts that would have happened year by year assuming the Company's proposed rate design for GMS rates in this case and annual climate conditions in the state of New Jersey going back to 1941.



The chart shows two significant findings. The first is that the combination of changes in summer temperature and precipitation over time is resulting in more weather sensitive usage and weather sensitive revenues, which is shown by the upward trend in the chart. The second significant finding is that fluctuations in revenue due to weather are increasing over time as shown by the fact that the spread of results in later years (the right hand side of the chart) is greater than in earlier years. This chart shows that climate changes from 1941 to the present time are resulting in higher variability of revenues due to weather and more weather-sensitive usage in the Company's service territory.

97. Q. What variability do you expect to see in annual water revenues in the future?

A. An analysis of the historical data shown above shows that in any given year water revenues at the Company's proposed rates in this proceeding can swing from the projected amount by as much as plus or minus approximately $20,000,000 (one standard deviation around normal). A statistical analysis of the data shows that an 80% confidence upper and lower bound around projected annual water revenues is plus or minus $25.7 million. This means that 80% of the time revenues are expected to be within plus or minus $25.7 million of the forecast, but there is a 10% chance that revenues will be more than $25.7 million above the forecast, and a 10% chance that revenues will be more than $25.7 million below the forecast.

B. Public Interest

98. Q. Are there policy concerns among public utility regulators that an RDM addresses?

A. Yes. The National Association of Regulatory Utility Commissioners ("NARUC") has been at the forefront of this issue. At its November 2013 annual meeting, NARUC adopted a resolution, attached hereto as Schedule CBR-7, that supports consideration of alternative recovery mechanisms for water and wastewater utilities. The NARUC resolution recognizes declining use per customer, a shift to non-revenue producing infrastructure replacement and that the traditional cost of service model is not well adapted to this new environment. It states, in part:

> WHEREAS, Traditional cost of service ratemaking, which has worked reasonably well in the past for water and wastewater utilities, no longer adequately addresses the challenges of today and tomorrow. Revenue, driven by declining use per customer, is flat to decreasing, while the nature of investment (rate base) has shifted largely from plant needed for serving new customers to non-revenue producing infrastructure replacement and compliance with new drinking water standards; and
>
> WHEREAS, The traditional cost of service model is not well adapted to a no/low growth, high investment utility environment and is unlikely to encourage the necessary future investment in infrastructure replacement; and
>
> WHEREAS, Compared to the water and wastewater industry, the electric and natural gas delivery industries have in place a larger number and a greater variety of alternative regulation policies, such as multiyear rate plans and rate stabilization programs, and those set forth in the 2005 Resolution; and
>
> WHEREAS, The U.S. water industry is the most capital intensive sector of regulated utilities and faces critical investment needs that are expected to total $335 billion to $1 trillion over the next quarter century, as noted in the American Society of Civil Engineers 2013 Report Card for America's Infrastructure…

The NARUC resolution goes on to recommend the adoption of alternative recovery mechanisms such as the RDM. It states that:

> Alternative regulatory mechanisms can enhance the efficiency and effectiveness of water and wastewater utility regulation by reducing

regulatory costs, increasing rates for customers, when necessary, on a more gradual basis; and providing the predictability and regulatory certainty that supports the attraction of debt and equity capital at reasonable costs and maintains that access at all times.

99. Q. How does a properly structured RDM meet these policy objectives and benefit NJAWC's customers?

A. It is in the long-term best interests of customers for the Company to be able to reliably recover its fixed costs on an ongoing basis. The authorized water revenue requirement approved by the Board in this case represents the amount of revenue the BPU determines that the Company needs to operate, maintain, and invest in its water system in a prudent and efficient manner, the vast majority of the costs of which are fixed in the short term. The ability to reliably recover the Company's fixed cost of providing service to customers improves the Company's ability to plan, manage, maintain, and invest in the facilities necessary to continue providing safe, reliable, and high-quality water service at a reasonable cost to customers, and a properly structured RDM does just that.

100. Q. What percentage of the Company's proposed revenue requirement in this case represents fixed costs?

A. As I stated previously, approximately 95% of the Company's costs are fixed costs, which do not vary depending on how much water our customers use, while approximately 67% of the Company's water service revenues will be collected under volumetric rates under the Company's proposed rate structure in this case, which means that far more revenues than costs will vary up or down depending on how much water our customers use. The fact that more than 60% of the Company's

fixed costs will be recovered through volume-based revenues subjects the Company to significant levels of risk related to recovery of fixed costs.

101. Q. Are alternative regulatory mechanisms such as the RDM recognized in the regulatory community as an effective means of addressing these policy concerns?

A. Yes. Revenue decoupling mechanisms have been adopted in many states to promote several laudable policy goals such as: eliminating the throughput incentive; supporting energy efficiency and conservation initiatives and investment; and aligning actual revenue collection with authorized revenue. Mechanisms similar to the Company's proposal here have been successfully used for some time for water utilities in New York and California and have been more recently adopted for water utilities in Connecticut, Nevada, Maine and Illinois. In addition, similar revenue stabilizing mechanisms have been approved for gas utilities in 23 jurisdictions, according to the December 2016 report from the American Gas Association entitled "Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List."[6] This report also states that Weather Normalization Adjustments are allowed in 22 states. A December 2017 report by the Institute for Electric Innovation lists 32 states and the District of Columbia that

[6] An earlier 2013 study by the Brattle Group entitled "Alternative Regulation and Ratemaking Approaches for Water Companies: Supporting the Capital Investment Needs of the 21st Century," prepared for the National Association of Water Companies, (September 30, 2013) found that 27 states for electricity, 30 states for natural gas delivery, and 5 states for water have these types of mechanisms.

have an approved fixed cost recovery mechanism for electric utilities with an additional state pending approval.

102. Q. Are there other benefits to customers from implementation of an RDM?

A. Yes. As I noted, an RDM will eliminate the throughput incentive – the Company's financial incentive to sell more water. Under the current rate structure (without an RDM), the more water customers use, the more water the Company sells, the more revenue the Company collects, and the better the Company's financial performance. Currently, from a public policy perspective, any actions taken by the Company or the government (local, state, or federal) to encourage conservation, no matter how beneficial to society, creates a disconnect between the public policy goal of more efficient use of water resources and the Company's legitimate financial objectives.

This, in turn, allows for a much higher degree of freedom to consider alternative rate designs that can improve affordability and efficiency of use for customers. Freedom to implement rate designs that can improve affordability and improve price signals to different types of customers can come in the form of lower monthly service charges and higher volumetric rates which can help lower income customers and provide a more significant volumetric incentive to use resources more economically. Rate designs that price Basic Water Service differently from seasonal usage can be implemented that can improve affordability across the board for lower income customers and provide better price signals that better reflect cost causation principles for customers that use more water for seasonal discretionary

purposes. Implementing these beneficial alternative rate designs normally could have significant short term and longer-term impacts on usage and revenues that may be detrimental to the Company's legitimate financial objectives without an RDM mechanism, but the associated financial risk to both the Company and its customers is covered under the Company's proposed RDM.

103. Q. Please summarize why adoption of an RDM in this proceeding is appropriate for the Company and its customers.

A. Adoption of the Company's proposed RDM is in the long-term best interest of both the Company and its customers. Rate designs that tie a utility's revenue recovery directly to sales volume have prompted concerns in modern utility regulation that because of seasonal variability and declining use per customer, volumetric rates that collect most of a Company's fixed cost do not give water utilities a reasonable opportunity to recover the fixed costs associated with providing service to customers. An alternative rate design mechanism that couples elements of SFV pricing with traditional rate designs brings the best of both worlds to both the Company and its customers. Implementing this alternative rate design solution: 1) makes the Company indifferent to selling less water; 2) promotes water efficiency and conservation; 3) reduces the adverse impact of weather variability for both the utility and its customers; and 4) reasonably ensures that sufficient revenues for continued investments in the system are available. The result is a better alignment of all stakeholder interests.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

104. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

1. Q. Please describe your educational background and professional associations.

A. I received a Bachelor of Arts degree in Computer Science from the University of Illinois at Springfield in 1986 and a Master's degree in Statistics and Operations Research from Southern Illinois University at Edwardsville in 1990.

2. Q. What has been your business experience?

A. I have been employed by AWWSC since January 2018 in my role as Senior Director, Rates and Regulatory. Previous to my employment with AWWSC, I was employed by MidAmerican Energy Company from June 1990 through January 2018. I have more than thirty years of utility experience covering a wide range of issues including electric system planning, sales and revenue forecasting, electric load research, marketing, rates, class cost of service, and energy efficiency. Most recently at MidAmerican, I was Director, Energy Efficiency and Regulatory Analytics. In that position, I had responsibility for planning, evaluation, and operational management of MidAmerican's energy efficiency and demand response programs in Illinois, Iowa, and South Dakota, as well as direct responsibility for electric and natural gas sales and revenue forecasting, electric peak demand forecasting, load research, retail pricing of electric and natural gas products, and electric and natural gas cost of service and rate design.

New Jersey-American Water Company, Inc.
Water Affordability Summary - Bills for Basic Water Service
Customer Counts as of December 31, 2023

Affordability Target: 2.0%

Income Level	Size	Basic Water Service	Average Income	Customers	Proposed Base Bill	Proposed Discount	Proposed Recovery	0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%	300%-350%	350%-400%	400%-450%	450%-500%	Over 500%
$0-$5k	1	1,200	$ 3,000	4,244	$ 36.21	$ -	$ -	4,244	-	-	-	-	-	-	-	-	-	-
$0-$5k	2	2,400	$ 3,000	2,615	$ 48.58	$ -	$ -	2,615	-	-	-	-	-	-	-	-	-	-
$0-$5k	3	3,600	$ 3,000	921	$ 60.97	$ -	$ -	921	-	-	-	-	-	-	-	-	-	-
$0-$5k	4	4,800	$ 3,000	682	$ 73.35	$ -	$ -	682	-	-	-	-	-	-	-	-	-	-
$0-$5k	5	6,000	$ 3,000	318	$ 85.74	$ -	$ -	318	-	-	-	-	-	-	-	-	-	-
$0-$5k	6	7,200	$ 3,000	109	$ 98.15	$ -	$ -	109	-	-	-	-	-	-	-	-	-	-
$0-$5k	7	8,400	$ 3,000	60	$ 110.48	$ -	$ -	60	-	-	-	-	-	-	-	-	-	-
$5-$10k	1	1,200	$ 7,500	2,845	$ 36.22	$ -	$ -	1,403	1,442	-	-	-	-	-	-	-	-	-
$5-$10k	2	2,400	$ 7,500	1,384	$ 48.57	$ -	$ -	1,384	-	-	-	-	-	-	-	-	-	-
$5-$10k	3	3,600	$ 7,500	483	$ 60.96	$ -	$ -	483	-	-	-	-	-	-	-	-	-	-
$5-$10k	4	4,800	$ 7,500	332	$ 73.31	$ -	$ -	332	-	-	-	-	-	-	-	-	-	-
$5-$10k	5	6,000	$ 7,500	143	$ 85.76	$ -	$ -	143	-	-	-	-	-	-	-	-	-	-
$5-$10k	6	7,200	$ 7,500	42	$ 98.09	$ -	$ -	42	-	-	-	-	-	-	-	-	-	-
$5-$10k	7	8,400	$ 7,500	23	$ 110.48	$ -	$ -	23	-	-	-	-	-	-	-	-	-	-
$10-$15k	1	1,200	$ 12,500	5,840	$ 36.33	$ -	$ -	-	5,260	580	-	-	-	-	-	-	-	-
$10-$15k	2	2,400	$ 12,500	1,988	$ 48.66	$ -	$ -	-	1,988	-	-	-	-	-	-	-	-	-
$10-$15k	3	3,600	$ 12,500	669	$ 61.05	$ -	$ -	305	364	-	-	-	-	-	-	-	-	-
$10-$15k	4	4,800	$ 12,500	417	$ 73.46	$ -	$ -	417	-	-	-	-	-	-	-	-	-	-
$10-$15k	5	6,000	$ 12,500	173	$ 85.86	$ -	$ -	173	-	-	-	-	-	-	-	-	-	-
$10-$15k	6	7,200	$ 12,500	63	$ 98.29	$ -	$ -	63	-	-	-	-	-	-	-	-	-	-
$10-$15k	7	8,400	$ 12,500	27	$ 110.73	$ -	$ -	27	-	-	-	-	-	-	-	-	-	-
$15-$20k	1	1,200	$ 17,500	5,557	$ 36.22	$ -	$ -	-	-	5,557	-	-	-	-	-	-	-	-
$15-$20k	2	2,400	$ 17,500	2,148	$ 48.55	$ -	$ -	-	1,964	184	-	-	-	-	-	-	-	-
$15-$20k	3	3,600	$ 17,500	740	$ 60.92	$ -	$ -	-	740	-	-	-	-	-	-	-	-	-
$15-$20k	4	4,800	$ 17,500	530	$ 73.29	$ -	$ -	-	530	-	-	-	-	-	-	-	-	-
$15-$20k	5	6,000	$ 17,500	207	$ 85.75	$ -	$ -	129	79	-	-	-	-	-	-	-	-	-
$15-$20k	6	7,200	$ 17,500	79	$ 98.17	$ -	$ -	79	-	-	-	-	-	-	-	-	-	-
$15-$20k	7	8,400	$ 17,500	41	$ 110.48	$ -	$ -	41	-	-	-	-	-	-	-	-	-	-
$20-$25k	1	1,200	$ 22,500	6,114	$ 36.19	$ -	$ -	-	-	2,438	3,676	-	-	-	-	-	-	-
$20-$25k	2	2,400	$ 22,500	3,015	$ 48.52	$ -	$ -	-	-	3,015	-	-	-	-	-	-	-	-
$20-$25k	3	3,600	$ 22,500	1,068	$ 60.90	$ -	$ -	-	1,068	-	-	-	-	-	-	-	-	-
$20-$25k	4	4,800	$ 22,500	790	$ 73.27	$ -	$ -	-	790	-	-	-	-	-	-	-	-	-
$20-$25k	5	6,000	$ 22,500	349	$ 85.59	$ -	$ -	-	349	-	-	-	-	-	-	-	-	-
$20-$25k	6	7,200	$ 22,500	111	$ 98.15	$ -	$ -	-	111	-	-	-	-	-	-	-	-	-
$20-$25k	7	8,400	$ 22,500	71	$ 110.57	$ -	$ -	54	17	-	-	-	-	-	-	-	-	-
$25-$35k	1	1,200	$ 22,500	10,200	$ 36.23	$ -	$ -	-	-	-	4,080	6,120	-	-	-	-	-	-
$25-$35k	2	2,400	$ 30,000	7,463	$ 48.57	$ -	$ -	-	-	3,717	3,747	-	-	-	-	-	-	-
$25-$35k	3	3,600	$ 30,000	2,719	$ 60.95	$ -	$ -	-	-	2,719	-	-	-	-	-	-	-	-
$25-$35k	4	4,800	$ 30,000	2,088	$ 73.32	$ -	$ -	-	1,010	1,079	-	-	-	-	-	-	-	-
$25-$35k	5	6,000	$ 30,000	968	$ 85.71	$ -	$ -	-	968	-	-	-	-	-	-	-	-	-
$25-$35k	6	7,200	$ 30,000	380	$ 98.05	$ -	$ -	-	380	-	-	-	-	-	-	-	-	-
$25-$35k	7	8,400	$ 30,000	214	$ 110.54	$ -	$ -	-	214	-	-	-	-	-	-	-	-	-
$35-$50k	1	1,200	$ 37,500	12,648	$ 36.19	$ -	$ -	-	-	-	-	1,259	6,327	5,062	-	-	-	-
$35-$50k	2	2,400	$ 37,500	12,739	$ 48.51	$ -	$ -	-	-	-	3,820	8,919	-	-	-	-	-	-
$35-$50k	3	3,600	$ 37,500	5,014	$ 60.87	$ -	$ -	-	-	979	4,035	-	-	-	-	-	-	-
$35-$50k	4	4,800	$ 37,500	4,135	$ 73.23	$ -	$ -	-	-	2,889	1,246	-	-	-	-	-	-	-
$35-$50k	5	6,000	$ 37,500	1,934	$ 85.59	$ -	$ -	-	-	1,934	-	-	-	-	-	-	-	-
$35-$50k	6	7,200	$ 37,500	746	$ 97.90	$ -	$ -	-	269	477	-	-	-	-	-	-	-	-
$35-$50k	7	8,400	$ 37,500	442	$ 110.25	$ -	$ -	-	311	131	-	-	-	-	-	-	-	-
$50-$75k	1	1,200	$ 62,500	18,149	$ 36.19	$ -	$ -	-	-	-	-	-	-	-	5,446	5,447	5,446	1,811
$50-$75k	2	2,400	$ 62,500	23,741	$ 48.53	$ -	$ -	-	-	-	-	-	9,490	9,505	4,746	-	-	-
$50-$75k	3	3,600	$ 62,500	10,012	$ 60.90	$ -	$ -	-	-	-	-	4,990	5,022	-	-	-	-	-
$50-$75k	4	4,800	$ 62,500	8,018	$ 73.27	$ -	$ -	-	-	-	3,202	4,816	-	-	-	-	-	-
$50-$75k	5	6,000	$ 62,500	3,937	$ 85.63	$ -	$ -	-	-	393	2,761	784	-	-	-	-	-	-
$50-$75k	6	7,200	$ 62,500	1,641	$ 98.01	$ -	$ -	-	-	663	978	-	-	-	-	-	-	-
$50-$75k	7	8,400	$ 62,500	860	$ 110.32	$ -	$ -	-	-	608	252	-	-	-	-	-	-	-
$75-$100k	1	1,200	$ 87,500	12,724	$ 36.18	$ -	$ -	-	-	-	-	-	-	-	-	-	-	12,724
$75-$100k	2	2,400	$ 87,500	24,143	$ 48.51	$ -	$ -	-	-	-	-	-	-	-	4,819	7,263	9,654	2,407
$75-$100k	3	3,600	$ 87,500	11,174	$ 60.86	$ -	$ -	-	-	-	-	-	-	5,573	5,601	-	-	-
$75-$100k	4	4,800	$ 87,500	9,380	$ 73.22	$ -	$ -	-	-	-	-	-	5,630	3,750	-	-	-	-
$75-$100k	5	6,000	$ 87,500	4,528	$ 85.58	$ -	$ -	-	-	-	-	2,283	2,246	-	-	-	-	-
$75-$100k	6	7,200	$ 87,500	2,064	$ 97.95	$ -	$ -	-	-	-	417	1,647	-	-	-	-	-	-
$75-$100k	7	8,400	$ 87,500	983	$ 110.26	$ -	$ -	-	-	-	618	365	-	-	-	-	-	-
$100-$150k	1	1,200	$ 125,000	14,081	$ 36.18	$ -	$ -	-	-	-	-	-	-	-	-	-	-	14,081
$100-$150k	2	2,400	$ 125,000	41,150	$ 48.51	$ -	$ -	-	-	-	-	-	-	-	-	-	-	41,150
$100-$150k	3	3,600	$ 125,000	21,931	$ 60.88	$ -	$ -	-	-	-	-	-	-	-	-	4,389	6,566	10,976
$100-$150k	4	4,800	$ 125,000	21,788	$ 73.23	$ -	$ -	-	-	-	-	-	-	2,180	6,532	6,540	6,537	-
$100-$150k	5	6,000	$ 125,000	9,838	$ 85.60	$ -	$ -	-	-	-	-	-	980	3,924	2,964	1,970	-	-
$100-$150k	6	7,200	$ 125,000	4,659	$ 97.98	$ -	$ -	-	-	-	-	-	1,866	1,871	921	-	-	-
$100-$150k	7	8,400	$ 125,000	2,271	$ 110.30	$ -	$ -	-	-	-	-	667	937	667	-	-	-	-
Over $150k	1	1,200	$ 200,000	20,339	$ 36.16	$ -	$ -	-	-	-	-	-	-	-	-	-	-	20,339
Over $150k	2	2,400	$ 200,000	82,359	$ 48.48	$ -	$ -	-	-	-	-	-	-	-	-	-	-	82,359
Over $150k	3	3,600	$ 200,000	51,082	$ 60.82	$ -	$ -	-	-	-	-	-	-	-	-	-	-	51,082
Over $150k	4	4,800	$ 200,000	58,800	$ 73.15	$ -	$ -	-	-	-	-	-	-	-	-	-	-	58,800
Over $150k	5	6,000	$ 200,000	24,801	$ 85.50	$ -	$ -	-	-	-	-	-	-	-	-	2,475	4,957	17,369
Over $150k	6	7,200	$ 200,000	9,633	$ 97.87	$ -	$ -	-	-	-	-	-	-	-	961	1,934	1,937	4,802
Over $150k	7	8,400	$ 200,000	5,480	$ 110.21	$ -	$ -	-	-	-	-	-	-	543	1,112	1,105	1,623	1,098
		Total:		605,454				14,047	17,854	27,361	28,832	31,849	32,498	33,074	33,103	31,122	36,719	318,997
		Avg. Proposed Base Bill	$	58.28				$ 51.60	$ 55.59	$ 56.81	$ 58.57	$ 59.47	$ 60.61	$ 62.60	$ 61.66	$ 63.84	$ 63.62	$ 56.52
		Avg. Household Income	$	127,933				$ 5,218	$ 17,665	$ 29,244	$ 40,523	$ 51,504	$ 70,968	$ 84,307	$ 98,650	$ 118,599	$ 123,265	$ 178,317
		Average BTI Ratio:		0.55%				11.87%	3.78%	2.33%	1.73%	1.39%	1.02%	0.89%	0.75%	0.65%	0.62%	0.38%

--- Customers by FPL ---

--- Average Bills by FPL Multiple ---

Size	0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%
1	$ 36.22	$ 36.31	$ 36.22	$ 36.21	$ 36.22	$ 36.19
2	$ 48.57	$ 48.61	$ 48.55	$ 48.54	$ 48.51	$ 48.53
3	$ 60.98	$ 60.93	$ 60.93	$ 60.86	$ 60.90	$ 60.90
4	$ 73.37	$ 73.30	$ 73.25	$ 73.26	$ 73.26	$ 73.22
5	$ 85.77	$ 85.68	$ 85.60	$ 85.64	$ 85.58	$ 85.59
6	$ 98.18	$ 98.05	$ 97.97	$ 97.96	$ 97.94	$ 97.99
7	$ 110.55	$ 110.38	$ 110.30	$ 110.28	$ 110.34	$ 110.20

Income	Customers	Flagged	AI
Over $150k	252,494	-	100%
$100-$150k	115,718	-	100%
$75-$100k	64,996	-	100%
$50-$75k	66,358	1,589	98%
$35-$50k	37,658	6,087	84%
$25-$35k	24,032	9,356	61%
$20-$25k	11,518	7,252	37%
$15-$20k	9,302	9,292	0%
$10-$15k	9,177	9,177	0%
$5-$10k	5,252	5,252	0%
$0-$5k	8,949	8,949	0%

Weighted Average Basic Water Service Bill: $ 58.28
Median Household Income $ 136,714
BTI Ratio: 0.51%

Average Use for Basic Service: 3,349

Total Basic Water Service Usage: 243,353,664
Total Base Bill: $ 423,443,621
Total Discounts: $ -

Eligible Sales Multiplier 1.20
Total Eligible Sales 292,024,397

Total Recovery: $ -

Household Size	0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%	300%-350%	350%-400%	400%-450%	450%-500%	Over 500%
1	5,647	6,702	8,575	7,756	7,379	6,327	5,062	5,446	5,447	5,446	48,955
2	3,999	3,952	6,916	7,567	8,919	9,490	9,505	9,566	7,263	9,654	125,916
3	1,709	2,172	3,698	4,035	4,990	5,022	5,573	5,601	4,389	6,566	62,058
4	1,431	2,330	3,967	4,449	4,816	5,630	5,929	6,532	6,540	6,537	58,800
5	763	1,396	2,327	2,761	3,066	3,225	3,924	2,964	4,445	4,957	17,369
6	293	760	1,139	1,396	1,647	1,866	1,871	1,883	1,934	1,937	4,802
7	205	542	739	870	1,032	937	1,209	1,112	1,105	1,623	1,098

	0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%	300%-350%	350%-400%	400%-450%	450%-500%	Over 500%
	BTI 0%-1%	BTI 1%-2%	BTI 2%-3%	BTI 3%-4%	BTI 4%-5%	BTI 5%-6%	BTI 6%-7%	BTI 7%-8%	BTI 8%-9%	BTI 9%-10%	BTI Over 10%
	457,516	90,983	25,495	10,297	5,049	2,571	1,426	993	796	817	9,511
Total Customers - Affordability Concern from Data Table:	14,047	17,853	25,006	49	-	-	-	-	-	-	-
Affordability Percentage from Data Table:	100%	100%	91%	0%	0%	0%	0%	0%	0%	0%	0%

New Jersey-American Water Company, Inc.
Water Affordability Analysis

Residential Statistics	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
NJ Revenue	$ 321,026,740	$ 320,030,742	$ 335,814,771	$ 331,763,076	$ 338,717,287	$ 373,520,552	$ 388,085,827	$ 391,289,917	$ 398,464,810	$ 405,582,508	$ 446,821,017	$ 453,270,859	$ 497,525,179	$ 526,277,358	$ 546,295,007	$ 603,922,815	Hyperion Revenues & Water Sales
NJ Sales	46,416,833	42,085,183	42,445,930	40,004,530	40,295,295	42,772,328	42,448,143	40,687,849	39,995,986	40,369,074	43,664,018	42,503,087	43,081,789	42,210,201	41,913,739	41,239,092	Hyperion Revenues & Water Sales
NJ Customers	556,340	556,933	556,271	552,284	554,737	559,626	564,072	575,785	582,888	590,115	594,497	598,504	600,963	604,713	609,005	613,085	Hyperion Revenues & Water Sales
NJ Statewide Median Income	$ 62,968	$ 62,338	$ 66,692	$ 63,754	$ 65,243	$ 68,357	$ 68,468	$ 72,997	$ 74,176	$ 87,726	$ 85,549	$ 88,559	$ 92,340	$ 97,779	$ 102,629	$ 106,744	Census Table H-8: Median Household Income by State:
NJ Customer Median Income	$ 81,938	$ 81,118	$ 86,783	$ 82,960	$ 84,898	$ 88,950	$ 89,094	$ 94,988	$ 96,522	$ 114,154	$ 111,321	$ 115,238	$ 120,158	$ 127,235	$ 133,546	$ 138,901	See adjustments ...
NJ Average Price	$ 6.92	$ 7.60	$ 7.91	$ 8.29	$ 8.41	$ 8.73	$ 9.14	$ 9.62	$ 9.96	$ 10.05	$ 10.23	$ 10.66	$ 11.55	$ 12.47	$ 13.03	$ 14.64	
NJ Average Monthly Bill	$ 48.09	$ 47.89	$ 50.31	$ 50.06	$ 50.88	$ 55.62	$ 57.33	$ 56.63	$ 56.97	$ 57.27	$ 62.63	$ 63.11	$ 68.99	$ 72.52	$ 74.75	$ 82.09	
NJ Average Monthly Use	6.95	6.30	6.36	6.04	6.05	6.37	6.27	5.89	5.72	5.70	6.12	5.92	5.97	5.82	5.74	5.61	
NJ BTI Ratio	0.70%	0.71%	0.70%	0.72%	0.72%	0.75%	0.77%	0.72%	0.71%	0.60%	0.68%	0.66%	0.69%	0.68%	0.67%	0.71%	

1.3013 State adjustment factor to reflect the difference between statewide MHI and MHI for AW customers in the state

Chart 1

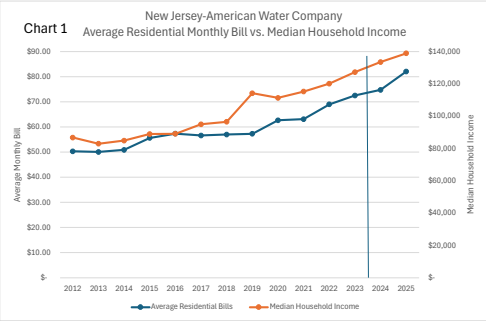
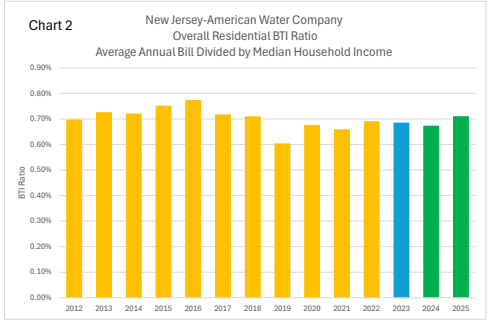


Chart 2



New Jersey-American Water Company, Inc.
Wastewater Affordability Summary - Bills for Basic Water Service
Customer Counts as of December 31, 2023

Affordability Target: 2.0%

Income Level	Size	Basic Water Service	Average Income	Customers	Proposed Base Bill	Proposed Discount	Proposed Recovery	--- Customers by FPL --- 0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%	300%-350%	350%-400%	400%-450%	450%-500%	Over 500%
$0-$5k	1	1,200	$ 3,000	602	$ 30.50	$ -	$ -	602	-	-	-	-	-	-	-	-	-	-
$0-$5k	2	2,400	$ 3,000	353	$ 41.31	$ -	$ -	353	-	-	-	-	-	-	-	-	-	-
$0-$5k	3	3,600	$ 3,000	178	$ 52.96	$ -	$ -	178	-	-	-	-	-	-	-	-	-	-
$0-$5k	4	4,800	$ 3,000	192	$ 66.21	$ -	$ -	192	-	-	-	-	-	-	-	-	-	-
$0-$5k	5	6,000	$ 3,000	79	$ 77.36	$ -	$ -	79	-	-	-	-	-	-	-	-	-	-
$0-$5k	6	7,200	$ 3,000	26	$ 87.51	$ -	$ -	26	-	-	-	-	-	-	-	-	-	-
$0-$5k	7	8,400	$ 3,000	12	$ 100.17	$ -	$ -	12	-	-	-	-	-	-	-	-	-	-
$5-$10k	1	1,200	$ 7,500	294	$ 30.34	$ -	$ -	141	154	-	-	-	-	-	-	-	-	-
$5-$10k	2	2,400	$ 7,500	162	$ 42.10	$ -	$ -	162	-	-	-	-	-	-	-	-	-	-
$5-$10k	3	3,600	$ 7,500	69	$ 52.54	$ -	$ -	69	-	-	-	-	-	-	-	-	-	-
$5-$10k	4	4,800	$ 7,500	63	$ 65.32	$ -	$ -	63	-	-	-	-	-	-	-	-	-	-
$5-$10k	5	6,000	$ 7,500	24	$ 79.00	$ -	$ -	24	-	-	-	-	-	-	-	-	-	-
$5-$10k	6	7,200	$ 7,500	6	$ 94.58	$ -	$ -	6	-	-	-	-	-	-	-	-	-	-
$5-$10k	7	8,400	$ 7,500	3	$ 107.31	$ -	$ -	3	-	-	-	-	-	-	-	-	-	-
$10-$15k	1	1,200	$ 12,500	887	$ 31.65	$ -	$ -	-	801	86	-	-	-	-	-	-	-	-
$10-$15k	2	2,400	$ 12,500	365	$ 39.69	$ -	$ -	-	365	-	-	-	-	-	-	-	-	-
$10-$15k	3	3,600	$ 12,500	142	$ 49.74	$ -	$ -	67	75	-	-	-	-	-	-	-	-	-
$10-$15k	4	4,800	$ 12,500	102	$ 63.08	$ -	$ -	102	-	-	-	-	-	-	-	-	-	-
$10-$15k	5	6,000	$ 12,500	46	$ 71.96	$ -	$ -	46	-	-	-	-	-	-	-	-	-	-
$10-$15k	6	7,200	$ 12,500	18	$ 84.85	$ -	$ -	18	-	-	-	-	-	-	-	-	-	-
$10-$15k	7	8,400	$ 12,500	7	$ 107.31	$ -	$ -	7	-	-	-	-	-	-	-	-	-	-
$15-$20k	1	1,200	$ 17,500	750	$ 34.83	$ -	$ -	-	-	750	-	-	-	-	-	-	-	-
$15-$20k	2	2,400	$ 17,500	360	$ 43.06	$ -	$ -	-	327	33	-	-	-	-	-	-	-	-
$15-$20k	3	3,600	$ 17,500	160	$ 54.88	$ -	$ -	-	160	-	-	-	-	-	-	-	-	-
$15-$20k	4	4,800	$ 17,500	141	$ 66.56	$ -	$ -	-	141	-	-	-	-	-	-	-	-	-
$15-$20k	5	6,000	$ 17,500	55	$ 79.65	$ -	$ -	31	24	-	-	-	-	-	-	-	-	-
$15-$20k	6	7,200	$ 17,500	21	$ 94.43	$ -	$ -	21	-	-	-	-	-	-	-	-	-	-
$15-$20k	7	8,400	$ 17,500	11	$ 109.08	$ -	$ -	11	-	-	-	-	-	-	-	-	-	-
$20-$25k	1	1,200	$ 22,500	719	$ 31.98	$ -	$ -	-	-	284	435	-	-	-	-	-	-	-
$20-$25k	2	2,400	$ 22,500	469	$ 43.82	$ -	$ -	-	-	469	-	-	-	-	-	-	-	-
$20-$25k	3	3,600	$ 22,500	230	$ 55.87	$ -	$ -	-	230	-	-	-	-	-	-	-	-	-
$20-$25k	4	4,800	$ 22,500	226	$ 68.14	$ -	$ -	-	226	-	-	-	-	-	-	-	-	-
$20-$25k	5	6,000	$ 22,500	93	$ 81.22	$ -	$ -	-	93	-	-	-	-	-	-	-	-	-
$20-$25k	6	7,200	$ 22,500	27	$ 97.63	$ -	$ -	-	27	-	-	-	-	-	-	-	-	-
$20-$25k	7	8,400	$ 22,500	18	$ 107.55	$ -	$ -	11	8	-	-	-	-	-	-	-	-	-
$25-$35k	1	1,200	$ 22,500	1,277	$ 31.82	$ -	$ -	-	-	-	509	768	-	-	-	-	-	-
$25-$35k	2	2,400	$ 30,000	927	$ 40.47	$ -	$ -	-	-	457	471	-	-	-	-	-	-	-
$25-$35k	3	3,600	$ 30,000	488	$ 52.78	$ -	$ -	-	-	488	-	-	-	-	-	-	-	-
$25-$35k	4	4,800	$ 30,000	562	$ 65.69	$ -	$ -	-	277	285	-	-	-	-	-	-	-	-
$25-$35k	5	6,000	$ 30,000	241	$ 76.65	$ -	$ -	-	241	-	-	-	-	-	-	-	-	-
$25-$35k	6	7,200	$ 30,000	82	$ 86.08	$ -	$ -	-	82	-	-	-	-	-	-	-	-	-
$25-$35k	7	8,400	$ 30,000	40	$ 95.36	$ -	$ -	-	40	-	-	-	-	-	-	-	-	-
$35-$50k	1	1,200	$ 37,500	1,519	$ 34.95	$ -	$ -	-	-	-	-	151	759	609	-	-	-	-
$35-$50k	2	2,400	$ 37,500	1,304	$ 44.11	$ -	$ -	-	-	-	391	913	-	-	-	-	-	-
$35-$50k	3	3,600	$ 37,500	814	$ 55.34	$ -	$ -	-	-	158	656	-	-	-	-	-	-	-
$35-$50k	4	4,800	$ 37,500	1,141	$ 67.98	$ -	$ -	-	-	798	343	-	-	-	-	-	-	-
$35-$50k	5	6,000	$ 37,500	506	$ 79.80	$ -	$ -	-	-	506	-	-	-	-	-	-	-	-
$35-$50k	6	7,200	$ 37,500	197	$ 91.72	$ -	$ -	-	77	120	-	-	-	-	-	-	-	-
$35-$50k	7	8,400	$ 37,500	83	$ 102.19	$ -	$ -	-	59	24	-	-	-	-	-	-	-	-
$50-$75k	1	1,200	$ 62,500	2,141	$ 34.13	$ -	$ -	-	-	-	-	-	-	-	643	643	644	212
$50-$75k	2	2,400	$ 62,500	2,005	$ 43.35	$ -	$ -	-	-	-	-	-	801	804	401	-	-	-
$50-$75k	3	3,600	$ 62,500	1,131	$ 53.68	$ -	$ -	-	-	-	-	558	574	-	-	-	-	-
$50-$75k	4	4,800	$ 62,500	1,480	$ 66.69	$ -	$ -	-	-	-	591	889	-	-	-	-	-	-
$50-$75k	5	6,000	$ 62,500	772	$ 78.23	$ -	$ -	-	-	76	543	153	-	-	-	-	-	-
$50-$75k	6	7,200	$ 62,500	447	$ 91.40	$ -	$ -	-	-	177	270	-	-	-	-	-	-	-
$50-$75k	7	8,400	$ 62,500	129	$ 98.98	$ -	$ -	-	-	90	39	-	-	-	-	-	-	-
$75-$100k	1	1,200	$ 87,500	1,521	$ 32.65	$ -	$ -	-	-	-	-	-	-	-	-	-	-	1,521
$75-$100k	2	2,400	$ 87,500	1,938	$ 42.64	$ -	$ -	-	-	-	-	-	-	-	382	591	775	190
$75-$100k	3	3,600	$ 87,500	959	$ 52.42	$ -	$ -	-	-	-	-	-	-	473	487	-	-	-
$75-$100k	4	4,800	$ 87,500	1,038	$ 64.78	$ -	$ -	-	-	-	-	-	627	411	-	-	-	-
$75-$100k	5	6,000	$ 87,500	612	$ 76.61	$ -	$ -	-	-	-	-	311	302	-	-	-	-	-
$75-$100k	6	7,200	$ 87,500	553	$ 91.88	$ -	$ -	-	-	-	110	443	-	-	-	-	-	-
$75-$100k	7	8,400	$ 87,500	129	$ 98.89	$ -	$ -	-	-	-	82	47	-	-	-	-	-	-
$100-$150k	1	1,200	$ 125,000	1,813	$ 32.31	$ -	$ -	-	-	-	-	-	-	-	-	-	-	1,813
$100-$150k	2	2,400	$ 125,000	3,469	$ 41.28	$ -	$ -	-	-	-	-	-	-	-	-	-	-	3,469
$100-$150k	3	3,600	$ 125,000	1,771	$ 50.97	$ -	$ -	-	-	-	-	-	-	-	-	353	529	890
$100-$150k	4	4,800	$ 125,000	1,841	$ 62.12	$ -	$ -	-	-	-	-	-	-	183	551	552	554	-
$100-$150k	5	6,000	$ 125,000	1,126	$ 75.20	$ -	$ -	-	-	-	-	-	111	442	348	225	-	-
$100-$150k	6	7,200	$ 125,000	1,248	$ 91.44	$ -	$ -	-	-	-	-	-	498	504	246	-	-	-
$100-$150k	7	8,400	$ 125,000	430	$ 101.37	$ -	$ -	-	-	-	-	126	178	126	-	-	-	-
Over $150k	1	1,200	$ 200,000	2,953	$ 32.37	$ -	$ -	-	-	-	-	-	-	-	-	-	-	2,953
Over $150k	2	2,400	$ 200,000	7,152	$ 43.43	$ -	$ -	-	-	-	-	-	-	-	-	-	-	7,152
Over $150k	3	3,600	$ 200,000	3,921	$ 53.94	$ -	$ -	-	-	-	-	-	-	-	-	-	-	3,921
Over $150k	4	4,800	$ 200,000	4,094	$ 64.75	$ -	$ -	-	-	-	-	-	-	-	-	-	-	4,094
Over $150k	5	6,000	$ 200,000	2,084	$ 77.34	$ -	$ -	-	-	-	-	-	-	-	-	205	421	1,459
Over $150k	6	7,200	$ 200,000	1,688	$ 92.22	$ -	$ -	-	-	-	-	-	-	-	167	339	347	835
Over $150k	7	8,400	$ 200,000	1,035	$ 104.01	$ -	$ -	-	-	-	-	-	-	101	209	213	305	207
		Total:		65,571				2,223	3,407	4,800	4,439	4,359	3,848	3,653	3,434	3,120	3,576	28,714
		Avg. Proposed Base Bill	$ 53.74					$ 48.77	$ 53.51	$ 56.40	$ 57.37	$ 58.07	$ 59.15	$ 60.65	$ 58.59	$ 59.47	$ 59.50	$ 48.97
		Avg. Household Income	$ 115,101					$ 5,475	$ 19,231	$ 31,303	$ 43,810	$ 55,740	$ 76,376	$ 89,680	$ 104,726	$ 123,203	$ 128,125	$ 176,165
		Average BTI Raio:	0.56%					10.69%	3.34%	2.16%	1.57%	1.25%	0.93%	0.81%	0.67%	0.58%	0.56%	0.33%

Size	0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%	300%-350%	350%-400%	400%-450%	450%-500%	Over 500%
1	$ 30.17	$ 31.75	$ 33.70	$ 31.89	$ 32.45	$ 34.91					
2	$ 41.56	$ 41.29	$ 41.96	$ 42.39	$ 44.10	$ 43.38					
3	$ 51.97	$ 54.68	$ 53.24	$ 55.51	$ 53.18	$ 54.17					
4	$ 65.16	$ 66.64	$ 67.51	$ 67.02	$ 66.76	$ 64.97					
5	$ 76.22	$ 78.23	$ 79.53	$ 78.43	$ 77.29	$ 75.78					
6	$ 89.48	$ 90.29	$ 90.98	$ 91.41	$ 92.29	$ 91.35					
7	$ 105.89	$ 99.98	$ 100.16	$ 98.02	$ 101.38	$ 100.61					

Income	Customers	Flagged	AI
Over $150k	22,927	-	100%
$100-$150k	11,698	1	100%
$75-$100k	6,750	19	100%
$50-$75k	8,105	416	95%
$35-$50k	5,564	1,441	74%
$25-$35k	3,617	1,646	55%
$20-$25k	1,782	1,196	33%
$15-$20k	1,498	1,225	18%
$10-$15k	1,567	1,113	29%
$5-$10k	621	527	15%
$0-$5k	1,442	1,435	1%

Weighted Average Basic Water Service Bill: $ 53.74
Median Household Income $ 113,340
BTI Ratio: 0.57%

Average Use for Basic Service: 3,513

Total Basic Water Service Usage: 27,639,360
Total Base Bill: $ 42,287,492
Total Discounts: $ -

Eligible Sales Multiplier 1.20
Total Eligible Sales 33,167,232

Total Recovery: $ -

Household Size	0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%	300%-350%	350%-400%	400%-450%	450%-500%	Over 500%
1	743	955	1,120	944	920	759	609	643	643	644	6,499
2	515	692	958	861	913	801	804	783	591	775	10,811
3	314	465	646	656	558	574	473	487	353	529	12,916
4	357	644	1,084	933	889	627	595	551	552	554	4,094
5	180	358	582	543	464	413	442	348	430	421	1,459
6	71	186	296	381	443	498	504	413	339	347	7,585
7	44	106	115	121	173	178	228	209	213	305	1,649

	0-50%	50%-100%	100%-150%	150%-200%	200%-250%	250%-300%	300%-350%	350%-400%	400%-450%	450%-500%	Over 500%
	BTI	BTI	BTI	BTI	BTI	BTI	BTI	BTI	BTI	BTI	BTI
	0%-1%	1%-2%	2%-3%	3%-4%	4%-5%	5%-6%	6%-7%	7%-8%	8%-9%	9%-10%	Over 10%
	45,029	11,523	4,171	1,672	779	425	286	166	119	93	1,308
Total Customers - Affordability Concern from Data Table:	2,146	2,788	3,181	478	252	120	33	20	-	-	-
Affordability Percentage from Data Table:	97%	82%	66%	11%	6%	3%	1%	1%	0%	0%	0%

New Jersey-American Water Company
Wastewater Affordability Analysis

Residential Statistics	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
NJ Revenue	$ 24,544,561	$ 25,778,166	$ 25,121,750	$ 26,429,673	$ 30,727,272	$ 31,205,190	$ 31,873,145	$ 32,115,059	$ 33,964,833	$ 37,968,976	$ 40,532,073	$ 44,659,884	$ 48,407,622	$ 53,110,273	Hyperion Revenues & Water Sales
NJ Customers	31,824	32,149	32,487	35,674	43,091	43,933	44,714	46,245	48,477	51,210	52,525	56,299	60,261	60,261	Hyperion Revenues & Water Sales
NJ Statewide Median Income	$ 66,692	$ 63,754	$ 65,243	$ 68,357	$ 68,468	$ 72,997	$ 74,176	$ 87,726	$ 85,549	$ 88,559	$ 92,340	$ 97,779	$ 102,629	$ 106,744	Census Table H-8: Median Household Income by State:
NJ Customer Median Income	$ 71,946	$ 68,776	$ 70,383	$ 73,742	$ 73,862	$ 78,748	$ 80,019	$ 94,637	$ 92,288	$ 95,535	$ 99,614	$ 105,482	$ 110,713	$ 115,153	See adjustments … 1.0788 State adjustment factor to reflect the difference between statewide MHI and MHI for AW customers in the state
NJ Average Monthly Bill	$ 64.27	$ 66.82	$ 64.44	$ 61.74	$ 59.42	$ 59.19	$ 59.40	$ 57.87	$ 58.39	$ 61.79	$ 64.31	$ 66.11	$ 66.94	$ 73.44	
NJ BTI Ratio	1.07%	1.17%	1.10%	1.00%	0.97%	0.90%	0.89%	0.73%	0.76%	0.78%	0.77%	0.75%	0.73%	0.77%	

Chart 3

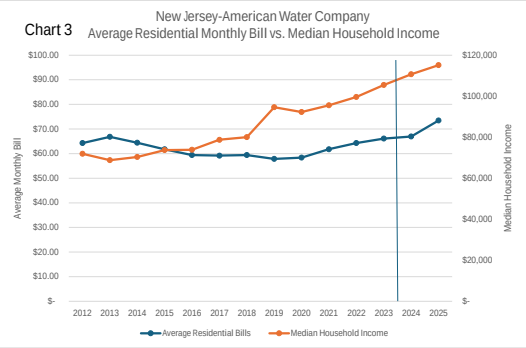
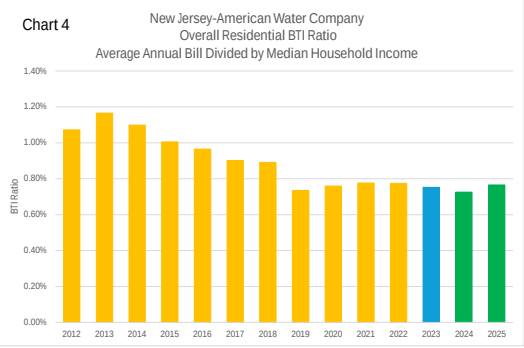


Chart 4



PSTAC Revenues

Elk Township	0.40008	36380	14555
Egg Harbor	0.44934	498157	223842
Adelphia	0.69196	1581014	1093998
Lakewood	0.46191	13121255	6060839
Ocean City	3.37033	2245353	7567581
			14960815

NEW JERSEY RESIDENTIAL MODEL

																	Rain Lag 2	0.3	0.8 CDD Lag						
							0.242	-0.268	-0.309	-0.040	0.327	1.950	3.496	3.276	3.084	1.661	0.325	-0.004	-0.364	0.006	0.353					
Period	Obs	Year	Month	Cust	Sales	UPC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Trend	Rain	CDD	COVID	Predicted	Actual	Variance	Weather Effect	Billing Adjustments
1	67	2013	7	554095	4085213	7.373	0	0	0	0	0	0	1	0	0	0	0	-119	2.955	17	0.0	7.526	7.373	0.153	-0.973	0
1	68	2013	8	554706	4424642	7.977	0	0	0	0	0	0	0	1	0	0	0	-118	0.448	5	0.0	8.146	7.977	0.170	-0.129	0
1	69	2013	9	555007	4060815	7.317	0	0	0	0	0	0	0	0	1	0	0	-117	-0.631	-93	0.0	7.733	7.317	0.416	-0.348	0
1	70	2013	10	554692	3602900	6.495	0	0	0	0	0	0	0	0	0	1	0	-116	-0.622	-48	0.0	6.579	6.495	0.084	-0.074	0
1	71	2013	11	554396	3137114	5.659	0	0	0	0	0	0	0	0	0	0	1	-115	0.000	0	0.0	5.313	5.659	-0.345	0.000	0
1	72	2013	12	554162	2805026	5.062	0	0	0	0	0	0	0	0	0	0	0	-114	0.000	0	0.0	4.985	5.062	-0.077	0.000	0
1	73	2014	1	553903	3108071	5.611	1	0	0	0	0	0	0	0	0	0	0	-113	0.000	0	0.0	5.224	5.611	-0.387	0.000	0
1	74	2014	2	553891	2773730	5.008	0	1	0	0	0	0	0	0	0	0	0	-112	0.000	0	0.0	4.710	5.008	-0.298	0.000	0
1	75	2014	3	553873	2614882	4.721	0	0	1	0	0	0	0	0	0	0	0	-111	0.000	0	0.0	4.666	4.721	-0.056	0.000	0
1	76	2014	4	554269	2746721	4.956	0	0	0	1	0	0	0	0	0	0	0	-110	0.000	0	0.0	4.931	4.956	-0.025	0.000	0
1	77	2014	5	554734	2870422	5.174	0	0	0	0	1	0	0	0	0	0	0	-109	0.000	0	0.0	5.294	5.174	0.120	0.000	0
1	78	2014	6	555076	3627021	6.534	0	0	0	0	0	1	0	0	0	0	0	-108	0.251	-24	0.0	6.675	6.534	0.141	-0.238	0
2	79	2014	7	554960	4579692	8.252	0	0	0	0	0	0	1	0	0	0	0	-107	-0.399	-26	0.0	8.439	8.252	0.186	-0.017	0
2	80	2014	8	555211	4428652	7.977	0	0	0	0	0	0	0	1	0	0	0	-106	-0.446	-89	0.0	7.839	7.977	-0.138	-0.393	0
2	81	2014	9	555642	4357774	7.843	0	0	0	0	0	0	0	0	1	0	0	-105	-0.907	-93	0.0	7.787	7.843	-0.056	-0.250	0
2	82	2014	10	555200	3627111	6.533	0	0	0	0	0	0	0	0	0	1	0	-104	-1.334	-18	0.0	6.981	6.533	0.448	0.371	0
2	83	2014	11	554678	2828531	5.099	0	0	0	0	0	0	0	0	0	0	1	-103	0.000	0	0.0	5.270	5.099	0.171	0.000	0
2	84	2014	12	554816	2682446	4.835	0	0	0	0	0	0	0	0	0	0	0	-102	0.000	0	0.0	4.942	4.835	0.107	0.000	0
2	85	2015	1	554835	2898153	5.223	1	0	0	0	0	0	0	0	0	0	0	-101	0.000	0	0.0	5.181	5.223	-0.043	0.000	0
2	86	2015	2	554943	2650357	4.776	0	1	0	0	0	0	0	0	0	0	0	-100	0.000	0	0.0	4.667	4.776	-0.109	0.000	0
2	87	2015	3	555352	2745284	4.943	0	0	1	0	0	0	0	0	0	0	0	-99	0.000	0	0.0	4.622	4.943	-0.321	0.000	0
2	88	2015	4	556066	2696723	4.850	0	0	0	1	0	0	0	0	0	0	0	-98	0.000	0	0.0	4.887	4.850	0.038	0.000	0
2	89	2015	5	556728	3167937	5.690	0	0	0	0	1	0	0	0	0	0	0	-97	0.000	0	0.0	5.251	5.690	-0.439	0.000	0
2	90	2015	6	561554	4233123	7.538	0	0	0	0	0	1	0	0	0	0	0	-96	-1.501	46	0.0	7.701	7.538	0.163	0.831	0
3	91	2015	7	561804	4364369	7.768	0	0	0	0	0	0	1	0	0	0	0	-95	0.620	3	0.0	8.208	7.768	0.440	-0.205	0
3	92	2015	8	562150	4966705	8.835	0	0	0	0	0	0	0	1	0	0	0	-94	-0.427	-16	0.0	8.244	8.835	-0.592	0.055	0
3	93	2015	9	562350	5020156	8.927	0	0	0	0	0	0	0	0	1	0	0	-93	-1.750	2	0.0	8.646	8.927	-0.282	0.652	0
3	94	2015	10	561838	4068843	7.242	0	0	0	0	0	0	0	0	0	1	0	-92	-1.038	22	0.0	7.082	7.242	-0.160	0.515	0
3	95	2015	11	561779	2939260	5.232	0	0	0	0	0	0	0	0	0	0	1	-91	0.000	0	0.0	5.227	5.232	-0.005	0.000	0
3	96	2015	12	561736	2878709	5.125	0	0	0	0	0	0	0	0	0	0	0	-90	0.000	0	0.0	4.899	5.125	-0.226	0.000	0
3	97	2016	1	561735	2835342	5.047	1	0	0	0	0	0	0	0	0	0	0	-89	0.000	0	0.0	5.137	5.047	0.090	0.000	0
3	98	2016	2	561778	2500280	4.451	0	1	0	0	0	0	0	0	0	0	0	-88	0.000	0	0.0	4.623	4.451	0.173	0.000	0
3	99	2016	3	562190	2630792	4.680	0	0	1	0	0	0	0	0	0	0	0	-87	0.000	0	0.0	4.579	4.680	-0.101	0.000	0
3	100	2016	4	562996	2746065	4.878	0	0	0	1	0	0	0	0	0	0	0	-86	0.000	0	0.0	4.844	4.878	-0.034	0.000	0
3	101	2016	5	563839	2919518	5.178	0	0	0	0	1	0	0	0	0	0	0	-85	0.000	0	0.0	5.208	5.178	0.030	0.000	0
3	102	2016	6	564455	3971038	7.035	0	0	0	0	0	1	0	0	0	0	0	-84	-0.844	4	0.0	7.158	7.035	0.122	0.331	0
4	103	2016	7	564771	5048004	8.938	0	0	0	0	0	0	1	0	0	0	0	-83	-0.821	-5	0.0	8.638	8.938	-0.300	0.268	0
4	104	2016	8	565457	4638484	8.203	0	0	0	0	0	0	0	1	0	0	0	-82	0.280	18	0.0	8.152	8.203	-0.051	0.007	0
4	105	2016	9	565674	5275260	9.326	0	0	0	0	0	0	0	0	1	0	0	-81	-0.893	57	0.0	8.631	9.326	-0.694	0.681	0
4	106	2016	10	565559	3946991	6.979	0	0	0	0	0	0	0	0	0	1	0	-80	-1.223	24	0.0	7.117	6.979	0.138	0.593	0
4	107	2016	11	565148	2967959	5.252	0	0	0	0	0	0	0	0	0	0	1	-79	0.000	0	0.0	5.184	5.252	-0.068	0.000	0
4	108	2016	12	565267	2835412	5.016	0	0	0	0	0	0	0	0	0	0	0	-78	0.000	0	0.0	4.855	5.016	-0.161	0.000	0
4	109	2017	1	565323	2852928	5.047	1	0	0	0	0	0	0	0	0	0	0	-77	0.000	0	0.0	5.094	5.047	0.048	0.000	0
4	110	2017	2	565685	2522499	4.459	0	1	0	0	0	0	0	0	0	0	0	-76	0.000	0	0.0	4.580	4.459	0.121	0.000	0
4	111	2017	3	566170	2512745	4.438	0	0	1	0	0	0	0	0	0	0	0	-75	0.000	0	0.0	4.536	4.438	0.097	0.000	0
4	112	2017	4	577263	2748472	4.761	0	0	0	1	0	0	0	0	0	0	0	-74	0.000	0	0.0	4.801	4.761	0.039	0.000	0
4	113	2017	5	578383	2957766	5.114	0	0	0	0	1	0	0	0	0	0	0	-73	0.000	0	0.0	5.164	5.114	0.051	0.000	0
4	114	2017	6	579001	3841357	6.634	0	0	0	0	0	1	0	0	0	0	0	-72	1.301	-13	0.0	6.228	6.634	-0.406	-0.556	0
5	115	2017	7	579322	4767718	8.230	0	0	0	0	0	0	1	0	0	0	0	-71	0.627	-14	0.0	8.012	8.230	-0.218	-0.314	0
5	116	2017	8	579756	4395083	7.581	0	0	0	0	0	0	0	1	0	0	0	-70	-0.114	-61	0.0	7.765	7.581	0.184	-0.337	0
5	117	2017	9	579726	4229300	7.295	0	0	0	0	0	0	0	0	1	0	0	-69	0.162	-73	0.0	7.393	7.295	0.098	-0.514	0
5	118	2017	10	579823	3835852	6.616	0	0	0	0	0	0	0	0	0	1	0	-68	-0.485	5	0.0	6.686	6.616	0.071	0.206	0
5	119	2017	11	579418	3092285	5.337	0	0	0	0	0	0	0	0	0	0	1	-67	0.000	0	0.0	5.140	5.337	-0.197	0.000	0
5	120	2017	12	579547	2781773	4.800	0	0	0	0	0	0	0	0	0	0	0	-66	0.000	0	0.0	4.812	4.800	0.012	0.000	0
5	121	2018	1	579985	2957775	5.100	1	0	0	0	0	0	0	0	0	0	0	-65	0.000	0	0.0	5.051	5.100	-0.049	0.000	0
5	122	2018	2	580307	2704735	4.661	0	1	0	0	0	0	0	0	0	0	0	-64	0.000	0	0.0	4.537	4.661	-0.124	0.000	0
5	123	2018	3	580577	2569317	4.425	0	0	1	0	0	0	0	0	0	0	0	-63	0.000	0	0.0	4.492	4.425	0.067	0.000	0
5	124	2018	4	581443	2636467	4.534	0	0	0	1	0	0	0	0	0	0	0	-62	0.000	0	0.0	4.757	4.534	0.223	0.000	0
5	125	2018	5	582372	2918446	5.011	0	0	0	0	1	0	0	0	0	0	0	-61	0.000	0	0.0	5.121	5.011	0.110	0.000	0
5	126	2018	6	582920	3608755	6.191	0	0	0	0	0	1	0	0	0	0	0	-60	0.781	19	0.0	6.574	6.191	0.384	-0.166	0
6	127	2018	7	583578	4847145	8.306	0	0	0	0	0	0	1	0	0	0	0	-59	0.119	-15	0.0	8.144	8.306	-0.162	-0.139	0
6	128	2018	8	584107	4292935	7.350	0	0	0	0	0	0	0	1	0	0	0	-58	0.169	-16	0.0	7.900	7.350	0.550	-0.159	0
6	129	2018	9	584085	4427561	7.580	0	0	0	0	0	0	0	0	1	0	0	-57	1.433	59	0.0	7.711	7.580	0.130	-0.153	0
6	130	2018	10	583982	3136081	5.370	0	0	0	0	0	0	0	0	0	1	0	-56	2.601	41	0.0	5.745	5.370	0.375	-0.692	0
6	131	2018	11	583764	2942160	5.040	0	0	0	0	0	0	0	0	0	0	1	-55	0.000	0	0.0	5.097	5.040	0.057	0.000	0
6	132	2018	12	583840	2748058	4.707	0	0	0	0	0	0	0	0	0	0	0	-54	0.000	0	0.0	4.769	4.707	0.062	0.000	0
6	133	2019	1	587788	2863293	4.871	1	0	0	0	0	0	0	0	0	0	0	-53	0.000	0	0.0	5.008	4.871	0.136	0.000	0
6	134	2019	2	587973	2649411	4.506	0	1	0	0	0	0	0	0	0	0	0	-52	0.000	0	0.0	4.493	4.506	-0.013	0.000	0
6	135	2019	3	588208	2591965	4.407	0	0	1	0	0	0	0	0	0	0	0	-51	0.000	0	0.0	4.449	4.407	0.042	0.000	0
6	136	2019	4	589148	2606271	4.424	0	0	0	1	0	0	0	0	0	0	0	-50	0.000	0	0.0	4.714	4.424	0.290	0.000	0
6	137	2019	5	590034	2925625	4.958	0	0	0	0	1	0	0	0	0	0	0	-49	0.000	0	0.0	5.078	4.958	0.119	0.000	0
6	138	2019	6	590367	3571230	6.049	0	0	0	0	0	1	0	0	0	0	0	-48	1.513	-5	0.0	6.114	6.049	0.065	-0.583	0
7	139	2019	7	590961	4153074	7.028	0	0	0	0	0	0	1	0	0	0	0	-47	1.351	4	0.0	7.770	7.028	0.742	-0.470	0
7	140	2019	8	591385	4628183	7.826	0	0	0	0	0	0	0	1	0	0	0	-46	0.996	29	0.0	7.834	7.826	0.008	-0.182	0
7	141	2019	9	591714	4419321	7.469	0	0	0	0	0	0	0	0	1	0	0	-45	0.177	-10	0.0	7.691	7.469	0.222	-0.130	0
7	142	2019	10	591511	4045765	6.840	0	0	0	0	0	0	0	0	0	1	0	-44	-1.150	-3	0.0	6.792	6.840	-0.047	0.399	0
7	143	2019	11	591140	3040862	5.144	0	0	0	0	0	0	0	0	0	0	1	-43	0.000	0	0.0	5.054	5.144	-0.090	0.000	0
7	144	2019	12	591150	2763731	4.675	0	0	0	0	0	0	0	0	0	0	0	-42	0.000	0	0.0	4.725	4.675	0.050	0.000	0
7	145	2020	1	591439	2898699	4.901	1	0	0	0	0	0	0	0	0	0	0	-41	0.000	0	0.0	4.964	4.901	0.063	0.000	0
7	146	2020	2	591600	2599545	4.394	0	1	0	0	0	0	0	0	0	0	0	-40	0.000	0	0.0	4.450	4.394	0.056	0.000	0
7	147	2020	3	592161	2602489	4.395	0	0	1	0	0	0	0	0	0	0	0	-39	0.000	0	0.0	4.406	4.395	0.011	0.000	0
7	148	2020	4	592848	2997888	5.057	0	0	0	1	0	0	0	0	0	0	0	-38	0.000	0	1.0	5.024	5.057	-0.033	0.000	0
7	149	2020	5	593896	3167028	5.333	0	0	0	0	1	0	0	0	0	0	0	-37	0.000	0	1.0	5.388	5.333	0.055	0.000	0
7	150	2020	6	594912	4011351	6.743	0	0	0	0	0	1	0	0	0	0	0	-36	-0.880	-11	1.0	7.259	6.743	0.516	0.252	0
8	151	2020	7	595524	5644741	9.479	0	0	0	0	0	0	1	0	0	0	0	-35	-0.019	39	1.0	8.797	9.479	-0.681	0.248	0
8	152	2020	8	596189	5126098	8.598	0	0	0	0	0	0	0	1	0	0	0	-34	1.605	60	1.0	8.113	8.598	-0.485	-0.213	0
8	153	2020	9	596580	4506675	7.554	0	0	0	0	0	0	0	0	1	0	0	-33	1.114	23	1.0	7.865	7.554	0.311	-0.265	0
8	154	2020	10	596389	4001970	6.710	0	0	0	0	0	0	0	0	0	1	0	-32	0.241	-15	1.0	6.520	6.710	-0.190	-0.183	0
8	155	2020	11	596175	3109619	5.216	0	0	0	0	0	0	0	0	0	0	1	-31	0.000	0	1.0	5.364	5.216	0.148	0.000	0
8	156	2020	12	596263	2997917	5.028	0	0	0	0	0	0	0	0	0	0	0	-30	0.000	0	1.0	5.036	5.028	0.008	0.000	0
8	157	2021	1	596399	3082497	5.169	1	0	0	0	0	0	0	0	0	0	0	-29	0.000	0	0.5	5.098	5.169	-0.071	0.000	0
8	158	2021	2	596573	2626245	4.402	0	1	0	0	0	0	0	0	0	0	0	-28	0.000	0	0.5	4.583	4.402	0.181	0.000	0
8	159	2021	3	597114	2717102	4.550	0	0	1	0	0	0	0	0	0	0	0	-27	0.000	0	0.5	4.539	4.550	-0.011	0.000	0
8	160	2021	4	597921	3051002	5.103	0	0	0	1	0	0	0	0	0	0	0	-26	0.000	0	0.5	4.804	5.103	-0.299	0.000	0
8	161	2021	5	598680	3163634	5.284	0	0	0	0	1	0	0	0	0	0	0	-25	0.000	0	0.5	5.168	5.284	-0.116	0.000	0

8	162	2021	6	599103	4270679	7.128	0	0	0	0	0	1	0	0	0	0	0	-24	-0.187	12	0.5	6.929	7.128	-0.199	0.142	0
9	163	2021	7	599261	5050168	8.427	0	0	0	0	0	0	1	0	0	0	0	-23	0.236	43	0.5	8.514	8.427	0.087	0.185	0
9	164	2021	8	599663	4576581	7.632	0	0	0	0	0	0	0	1	0	0	0	-22	1.608	-1	0.5	7.513	7.632	-0.119	-0.592	0
9	165	2021	9	599761	4405606	7.346	0	0	0	0	0	0	0	0	1	0	0	-21	2.795	53	0.5	7.225	7.346	-0.121	-0.686	0
9	166	2021	10	599468	3721237	6.208	0	0	0	0	0	0	0	0	0	1	0	-20	3.106	3	0.5	5.369	6.208	-0.838	-1.114	0
9	167	2021	11	599160	2979192	4.972	0	0	0	0	0	0	0	0	0	0	1	-19	0.000	0	0.5	5.144	4.972	0.171	0.000	0
9	168	2021	12	598942	2859143	4.774	0	0	0	0	0	0	0	0	0	0	0	-18	0.000	0	0.5	4.816	4.774	0.042	0.000	0
9	169	2022	1	599200	2917187	4.868	1	0	0	0	0	0	0	0	0	0	0	-17	0.000	0	0.5	5.054	4.868	0.186	0.000	0
9	170	2022	2	599422	2679248	4.470	0	1	0	0	0	0	0	0	0	0	0	-16	0.000	0	0.5	4.540	4.470	0.070	0.000	0
9	171	2022	3	599799	2601948	4.338	0	0	1	0	0	0	0	0	0	0	0	-15	0.000	0	0.5	4.496	4.338	0.158	0.000	0
9	172	2022	4	600391	2874150	4.787	0	0	0	1	0	0	0	0	0	0	0	-14	0.000	0	0.5	4.761	4.787	-0.026	0.000	0
9	173	2022	5	600682	2839738	4.728	0	0	0	0	1	0	0	0	0	0	0	-13	0.000	0	0.5	5.125	4.728	0.397	0.000	0
9	174	2022	6	600971	3668397	6.104	0	0	0	0	0	1	0	0	0	0	0	-12	0.612	21	0.5	6.652	6.104	0.548	-0.092	0
10	175	2022	7	601159	5264896	8.758	0	0	0	0	0	0	1	0	0	0	0	-11	-0.366	15	0.5	8.511	8.758	-0.247	0.225	0
10	176	2022	8	601776	5340516	8.875	0	0	0	0	0	0	0	1	0	0	0	-10	-2.311	71	0.5	9.347	8.875	0.473	1.285	0
10	177	2022	9	602132	5362194	8.905	0	0	0	0	0	0	0	0	1	0	0	-9	-1.500	75	0.5	8.880	8.905	-0.025	1.013	0
10	178	2022	10	602121	3791467	6.297	0	0	0	0	0	0	0	0	0	1	0	-8	-0.096	-9	0.5	6.418	6.297	0.121	-0.022	0
10	179	2022	11	601952	2974660	4.942	0	0	0	0	0	0	0	0	0	0	1	-7	0.000	0	0.5	5.100	4.942	0.159	0.000	0
10	180	2022	12	601947	2762745	4.590	0	0	0	0	0	0	0	0	0	0	0	-6	0.000	0	0.5	4.772	4.590	0.183	0.000	0
10	181	2023	1	602263	2895517	4.808	1	0	0	0	0	0	0	0	0	0	0	-5	0.000	0	0.0	4.834	4.808	0.027	0.000	0
10	182	2023	2	602200	2635529	4.377	0	1	0	0	0	0	0	0	0	0	0	-4	0.000	0	0.0	4.320	4.377	-0.056	0.000	0
10	183	2023	3	602428	2507704	4.163	0	0	1	0	0	0	0	0	0	0	0	-3	0.000	0	0.0	4.276	4.163	0.113	0.000	0
10	184	2023	4	602968	2842742	4.715	0	0	0	1	0	0	0	0	0	0	0	-2	0.000	0	0.0	4.541	4.715	-0.174	0.000	0
10	185	2023	5	603880	3158648	5.231	0	0	0	0	1	0	0	0	0	0	0	-1	0.000	0	0.0	4.905	5.231	-0.326	0.000	0
10	186	2023	6	604484	4798338	7.938	0	0	0	0	0	1	0	0	0	0	0	0	-1.045	-48	0.0	6.605	7.938	-1.333	0.081	0
11	187	2023	7	604926	4942810	8.171	0	0	0	0	0	0	1	0	0	0	0	1	-1.145	-50	0.0	8.171				
11	188	2023	8	605453	4780721	7.896	0	0	0	0	0	0	0	1	0	0	0	2	-0.148	0	0.0	7.896				
11	189	2023	9	605684	4631841	7.647	0	0	0	0	0	0	0	0	1	0	0	3	0.000	0	0.0	7.647				
11	190	2023	10	605524	3766397	6.220	0	0	0	0	0	0	0	0	0	1	0	4	0.000	0	0.0	6.220				
11	191	2023	11	605268	2953937	4.880	0	0	0	0	0	0	0	0	0	0	1	5	0.000	0	0.0	4.880				
11	192	2023	12	605258	2755235	4.552	0	0	0	0	0	0	0	0	0	0	0	6	0.000	0	0.0	4.552				
11	193	2024	1	605508	2901001	4.791	1	0	0	0	0	0	0	0	0	0	0	7	0.000	0	0.0	4.791				
11	194	2024	2	605643	2590190	4.277	0	1	0	0	0	0	0	0	0	0	0	8	0.000	0	0.0	4.277				
11	195	2024	3	606032	2565016	4.232	0	0	1	0	0	0	0	0	0	0	0	9	0.000	0	0.0	4.232				
11	196	2024	4	606745	2728809	4.497	0	0	0	1	0	0	0	0	0	0	0	10	0.000	0	0.0	4.497				
11	197	2024	5	607457	2953001	4.861	0	0	0	0	1	0	0	0	0	0	0	11	0.000	0	0.0	4.861				
11	198	2024	6	607869	3939395	6.481	0	0	0	0	0	1	0	0	0	0	0	12	0.000	0	0.0	6.481				
12	199	2024	7	608311	4880413	8.023	0	0	0	0	0	0	1	0	0	0	0	13	0.000	0	0.0	8.023				
12	200	2024	8	608839	4748275	7.799	0	0	0	0	0	0	0	1	0	0	0	14	0.000	0	0.0	7.799				
12	201	2024	9	609069	4631352	7.604	0	0	0	0	0	0	0	0	1	0	0	15	0.000	0	0.0	7.604				
12	202	2024	10	608909	3761084	6.177	0	0	0	0	0	0	0	0	0	1	0	16	0.000	0	0.0	6.177				
12	203	2024	11	608653	2944100	4.837	0	0	0	0	0	0	0	0	0	0	1	17	0.000	0	0.0	4.837				
12	204	2024	12	608643	2744287	4.509	0	0	0	0	0	0	0	0	0	0	0	18	0.000	0	0.0	4.509				
12	205	2025	1	608893	2890850	4.748	1	0	0	0	0	0	0	0	0	0	0	19	0.000	0	0.0	4.748				
12	206	2025	2	609029	2578293	4.233	0	1	0	0	0	0	0	0	0	0	0	20	0.000	0	0.0	4.233				
12	207	2025	3	609417	2552952	4.189	0	0	1	0	0	0	0	0	0	0	0	21	0.000	0	0.0	4.189				
12	208	2025	4	610130	2717611	4.454	0	0	0	1	0	0	0	0	0	0	0	22	0.000	0	0.0	4.454				
12	209	2025	5	610842	2943004	4.818	0	0	0	0	1	0	0	0	0	0	0	23	0.000	0	0.0	4.818				
12	210	2025	6	611254	3934862	6.437	0	0	0	0	0	1	0	0	0	0	0	24	0.000	0	0.0	6.437				
13	211	2025	7	611696	4881082	7.980	0	0	0	0	0	0	1	0	0	0	0	25	0.000	0	0.0	7.980				
13	212	2025	8	612224	4748163	7.756	0	0	0	0	0	0	0	1	0	0	0	26	0.000	0	0.0	7.756				
13	213	2025	9	612454	4630570	7.561	0	0	0	0	0	0	0	0	1	0	0	27	0.000	0	0.0	7.561				
13	214	2025	10	612294	3755477	6.133	0	0	0	0	0	0	0	0	0	1	0	28	0.000	0	0.0	6.133				
13	215	2025	11	612038	2933969	4.794	0	0	0	0	0	0	0	0	0	0	1	29	0.000	0	0.0	4.794				
13	216	2025	12	612028	2733046	4.466	0	0	0	0	0	0	0	0	0	0	0	30	0.000	0	0.0	4.466				
13	217	2026	1	612278	2880407	4.704	1	0	0	0	0	0	0	0	0	0	0	31	0.000	0	0.0	4.704				
13	218	2026	2	612414	2566102	4.190	0	1	0	0	0	0	0	0	0	0	0	32	0.000	0	0.0	4.190				
13	219	2026	3	612802	2540595	4.146	0	0	1	0	0	0	0	0	0	0	0	33	0.000	0	0.0	4.146				
13	220	2026	4	613515	2706120	4.411	0	0	0	1	0	0	0	0	0	0	0	34	0.000	0	0.0	4.411				
13	221	2026	5	614227	2932714	4.775	0	0	0	0	1	0	0	0	0	0	0	35	0.000	0	0.0	4.775				
13	222	2026	6	614640	3930036	6.394	0	0	0	0	0	1	0	0	0	0	0	36	0.000	0	0.0	6.394				

REGRESSION MODEL

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9816
R Square	0.9635
Adjusted R Square	0.9583
Standard Error	0.2997
Observations	120

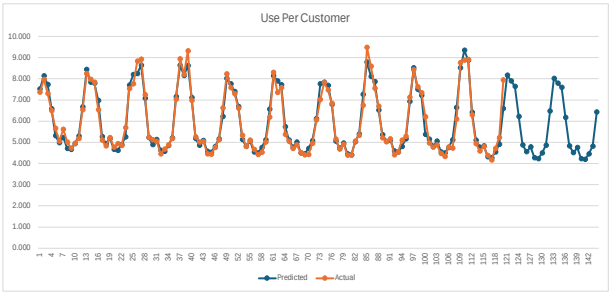
Residential Model

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	15	246.76	16.4504	183.1422	0.0000
Residual	104	9.34	0.0898		
Total	119	256.10			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4.5738	0.1206	37.9389	0.0000	4.3348	4.8129	4.3812	4.8161
Jan	0.2425	0.1345	1.8021	0.0744	-0.0243	0.5093	-0.0904	0.4442
Feb	-0.2682	0.1346	-1.9925	0.0489	-0.5351	-0.0013	-0.5977	-0.0631
Mar	-0.3089	0.1347	-2.2935	0.0238	-0.5759	-0.0418	-0.5800	-0.0454
Apr	-0.0403	0.1341	-0.3004	0.7645	-0.3062	0.2256	-0.4491	0.0880
May	0.3271	0.1341	2.4390	0.0164	0.0612	0.5931	0.0664	0.6039
Jun	1.9501	0.1342	14.5354	0.0000	1.6841	2.2162	1.5893	2.1274
Jul	3.4960	0.1351	25.8702	0.0000	3.2280	3.7640	3.0936	3.6314
Aug	3.2756	0.1343	24.3985	0.0000	3.0094	3.5418	3.0495	3.5871
Sep	3.0843	0.1341	23.0059	0.0000	2.8184	3.3502	2.6027	3.1405
Oct	1.6607	0.1340	12.3888	0.0000	1.3949	1.9265	1.1906	1.7252
Nov	0.3246	0.1340	2.4218	0.0172	0.0588	0.5904	-0.0387	0.4958
Trend	-0.0036	0.0010	-3.6243	0.0005	-0.0056	-0.0016	-0.0084	-0.0050
Rain	-0.3641	0.0355	-10.2579	0.0000	-0.4345	-0.2937	-0.2999	-0.1944
CDD	0.0062	0.0011	5.4710	0.0000	0.0040	0.0085	0.0050	0.0095
COVID	0.3535	0.1117	3.1638	0.0020	0.1319	0.5750	0.2478	0.8078

73.596	Twelve Months Ended June 2023	
2.582	Weather	
1.060	COVID	
0.909	Declining Use June 2023 to March 2025	
69.045	Twelve Months Ended March 2025	
5.754	Per Month	
-0.5196778	Declining Use	

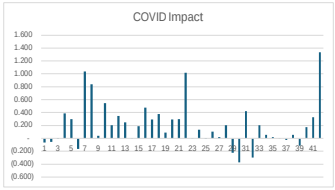


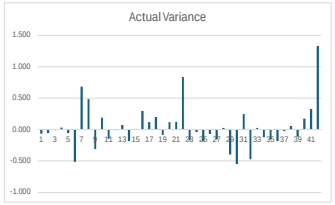
Auto-Correlation: 0.0879
D-W Statistic 1.6499

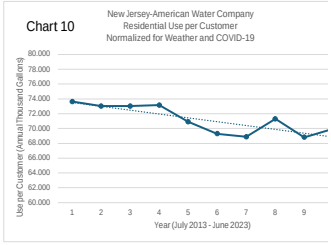
Month	Weather
1	0
2	0
3	0
4	0
5	0
6	1
7	1
8	1
9	1
10	1
11	0
12	0

Period	UPC	Weather	COVID	Normalized UPC	Actual UPC	Normalized UPC
1	71.886	-1.763	0.000	73.649	5.990	6.137
2	73.560	0.542	0.000	73.018	6.130	6.085
3	74.398	1.348	0.000	73.050	6.200	6.088
4	74.167	0.994	0.000	73.173	6.181	6.098
5	69.781	-1.125	0.000	70.906	5.815	5.909
6	67.568	-1.726	0.000	69.294	5.631	5.775
7	69.804	-0.131	1.060	68.874	5.817	5.739
8	74.222	-0.272	3.181	71.312	6.185	5.943
9	68.653	-2.300	2.121	68.832	5.721	5.736
10	73.596	2.582	1.060	69.954	6.133	5.830
11						
12						
13						

-0.063	(0.063)
-0.056	(0.056)
-0.011	(0.011)
0.033	0.386
-0.055	0.298
-0.516	(0.163)
0.681	1.035
0.485	0.839
-0.311	0.042
0.190	0.544
-0.148	0.206
-0.008	0.346
0.071	0.248
-0.181	(0.004)
0.011	0.188
0.299	0.475
0.116	0.293
0.199	0.376
-0.087	0.090
0.119	0.295
0.121	0.297
0.838	1.015
-0.171	0.005
-0.042	0.135
-0.186	(0.009)
-0.070	0.106
-0.158	0.019
0.026	0.203
-0.397	(0.220)
-0.548	(0.371)
0.247	0.424
-0.473	(0.296)
0.025	0.202
-0.121	0.055
-0.159	0.018
-0.183	(0.006)
-0.027	(0.027)
0.056	0.056
-0.113	(0.113)
0.174	0.174
0.326	0.326
1.333	1.333

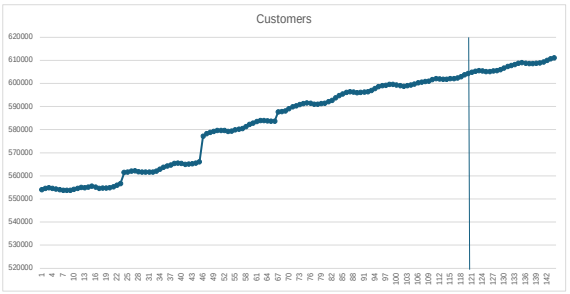






CUSTOMER DATA

Year	Month	Cust	Growth	Select
2013	7	554095		
2013	8	554706	611	0
2013	9	555007	301	0
2013	10	554692	-315	0
2013	11	554396	-296	0
2013	12	554162	-234	0
2014	1	553903	-259	0
2014	2	553891	-12	0
2014	3	553873	-18	0
2014	4	554269	396	0
2014	5	554734	465	0
2014	6	555076	342	0
2014	7	554960	-116	0
2014	8	555211	251	0
2014	9	555642	431	0
2014	10	555200	-442	0
2014	11	554678	-522	0
2014	12	554816	138	0
2015	1	554835	19	0
2015	2	554943	108	0
2015	3	555352	409	0
2015	4	556066	714	0
2015	5	556728	662	0
2015	6	561554	4826	0
2015	7	561804	250	0
2015	8	562150	346	0
2015	9	562350	200	0
2015	10	561838	-512	0
2015	11	561779	-59	0
2015	12	561736	-43	0
2016	1	561735	-1	0
2016	2	561778	43	0
2016	3	562190	412	0
2016	4	562996	806	0
2016	5	563839	843	0
2016	6	564455	616	0
2016	7	564771	316	0
2016	8	565457	686	0
2016	9	565674	217	0
2016	10	565559	-115	0
2016	11	565148	-411	0
2016	12	565267	119	0
2017	1	565323	56	0
2017	2	565685	362	0
2017	3	566170	485	0
2017	4	577263	11093	0
2017	5	578383	1120	0
2017	6	579001	618	0
2017	7	579322	321	0
2017	8	579756	434	0
2017	9	579726	-30	0
2017	10	579823	97	0
2017	11	579418	-405	0
2017	12	579547	129	0
2018	1	579985	438	0
2018	2	580307	322	0
2018	3	580577	270	0
2018	4	581443	866	0
2018	5	582372	929	0
2018	6	582920	548	0
2018	7	583578	658	1
2018	8	584107	529	1
2018	9	584085	-22	1
2018	10	583982	-103	1
2018	11	583764	-218	1
2018	12	583840	76	1
2019	1	587788	3948	0
2019	2	587973	185	1
2019	3	588208	235	1
2019	4	589148	940	1
2019	5	590034	886	1
2019	6	590367	333	1
2019	7	590961	594	1
2019	8	591385	424	1
2019	9	591714	329	1
19	10	591511	-203	1
19	11	591140	-371	1
19	12	591150	10	1
20	1	591439	289	1
20	2	591600	161	1
20	3	592161	561	1
20	4	592848	687	1
20	5	593896	1048	0
20	6	594912	1016	0
20	7	595524	612	1
20	8	596189	665	1
20	9	596580	391	1
20	10	596389	-191	1
20	11	596175	-214	1
20	12	596263	88	1
21	1	596399	136	1
21	2	596573	174	1
21	3	597114	541	1
21	4	597921	807	1
2021	5	598680	759	1
2021	6	599103	423	1
2021	7	599261	158	1
2021	8	599663	402	1
2021	9	599761	98	1
2021	10	599468	-293	1
2021	11	599160	-308	1
2021	12	598942	-218	1
2022	1	599200	258	1
2022	2	599422	222	1
2022	3	599799	377	1
2022	4	600391	592	1
2022	5	600682	291	1
2022	6	600971	289	1
2022	7	601159	188	1
2022	8	601776	617	1
2022	9	602132	356	1
2022	10	602121	-11	1
2022	11	601952	-169	1
2022	12	601947	-5	1
2023	1	602263	316	1
2023	2	602200	-63	1
2023	3	602428	228	1
2023	4	602968	540	1
2023	5	603880	912	1
2023	6	604484	604	1



Month	Avg Growth Last 60 Months
1	250
2	136
3	388
4	713
5	712
6	412
7	442
8	527
9	230
10	-160
11	-256
12	-10
	3385

WEATHER DATA

Year	Month	Rain	Rain Lag 1	Rain Lag 2	CDD	CDD Lag 1
2013	7	-2.031	5.534	-0.540	32	13
2013	8	0.061	-2.031	5.534	-101	32
2013	9	-0.584	0.061	-2.031	-62	-101
2013	10	-2.900	-0.584	0.061	5	-62
2013	11	-0.368	-2.900	-0.584	-2	5
2013	12	0.585	-0.368	-2.900	0	-2
2014	1	-0.674	0.585	-0.368	0	0
2014	2	0.544	-0.674	0.585	0	0
2014	3	0.128	0.544	-0.674	-1	0
2014	4	1.836	0.128	0.544	-3	-1
2014	5	-0.435	1.836	0.128	-27	-3
2014	6	-0.384	-0.435	1.836	-12	-27
2014	7	-0.378	-0.384	-0.435	-84	-12
2014	8	-1.042	-0.378	-0.384	-111	-84
2014	9	-1.687	-1.042	-0.378	-21	-111
2014	10	-0.089	-1.687	-1.042	-8	-21
2014	11	1.234	-0.089	-1.687	-2	-8
2014	12	0.957	1.234	-0.089	0	-2
2015	1	1.156	0.957	1.234	0	0
2015	2	-1.298	1.156	0.957	0	0
2015	3	1.000	-1.298	1.156	-1	0
2015	4	-1.905	1.000	-1.298	-8	-1
2015	5	-1.923	-1.905	1.000	55	-8
2015	6	2.243	-1.923	-1.905	9	55
2015	7	-1.490	2.243	-1.923	-19	9
2015	8	-2.057	-1.490	2.243	-5	-19
2015	9	-0.685	-2.057	-1.490	33	-5
2015	10	-0.100	-0.685	-2.057	-23	33
2015	11	-1.375	-0.100	-0.685	1	-23
2015	12	0.447	-1.375	-0.100	0	1
2016	1	-0.281	0.447	-1.375	0	0
2016	2	0.537	-0.281	0.447	0	0
2016	3	-1.816	0.537	-0.281	2	0
2016	4	-2.360	-1.816	0.537	-2	2
2016	5	0.052	-2.360	-1.816	7	-2
2016	6	-1.673	0.052	-2.360	-8	7
2016	7	1.673	-1.673	0.052	6	-8
2016	8	-2.215	1.673	-1.673	64	6
2016	9	-0.659	-2.215	1.673	30	64
2016	10	-1.631	-0.659	-2.215	-2	30
2016	11	0.068	-1.631	-0.659	-1	-2
2016	12	-0.957	0.068	-1.631	0	-1
2017	1	0.857	-0.957	0.068	0	0
2017	2	-1.635	0.857	-0.957	0	0
2017	3	0.135	-1.635	0.857	-1	0
2017	4	0.092	0.135	-1.635	16	-1
2017	5	2.115	0.092	0.135	-16	16
2017	6	0.039	2.115	0.092	-4	-16
2017	7	-0.315	0.039	2.115	-53	-4
2017	8	0.637	-0.315	0.039	-91	-53
2017	9	-1.256	0.637	-0.315	-1	-91
2017	10	0.774	-1.256	0.637	28	-1
2017	11	-1.689	0.774	-1.256	-2	28
2017	12	-2.544	-1.689	0.774	0	-2
2018	1	-0.850	-2.544	-1.689	0	0
2018	2	2.779	-0.850	-2.544	1	0
2018	3	0.703	2.779	-0.850	-1	1
2018	4	0.267	0.703	2.779	-4	-1
2018	5	1.245	0.267	0.703	26	-4
2018	6	-0.463	1.245	0.267	-10	26
2018	7	0.234	-0.463	1.245	-35	-10
2018	8	1.679	0.234	-0.463	63	-35
2018	9	3.556	1.679	0.234	44	63
2018	10	-0.363	3.556	1.679	29	44
2018	11	5.588	-0.363	3.556	0	29
2018	12	1.245	5.588	-0.363	0	0
2019	1	1.105	1.245	5.588	0	0
2019	2	0.191	1.105	1.245	0	0
2019	3	0.085	0.191	1.105	0	0
2019	4	-0.258	0.085	0.191	0	0
2019	5	2.520	-0.258	0.085	-5	0
2019	6	0.780	2.520	-0.258	-5	-5
2019	7	1.269	0.780	2.520	39	-5
2019	8	0.008	1.269	0.780	-12	39
2019	9	-2.081	0.008	1.269	-5	-12
2019	10	0.967	-2.081	0.008	6	-5
2019	11	-1.781	0.967	-2.081	-2	6
2019	12	1.630	-1.781	0.967	0	-2
2020	1	-1.358	1.630	-1.781	0	0
2020	2	-0.451	-1.358	1.630	0	0
2020	3	0.015	-0.451	-1.358	-1	0
2020	4	0.139	0.015	-0.451	-9	-1
2020	5	-1.597	0.139	0.015	-22	-9
2020	6	0.371	-1.597	0.139	32	-22
2020	7	2.378	0.371	-1.597	67	32
2020	8	0.668	2.378	0.371	32	67
2020	9	-0.004	0.668	2.378	-14	32
2020	10	0.430	-0.004	0.668	-20	-14
2020	11	1.049	0.430	-0.004	0	-20
2020	12	0.394	1.049	0.430	0	0
2021	1	-1.115	0.394	1.049	0	0
2021	2	1.549	-1.115	0.394	0	0
2021	3	1.270	1.549	-1.115	2	0
2021	4	-0.330	1.270	1.549	1	2
2021	5	-0.168	-0.330	1.270	0	1
2021	6	0.125	-0.168	-0.330	59	0
2021	7	2.113	0.125	-0.168	-18	59
2021	8	3.025	2.113	0.125	66	-18
2021	9	3.465	3.025	2.113	1	66
2021	10	1.193	3.465	3.025	9	1
2021	11	-2.402	1.193	3.465	-2	9
2021	12	-2.560	-2.402	1.193	0	-2
2022	1	0.444	-2.560	-2.402	0	0
2022	2	-0.472	0.444	-2.560	0	0
2022	3	-0.796	-0.472	0.444	0	0
2022	4	0.180	-0.796	-0.472	-4	0
2022	5	1.021	0.180	-0.796	26	-4
2022	6	-0.545	1.021	0.180	2	26
2022	7	-3.452	-0.545	1.021	65	2
2022	8	-0.764	-3.452	-0.545	95	65
2022	9	-0.065	-0.764	-3.452	-6	95
2022	10	1.718	-0.065	-0.764	-22	-6
2022	11	-0.323	1.718	-0.065	9	-22
2022	12	0.803	-0.323	1.718	1	9
2023	1	0.717	0.803	-0.323	0	1
2023	2	-1.743	0.717	0.803	0	0
2023	3	-0.723	-1.743	0.717	-1	0
2023	4	2.338	-0.723	-1.743	13	-1
2023	5	-2.829	2.338	-0.723	-44	13
2023	6	-0.493	-2.829	2.338	-63	-44

2023	7	604926	442
2023	8	605453	527
2023	9	605684	230
2023	10	605524	-160
2023	11	605268	-256
2023	12	605258	-10
2024	1	605508	250
2024	2	605643	136
2024	3	606032	388
2024	4	606745	713
2024	5	607457	712
2024	6	607869	412
2024	7	608311	442
2024	8	608839	527
2024	9	609069	230
2024	10	608909	-160
2024	11	608653	-256
2024	12	608643	-10
2025	1	608893	250
2025	2	609029	136
2025	3	609417	388
2025	4	610130	713
2025	5	610842	712
2025	6	611254	412
2025	7	611696	442
2025	8	612224	527
2025	9	612454	230
2025	10	612294	-160
2025	11	612038	-256
2025	12	612028	-10
2026	1	612278	250
2026	2	612414	136
2026	3	612802	388
2026	4	613515	713
2026	5	614227	712
2026	6	614640	412

2023	7	0.000	-0.493	-2.829	0	-63
2023	8	0.000	0.000	-0.493	0	0
2023	9	0.000	0.000	0.000	0	0
2023	10	0.000	0.000	0.000	0	0
2023	11	0.000	0.000	0.000	0	0
2023	12	0.000	0.000	0.000	0	0
2024	1	0.000	0.000	0.000	0	0
2024	2	0.000	0.000	0.000	0	0
2024	3	0.000	0.000	0.000	0	0
2024	4	0.000	0.000	0.000	0	0
2024	5	0.000	0.000	0.000	0	0
2024	6	0.000	0.000	0.000	0	0
2024	7	0.000	0.000	0.000	0	0
2024	8	0.000	0.000	0.000	0	0
2024	9	0.000	0.000	0.000	0	0
2024	10	0.000	0.000	0.000	0	0
2024	11	0.000	0.000	0.000	0	0
2024	12	0.000	0.000	0.000	0	0
2025	1	0.000	0.000	0.000	0	0
2025	2	0.000	0.000	0.000	0	0
2025	3	0.000	0.000	0.000	0	0
2025	4	0.000	0.000	0.000	0	0
2025	5	0.000	0.000	0.000	0	0
2025	6	0.000	0.000	0.000	0	0
2025	7	0.000	0.000	0.000	0	0
2025	8	0.000	0.000	0.000	0	0
2025	9	0.000	0.000	0.000	0	0
2025	10	0.000	0.000	0.000	0	0
2025	11	0.000	0.000	0.000	0	0
2025	12	0.000	0.000	0.000	0	0
2026	1	0.000	0.000	0.000	0	0
2026	2	0.000	0.000	0.000	0	0
2026	3	0.000	0.000	0.000	0	0
2026	4	0.000	0.000	0.000	0	0
2026	5	0.000	0.000	0.000	0	0
2026	6	0.000	0.000	0.000	0	0

NEW JERSEY WEATHER DATA

				CAL.	CAL.	CAL.	MODEL	MODEL	MODEL							
DU Year	Month	Normal	DATE	CLDD	PRCP	HTDD	CLDD	PRCP	HTDD	Rain	Rain Lag	Rain Lag 2	CDD	CDD Lag	HDD	HDD Lag
2008	1	0	2008.01	0	2.066	938	0	-1.165	-64	-1.165	0.000	0.000	0.000	0.000	-64	0
2008	2	0	2008.02	0	5.442	850	0	2.247	9	2.247	-1.165	0.000	-0.098	0.000	9	-64
2008	3	0	2008.03	0	3.797	704	-1	0.170	-12	0.170	2.247	-1.165	-0.642	-0.098	-12	9
2008	4	0	2008.04	1	2.334	355	-7	-1.803	-27	-1.803	0.170	2.247	-7.460	-0.642	-27	-12
2008	5	0	2008.05	19	3.748	232	-46	-0.373	85	-0.373	-1.803	0.170	-46.316	-7.460	85	-27
2008	6	0	2008.06	250	2.937	3	55	-0.651	-13	-0.651	-0.373	-1.803	54.678	-46.316	-13	85
2008	7	0	2008.07	345	4.791	0	-36	-0.198	0	-0.198	-0.651	-0.373	-36.436	54.678	0	-13
2008	8	0	2008.08	199	1.771	2	-115	-2.206	2	-2.206	-0.198	-0.651	-114.804	-36.436	2	0
2008	9	0	2008.09	118	6.443	45	-30	3.330	3	3.330	-2.206	-0.198	-29.675	-114.804	3	2
2008	10	0	2008.10	4	2.563	362	-20	-1.709	105	-1.709	3.330	-2.206	-20.012	-29.675	105	3
2008	11	0	2008.11	0	3.920	583	-2	0.605	-6	0.605	-1.709	3.330	-1.717	-20.012	-6	105
2008	12	0	2008.12	0	6.277	866	0	2.345	49	2.345	0.605	-1.709	-0.121	-1.717	49	-6
2009	1	0	2009.01	0	2.761	1173	0	-0.471	171	-0.471	2.345	0.605	0.000	-0.121	171	49
2009	2	0	2009.02	0	0.516	819	0	-2.679	-22	-2.679	-0.471	2.345	-0.098	0.000	-22	171
2009	3	0	2009.03	0	1.770	743	-1	-1.858	28	-1.858	-2.679	-0.471	-0.642	-0.098	28	-22
2009	4	0	2009.04	33	4.303	399	24	0.166	17	0.166	-1.858	-2.679	24.497	-0.642	17	28
2009	5	0	2009.05	36	4.440	139	-29	0.318	-8	0.318	0.166	-1.858	-28.588	24.497	-8	17
2009	6	0	2009.06	116	7.106	30	-80	3.518	14	3.518	0.318	0.166	-79.583	-28.588	14	-8
2009	7	0	2009.07	224	6.255	1	-157	1.266	0	1.266	3.518	0.318	-157.359	-79.583	0	14
2009	8	0	2009.08	318	7.620	0	4	3.644	0	3.644	1.266	3.518	4.346	-157.359	0	0
2009	9	0	2009.09	61	3.852	60	-86	0.739	18	0.739	3.644	1.266	-86.497	4.346	18	0
2009	10	0	2009.10	6	5.044	336	-19	0.773	79	0.773	0.739	3.644	-18.860	-86.497	79	18
2009	11	0	2009.11	0	1.631	463	-2	-1.684	-126	-1.684	0.773	0.739	-1.717	-18.860	-126	79
2009	12	0	2009.12	0	7.347	938	0	3.415	121	3.415	-1.684	0.773	-0.121	-1.717	121	-126
2010	1	0	2010.01	0	2.268	1047	0	-0.964	45	-0.964	3.415	-1.684	0.000	-0.121	45	121
2010	2	0	2010.02	0	4.058	922	0	0.863	81	0.863	-0.964	3.415	-0.098	0.000	81	45
2010	3	0	2010.03	0	8.830	570	-1	5.202	-145	5.202	0.863	-0.964	-0.642	-0.098	-145	81
2010	4	0	2010.04	26	2.442	276	18	-1.695	-106	-1.695	5.202	0.863	17.620	-0.642	-106	-145
2010	5	0	2010.05	93	3.039	113	28	-1.082	-34	-1.082	-1.695	5.202	27.728	17.620	-34	-106
2010	6	0	2010.06	280	2.324	10	84	-1.264	-6	-1.264	-1.082	-1.695	84.372	27.728	-6	-34
2010	7	0	2010.07	427	4.534	0	46	-0.456	0	-0.456	-1.264	-1.082	45.712	84.372	0	-6
2010	8	0	2010.08	316	1.440	0	2	-2.536	0	-2.536	-0.456	-1.264	2.002	45.712	0	0
2010	9	0	2010.09	147	2.918	24	-1	-0.195	-18	-0.195	-2.536	-0.456	-0.994	2.002	-18	0
2010	10	0	2010.10	7	3.640	298	-17	-0.631	41	-0.631	-0.195	-2.536	-16.958	-0.994	41	-18
2010	11	0	2010.11	0	2.018	588	-2	-1.296	-1	-1.296	-0.631	-0.195	-1.717	-16.958	-1	41
2010	12	0	2010.12	0	3.045	1029	0	-0.887	212	-0.887	-1.296	-0.631	-0.121	-1.717	212	-1
2011	1	0	2011.01	0	3.280	1135	0	0.049	133	0.049	-0.887	-1.296	0.000	-0.121	133	212
2011	2	0	2011.02	0	3.059	850	0	-0.136	9	-0.136	0.049	-0.887	-0.098	0.000	9	133
2011	3	0	2011.03	0	5.621	718	-1	1.994	3	1.994	-0.136	0.049	-0.642	-0.098	3	9
2011	4	0	2011.04	26	5.834	340	18	1.697	-42	1.697	1.994	-0.136	17.567	-0.642	-42	3
2011	5	0	2011.05	85	3.584	114	21	-0.537	-33	-0.537	1.697	1.994	20.605	17.567	-33	-42
2011	6	0	2011.06	217	3.131	7	22	-0.457	-9	-0.457	-0.537	1.697	21.905	20.605	-9	-33
2011	7	0	2011.07	438	3.448	0	57	-1.542	0	-1.542	-0.457	-0.537	57.228	21.905	0	-9
2011	8	0	2011.08	282	14.928	0	-31	10.951	0	10.951	-1.542	-0.457	-31.197	57.228	0	0
2011	9	0	2011.09	161	6.065	34	14	2.952	-8	2.952	10.951	-1.542	13.950	-31.197	-8	0
2011	10	0	2011.10	7	4.222	291	-17	-0.050	34	-0.050	2.952	10.951	-17.127	13.950	34	-8
2011	11	0	2011.11	0	3.769	459	-2	0.454	-130	0.454	-0.050	2.952	-1.717	-17.127	-130	34
2011	12	0	2011.12	0	4.369	749	0	0.436	-68	0.436	0.454	-0.050	-0.121	-1.717	-68	-130
2012	1	0	2012.01	0	2.771	898	0	-0.460	-104	-0.460	0.436	0.454	0.000	-0.121	-104	-68
2012	2	0	2012.02	0	1.398	752	0	-1.797	-89	-1.797	-0.460	0.436	-0.098	0.000	-89	-104
2012	3	0	2012.03	1	1.438	459	0	-2.189	-257	-2.189	-1.797	-0.460	0.477	-0.098	-257	-89
2012	4	0	2012.04	15	2.828	364	6	-1.309	-18	-1.309	-2.189	-1.797	5.959	0.477	-18	-257
2012	5	0	2012.05	95	3.924	80	31	-0.198	-67	-0.198	-1.309	-2.189	30.545	5.959	-67	-18
2012	6	0	2012.06	181	4.226	27	-14	0.638	11	0.638	-0.198	-1.309	-14.240	30.545	11	-67
2012	7	0	2012.07	407	3.564	0	26	-1.425	0	-1.425	0.638	-0.198	25.855	-14.240	0	11
2012	8	0	2012.08	312	4.832	0	-2	0.855	0	0.855	-1.425	0.638	-2.043	25.855	0	0
2012	9	0	2012.09	119	3.256	53	-28	0.144	12	0.144	0.855	-1.425	-28.107	-2.043	12	0
2012	10	0	2012.10	13	4.396	248	-12	0.125	-8	0.125	0.144	0.855	-11.837	-28.107	-8	12
2012	11	0	2012.11	0	1.132	692	-2	-2.183	103	-2.183	0.125	0.144	-1.717	-11.837	103	-8
2012	12	0	2012.12	0	5.812	730	0	1.880	-87	1.880	-2.183	0.125	-0.121	-1.717	-87	103
2013	1	0	2013.01	0	2.624	941	0	-0.608	-61	-0.608	1.880	-2.183	0.000	-0.121	-61	-87
2013	2	0	2013.02	0	3.166	845	0	-0.029	4	-0.029	-0.608	1.880	-0.098	0.000	4	-61
2013	3	0	2013.03	0	2.665	804	-1	-0.963	88	-0.963	-0.029	-0.608	-0.642	-0.098	88	4
2013	4	0	2013.04	10	2.252	405	1	-1.885	23	-1.885	-0.963	-0.029	0.913	-0.642	23	88
2013	5	0	2013.05	70	3.582	192	5	-0.540	45	-0.540	-1.885	-0.963	5.484	0.913	45	23
2013	6	0	2013.06	208	9.122	12	13	5.534	-5	5.534	-0.540	-1.885	12.666	5.484	-5	45
2013	7	1	2013.07	413	2.958	0	32	-2.031	0	-2.031	5.534	-0.540	31.978	12.666	0	-5
2013	8	1	2013.08	213	4.037	3	-101	0.061	2	0.061	-2.031	5.534	-100.549	31.978	2	0
2013	9	1	2013.09	86	2.529	104	-62	-0.584	62	-0.584	0.061	-2.031	-61.520	-100.549	62	2
2013	10	1	2013.10	29	1.372	278	5	-2.900	21	-2.900	-0.584	0.061	4.624	-61.520	21	62
2013	11	1	2013.11	0	2.947	658	-2	-0.368	70	-0.368	-2.900	-0.584	-1.717	4.624	70	21
2013	12	1	2013.12	0	4.517	906	0	0.585	89	0.585	-0.368	-2.900	0.227	-1.717	89	70
2014	1	1	2014.01	0	2.557	1216	0	-0.674	214	-0.674	0.585	-0.368	0.000	0.227	214	89
2014	2	1	2014.02	0	3.739	1018	0	0.544	177	0.544	-0.674	0.585	-0.098	0.000	177	214
2014	3	1	2014.03	0	3.755	900	-1	0.128	185	0.128	0.544	-0.674	-0.642	-0.098	185	177
2014	4	1	2014.04	6	5.973	430	-3	1.836	48	1.836	0.128	0.544	-3.121	-0.642	48	185
2014	5	1	2014.05	38	3.686	123	-27	-0.435	-24	-0.435	1.836	0.128	-26.574	-3.121	-24	48
2014	6	1	2014.06	184	3.204	5	-12	-0.384	-11	-0.384	-0.435	1.836	-11.725	-26.574	-11	-24
2014	7	1	2014.07	297	4.611	0	-84	-0.378	0	-0.378	-0.384	-0.435	-83.717	-11.725	0	-11
2014	8	1	2014.08	202	2.934	1	-111	-1.042	1	-1.042	-0.378	-0.384	-111.290	-83.717	1	0
2014	9	1	2014.09	127	1.425	56	-21	-1.687	14	-1.687	-1.042	-0.378	-20.841	-111.290	14	1
2014	10	1	2014.10	16	4.182	258	-8	-0.089	2	-0.089	-1.687	-1.042	-8.407	-20.841	2	14

	NORMAL	NORMAL	NORMAL
	CAL.	CAL.	CAL.
Month	CLDD	PRCP	HTDD
1	0	3.231	1002
2	0	3.195	841
3	1	3.627	715
4	9	4.137	382
5	65	4.122	147
6	196	3.588	16
7	381	4.989	0
8	314	3.976	1
9	148	3.112	42
10	24	4.271	256
11	2	3.315	589
12	0	3.932	817

Normal Start:	2013.07
Normal End	2023.06
Normal Months	120.00

NEW JERSEY WEATHER DATA

				CAL.	CAL.	CAL.	MODEL	MODEL	MODEL							
DU Year	Month	Normal	DATE	CLDD	PRCP	HTDD	CLDD	PRCP	HTDD	Rain	Rain Lag	Rain Lag 2	CDD	CDD Lag	HDD	HDD Lag
2014	11	1	2014.11	0	4.549	689	-2	1.234	100	1.234	-0.089	-1.687	-1.717	-8.407	100	2
2014	12	1	2014.12	0	4.889	792	0	0.957	-25	0.957	1.234	-0.089	-0.121	-1.717	-25	100
2015	1	1	2015.01	0	4.387	1136	0	1.156	135	1.156	0.957	1.234	0.000	-0.121	135	-25
2015	2	1	2015.02	0	1.897	1198	0	-1.298	357	-1.298	1.156	0.957	-0.098	0.000	357	135
2015	3	1	2015.03	0	4.627	863	-1	1.000	148	1.000	-1.298	1.156	-0.642	-0.098	148	357
2015	4	1	2015.04	0	2.232	388	-8	-1.905	6	-1.905	1.000	-1.298	-8.483	-0.642	6	148
2015	5	1	2015.05	120	2.198	86	55	-1.923	-61	-1.923	-1.905	1.000	54.747	-8.483	-61	6
2015	6	1	2015.06	205	5.831	35	9	2.243	18	2.243	-1.923	-1.905	8.962	54.747	18	-61
2015	7	1	2015.07	362	3.499	0	-19	-1.490	0	-1.490	2.243	-1.923	-18.820	8.962	0	18
2015	8	1	2015.08	308	1.919	0	-5	-2.057	-1	-2.057	-1.490	2.243	-5.362	-18.820	-1	0
2015	9	1	2015.09	181	2.428	12	33	-0.685	-30	-0.685	-2.057	-1.490	33.214	-5.362	-30	-1
2015	10	1	2015.10	2	4.172	337	-23	-0.100	81	-0.100	-0.685	-2.057	-22.789	33.214	81	-30
2015	11	1	2015.11	3	1.940	455	1	-1.375	-133	-1.375	-0.100	-0.685	0.838	-22.789	-133	81
2015	12	1	2015.12	0	4.379	514	0	0.447	-303	0.447	-1.375	-0.100	0.035	0.838	-303	-133
2016	1	1	2016.01	0	2.950	1033	0	-0.281	31	-0.281	0.447	-1.375	0.000	0.035	31	-303
2016	2	1	2016.02	0	3.732	838	0	0.537	-3	0.537	-0.281	0.447	-0.098	0.000	-3	31
2016	3	1	2016.03	3	1.811	549	2	-1.816	-166	-1.816	0.537	-0.281	2.239	-0.098	-166	-3
2016	4	1	2016.04	7	1.777	423	-2	-2.360	41	-2.360	-1.816	0.537	-1.982	2.239	41	-166
2016	5	1	2016.05	71	4.174	208	7	0.052	61	0.052	-2.360	-1.816	6.564	-1.982	61	41
2016	6	1	2016.06	188	1.915	11	-8	-1.673	-6	-1.673	0.052	-2.360	-7.589	6.564	-6	61
2016	7	1	2016.07	387	6.662	0	6	1.673	0	1.673	-1.673	0.052	5.933	-7.589	0	-6
2016	8	1	2016.08	377	1.761	0	64	-2.215	-1	-2.215	1.673	-1.673	63.862	5.933	-1	0
2016	9	1	2016.09	178	2.453	32	30	-0.659	-10	-0.659	-2.215	1.673	30.231	63.862	-10	-1
2016	10	1	2016.10	22	2.640	282	-2	-1.631	26	-1.631	-0.659	-2.215	-2.019	30.231	26	-10
2016	11	1	2016.11	0	3.383	527	-1	0.068	-62	0.068	-1.631	-0.659	-1.483	-2.019	-62	26
2016	12	1	2016.12	0	2.976	889	0	-0.957	72	-0.957	0.068	-1.631	-0.121	-1.483	72	-62
2017	1	1	2017.01	0	4.089	878	0	0.857	-124	0.857	-0.957	0.068	0.000	-0.121	-124	72
2017	2	1	2017.02	0	1.560	683	0	-1.635	-158	-1.635	0.857	-0.957	-0.098	0.000	-158	-124
2017	3	1	2017.03	0	3.762	798	-1	0.135	82	0.135	-1.635	0.857	-0.642	-0.098	82	-158
2017	4	1	2017.04	25	4.230	278	16	0.092	-104	0.092	0.135	-1.635	16.037	-0.642	-104	82
2017	5	1	2017.05	49	6.237	199	-16	2.115	52	2.115	0.092	0.135	-15.515	16.037	52	-104
2017	6	1	2017.06	192	3.627	30	-4	0.039	13	0.039	2.115	0.092	-3.884	-15.515	13	52
2017	7	1	2017.07	328	4.674	0	-53	-0.315	0	-0.315	0.039	2.115	-53.256	-3.884	0	13
2017	8	1	2017.08	223	4.614	2	-91	0.637	2	0.637	-0.315	0.039	-91.088	-53.256	2	0
2017	9	1	2017.09	147	1.857	39	-1	-1.256	-3	-1.256	0.637	-0.315	-0.928	-91.088	-3	2
2017	10	1	2017.10	52	5.045	186	28	0.774	-70	0.774	-1.256	0.637	27.700	-0.928	-70	-3
2017	11	1	2017.11	0	1.626	599	-2	-1.689	10	-1.689	0.774	-1.256	-1.639	27.700	10	-70
2017	12	1	2017.12	0	1.389	972	0	-2.544	155	-2.544	-1.689	0.774	-0.121	-1.639	155	10
2018	1	1	2018.01	0	2.381	1080	0	-0.850	78	-0.850	-2.544	-1.689	0.000	-0.121	78	155
2018	2	1	2018.02	1	5.974	692	1	2.779	-149	2.779	-0.850	-2.544	0.883	0.000	-149	78
2018	3	1	2018.03	0	4.330	784	-1	0.703	68	0.703	2.779	-0.850	-0.642	0.883	68	-149
2018	4	1	2018.04	4	4.405	510	-4	0.267	128	0.267	0.703	2.779	-4.312	-0.642	128	68
2018	5	1	2018.05	91	5.366	75	26	1.245	-72	1.245	0.267	0.703	26.312	-4.312	-72	128
2018	6	1	2018.06	185	3.125	18	-10	-0.463	1	-0.463	1.245	0.267	-10.299	26.312	1	-72
2018	7	1	2018.07	346	5.223	0	-35	0.234	0	0.234	-0.463	1.245	-35.305	-10.299	0	1
2018	8	1	2018.08	377	5.655	0	63	1.679	-1	1.679	0.234	-0.463	62.971	-35.305	-1	0
2018	9	1	2018.09	192	6.668	30	44	3.556	-12	3.556	1.679	0.234	44.052	62.971	-12	-1
2018	10	1	2018.10	53	3.908	304	29	-0.363	47	-0.363	3.556	1.679	28.714	44.052	47	-12
2018	11	1	2018.11	2	8.902	669	0	5.588	80	5.588	-0.363	3.556	0.243	28.714	80	47
2018	12	1	2018.12	0	5.177	785	0	1.245	-32	1.245	5.588	-0.363	-0.121	0.243	-32	80
2019	1	1	2019.01	0	4.336	1032	0	1.105	30	1.105	1.245	5.588	0.000	-0.121	30	-32
2019	2	1	2019.02	0	3.386	827	0	0.191	-14	0.191	1.105	1.245	-0.098	0.000	-14	30
2019	3	1	2019.03	0	3.712	772	0	0.085	56	0.085	0.191	1.105	-0.468	-0.098	56	-14
2019	4	1	2019.04	9	3.879	299	0	-0.258	-83	-0.258	0.085	0.191	0.056	-0.468	-83	56
2019	5	1	2019.05	60	6.642	122	-5	2.520	-25	2.520	-0.258	0.085	-5.197	0.056	-25	-83
2019	6	1	2019.06	190	4.368	17	-5	0.780	0	0.780	2.520	-0.258	-5.379	-5.197	0	-25
2019	7	1	2019.07	420	6.258	0	39	1.269	0	1.269	0.780	2.520	39.230	-5.379	0	0
2019	8	1	2019.08	302	3.984	0	-12	0.008	-1	0.008	1.269	0.780	-11.777	39.230	-1	0
2019	9	1	2019.09	142	1.031	17	-5	-2.081	-24	-2.081	0.008	1.269	-5.353	-11.777	-24	-1
2019	10	1	2019.10	30	5.238	227	6	0.967	-29	0.967	-2.081	0.008	5.685	-5.353	-29	-24
2019	11	1	2019.11	0	1.534	703	-2	-1.781	114	-1.781	0.967	-2.081	-1.717	5.685	114	-29
2019	12	1	2019.12	0	5.562	870	0	1.630	53	1.630	-1.781	0.967	-0.121	-1.717	53	114
2020	1	1	2020.01	0	1.873	854	0	-1.358	-148	-1.358	1.630	-1.781	0.000	-0.121	-148	53
2020	2	1	2020.02	0	2.744	737	0	-0.451	-104	-0.451	-1.358	1.630	-0.098	0.000	-104	-148
2020	3	1	2020.03	0	3.642	555	-1	0.015	-160	0.015	-0.451	-1.358	-0.642	-0.098	-160	-104
2020	4	1	2020.04	0	4.276	453	-9	0.139	71	0.139	0.015	-0.451	-8.789	-0.642	71	-160
2020	5	1	2020.05	43	2.524	200	-22	-1.597	53	-1.597	0.139	0.015	-21.715	-8.789	53	71
2020	6	1	2020.06	227	3.959	11	32	0.371	-5	0.371	-1.597	0.139	31.686	-21.715	-5	53
2020	7	1	2020.07	448	7.368	0	67	2.378	0	2.378	0.371	-1.597	66.676	31.686	0	-5
2020	8	1	2020.08	345	4.644	0	32	0.668	-1	0.668	2.378	0.371	31.726	66.676	-1	0
2020	9	1	2020.09	133	3.109	62	-14	-0.004	20	-0.004	0.668	2.378	-14.170	31.726	20	-1
2020	10	1	2020.10	4	4.702	246	-20	0.430	-11	0.430	-0.004	0.668	-20.061	-14.170	-11	20
2020	11	1	2020.11	2	4.363	463	0	1.049	-125	1.049	0.430	-0.004	0.098	-20.061	-125	-11
2020	12	1	2020.12	0	4.326	846	0	0.394	29	0.394	1.049	0.430	-0.121	0.098	29	-125
2021	1	1	2021.01	0	2.116	967	0	-1.115	-35	-1.115	0.394	1.049	0.000	-0.121	-35	29
2021	2	1	2021.02	0	4.744	906	0	1.549	65	1.549	-1.115	0.394	-0.098	0.000	65	-35
2021	3	1	2021.03	3	4.897	633	2	1.270	-82	1.270	1.549	-1.115	1.871	-0.098	-82	65
2021	4	1	2021.04	10	3.807	356	1	-0.330	-26	-0.330	1.270	1.549	0.907	1.871	-26	-82
2021	5	1	2021.05	65	3.954	169	0	-0.168	22	-0.168	-0.330	1.270	0.117	0.907	22	-26
2021	6	1	2021.06	254	3.713	9	59	0.125	-7	0.125	-0.168	-0.330	58.846	0.117	-7	22
2021	7	1	2021.07	363	7.102	0	-18	2.113	0	2.113	0.125	-0.168	-17.976	58.846	0	-7
2021	8	1	2021.08	380	7.001	0	66	3.025	-1	3.025	2.113	0.125	66.384	-17.976	-1	0

	NORMAL	NORMAL	NORMAL
	CAL.	CAL.	CAL.
Month	CLDD	PRCP	HTDD
	0	4.549	689
	0	4.889	792
	0	4.387	1136
	0	1.897	1198
	0	4.627	863
	0	2.232	388
	120	2.198	86
	205	5.831	35
	362	3.499	0
	308	1.919	0
	181	2.428	12
	2	4.172	337
	3	1.940	455
	0	4.379	514
	0	2.950	1033
	0	3.732	838
	3	1.811	549
	7	1.777	423
	71	4.174	208
	188	1.915	11
	387	6.662	0
	377	1.761	0
	178	2.453	32
	22	2.640	282
	0	3.383	527
	0	2.976	889
	0	4.089	878
	0	1.560	683
	0	3.762	798
	25	4.230	278
	49	6.237	199
	192	3.627	30
	328	4.674	0
	223	4.614	2
	147	1.857	39
	52	5.045	186
	0	1.626	599
	0	1.389	972
	0	2.381	1080
	1	5.974	692
	0	4.330	784
	4	4.405	510
	91	5.366	75
	185	3.125	18
	346	5.223	0
	377	5.655	0
	192	6.668	30
	53	3.908	304
	2	8.902	669
	0	5.177	785
	0	4.336	1032
	0	3.386	827
	0	3.712	772
	9	3.879	299
	60	6.642	122
	190	4.368	17
	420	6.258	0
	302	3.984	0
	142	1.031	17
	30	5.238	227
	0	1.534	703
	0	5.562	870
	0	1.873	854
	0	2.744	737
	0	3.642	555
	0	4.276	453
	43	2.524	200
	227	3.959	11
	448	7.368	0
	345	4.644	0
	133	3.109	62
	4	4.702	246
	2	4.363	463
	0	4.326	846
	0	2.116	967
	0	4.744	906
	3	4.897	633
	10	3.807	356
	65	3.954	169
	254	3.713	9
	363	7.102	0
	380	7.001	0

0	4.549	689	0	0.0000	0	
0	4.889	792	0	0.0000	0	
0	4.387	1136	0	0.0000	0	
0	1.897	1198	0	0.0000	0	
0	4.627	863	0	0.0000	0	
0	2.232	388	0	0.0000	0	
120	2.198	86	0	0.0000	0	
205	5.831	35	0	0.0000	0	
362	3.499	0	0	0.0000	0	
308	1.919	0	0	0.0000	0	
181	2.428	12	0	0.0000	0	
2	4.172	337	0	0.0000	0	
3	1.940	455	0	0.0000	0	
0	4.379	514	0	0.0000	0	
0	2.950	1033	0	0.0000	0	
0	3.732	838	0	0.0000	0	
3	1.811	549	0	0.0000	0	
7	1.777	423	0	0.0000	0	
71	4.174	208	0	0.0000	0	
188	1.915	11	0	0.0000	0	
387	6.662	0	0	0.0000	0	
377	1.761	0	0	0.0000	0	
178	2.453	32	0	0.0000	0	
22	2.640	282	0	0.0000	0	
0	3.383	527	0	0.0000	0	
0	2.976	889	0	0.0000	0	
0	4.089	878	0	0.0000	0	
0	1.560	683	0	0.0000	0	
0	3.762	798	0	0.0000	0	
25	4.230	278	0	0.0000	0	
49	6.237	199	0	0.0000	0	
192	3.627	30	0	0.0000	0	
328	4.674	0	0	0.0000	0	
223	4.614	2	0	0.0000	0	
147	1.857	39	0	0.0000	0	
52	5.045	186	0	0.0000	0	
0	1.626	599	0	0.0000	0	
0	1.389	972	0	0.0000	0	
0	2.381	1080	0	0.0000	0	
1	5.974	692	0	0.0000	0	
0	4.330	784	0	0.0000	0	
4	4.405	510	0	0.0000	0	
91	5.366	75	0	0.0000	0	
185	3.125	18	0	0.0000	0	
346	5.223	0	0	0.0000	0	
377	5.655	0	0	0.0000	0	
192	6.668	30	0	0.0000	0	
53	3.908	304	0	0.0000	0	
2	8.902	669	0	0.0000	0	
0	5.177	785	0	0.0000	0	
0	4.336	1032	0	0.0000	0	
0	3.386	827	0	0.0000	0	
0	3.712	772	0	0.0000	0	
9	3.879	299	0	0.0000	0	
60	6.642	122	0	0.0000	0	
190	4.368	17	0	0.0000	0	
420	6.258	0	0	0.0000	0	
302	3.984	0	0	0.0000	0	
142	1.031	17	0	0.0000	0	
30	5.238	227	0	0.0000	0	
0	1.534	703	0	0.0000	0	
0	5.562	870	0	0.0000	0	
0	1.873	854	0	0.0000	0	
0	2.744	737	0	0.0000	0	
0	3.642	555	0	0.0000	0	
0	4.276	453	0	0.0000	0	
43	2.524	200	0	0.0000	0	
227	3.959	11	0	0.0000	0	
448	7.368	0	0	0.0000	0	
345	4.644	0	0	0.0000	0	
133	3.109	62	0	0.0000	0	
4	4.702	246	0	0.0000	0	
2	4.363	463	0	0.0000	0	
0	4.326	846	0	0.0000	0	
0	2.116	967	0	0.0000	0	
0	4.744	906	0	0.0000	0	
3	4.897	633	0	0.0000	0	
10	3.807	356	0	0.0000	0	
65	3.954	169	0	0.0000	0	
254	3.713	9	0	0.0000	0	
363	7.102	0	0	0.0000	0	
380	7.001	0	0	0.0000	0	

NEW JERSEY WEATHER DATA

				CAL.	CAL.	CAL.	MODEL	MODEL	MODEL							
DU Year	Month	Normal	DATE	CLDD	PRCP	HTDD	CLDD	PRCP	HTDD	Rain	Rain Lag	Rain Lag 2	CDD	CDD Lag	HDD	HDD Lag
2021	9	1	2021.09	149	6.577	17	1	3.465	-25	3.465	3.025	2.113	1.199	66.384	-25	-1
2021	10	1	2021.10	33	5.465	130	9	1.193	-126	1.193	3.465	3.025	8.882	1.199	-126	-25
2021	11	1	2021.11	0	0.913	629	-2	-2.402	40	-2.402	1.193	3.465	-1.717	8.882	40	-126
2021	12	1	2021.12	0	1.373	709	0	-2.560	-108	-2.560	-2.402	1.193	-0.121	-1.717	-108	40
2022	1	1	2022.01	0	3.675	1112	0	0.444	110	0.444	-2.560	-2.402	0.000	-0.121	110	-108
2022	2	1	2022.02	0	2.723	801	0	-0.472	-40	-0.472	0.444	-2.560	-0.098	0.000	-40	110
2022	3	1	2022.03	1	2.831	628	0	-0.796	-87	-0.796	-0.472	0.444	0.209	-0.098	-87	-40
2022	4	1	2022.04	5	4.317	397	-4	0.180	15	0.180	-0.796	-0.472	-3.774	0.209	15	-87
2022	5	1	2022.05	91	5.142	115	26	1.021	-32	1.021	0.180	-0.796	25.699	-3.774	-32	15
2022	6	1	2022.06	198	3.043	7	2	-0.545	-9	-0.545	1.021	0.180	2.042	25.699	-9	-32
2022	7	1	2022.07	446	1.538	0	65	-3.452	0	-3.452	-0.545	1.021	65.257	2.042	0	-9
2022	8	1	2022.08	409	3.213	0	95	-0.764	-1	-0.764	-3.452	-0.545	95.124	65.257	-1	0
2022	9	1	2022.09	142	3.047	51	-6	-0.065	9	-0.065	-0.764	-3.452	-5.883	95.124	9	-1
2022	10	1	2022.10	2	5.989	316	-22	1.718	59	1.718	-0.065	-0.764	-22.327	-5.883	59	9
2022	11	1	2022.11	11	2.991	495	9	-0.323	-93	-0.323	1.718	-0.065	8.814	-22.327	-93	59
2022	12	1	2022.12	1	4.735	888	1	0.803	71	0.803	-0.323	1.718	0.581	8.814	71	-93
2023	1	1	2023.01	0	3.948	711	0	0.717	-291	0.717	0.803	-0.323	0.000	0.581	-291	71
2023	2	1	2023.02	0	1.453	709	0	-1.743	-132	-1.743	0.717	0.803	-0.098	0.000	-132	-291
2023	3	1	2023.03	0	2.904	672	-1	-0.723	-43	-0.723	-1.743	0.717	-0.642	-0.098	-43	-132
2023	4	1	2023.04	22	6.476	286	13	2.338	-96	2.338	-0.723	-1.743	13.464	-0.642	-96	-43
2023	5	1	2023.05	20	1.293	174	-44	-2.829	27	-2.829	2.338	-0.723	-44.435	13.464	27	-96
2023	6	1	2023.06	133	3.095	23	-63	-0.493	6	-0.493	-2.829	2.338	-62.658	-44.435	6	27
2023	7	0	2023.07													
2023	8	0	2023.08													
2023	9	0	2023.09													
2023	10	0	2023.10													
2023	11	0	2023.11													
2023	12	0	2023.12													

	NORMAL	NORMAL	NORMAL
	CAL.	CAL.	CAL.
Month	CLDD	PRCP	HTDD
	149	6.577	17
	33	5.465	130
	0	0.913	629
	0	1.373	709
	0	3.675	1112
	0	2.723	801
	1	2.831	628
	5	4.317	397
	91	5.142	115
	198	3.043	7
	446	1.538	0
	409	3.213	0
	142	3.047	51
	2	5.989	316
	11	2.991	495
	1	4.735	888
	0	3.948	711
	0	1.453	709
	0	2.904	672
	22	6.476	286
	20	1.293	174
	133	3.095	23

149	6.577	17	0	0.0000	0	
33	5.465	130	0	0.0000	0	
0	0.913	629	0	0.0000	0	
0	1.373	709	0	0.0000	0	
0	3.675	1112	0	0.0000	0	
0	2.723	801	0	0.0000	0	
1	2.831	628	0	0.0000	0	
5	4.317	397	0	0.0000	0	
91	5.142	115	0	0.0000	0	
198	3.043	7	0	0.0000	0	
446	1.538	0	0	0.0000	0	
409	3.213	0	0	0.0000	0	
142	3.047	51	0	0.0000	0	
2	5.989	316	0	0.0000	0	
11	2.991	495	0	0.0000	0	
1	4.735	888	0	0.0000	0	
0	3.948	711	0	0.0000	0	
0	1.453	709	0	0.0000	0	
0	2.904	672	0	0.0000	0	
22	6.476	286	0	0.0000	0	
20	1.293	174	0	0.0000	0	
133	3.095	23	0	0.0000	0	

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
1	2008	1	551531	3218149	0	41955	1356312	0	2838	100914	0	0	0	0
2	2008	2	551727	2849717	0	41936	1147498	0	2839	105211	0	0	0	0
3	2008	3	552157	2957196	0	42020	1260428	0	2868	98129	0	0	0	0
4	2008	4	552951	3003237	0	42245	1389554	0	2905	110023	0	0	0	0
5	2008	5	553875	3199417	0	42411	1393930	0	2918	119100	0	0	0	0
6	2008	6	554469	4092965	0	42478	1681772	0	2917	153866	0	0	0	0
7	2008	7	554839	4848653	0	42543	1860210	0	2919	152084	10000	0	0	0
8	2008	8	555104	5345244	0	42591	2008173	0	2923	184236	-10000	0	0	0
9	2008	9	555179	5402963	0	42586	2126833	0	2923	182144	0	0	0	0
10	2008	10	554857	4037303	0	42386	1694699	0	2915	147572	0	0	0	0
11	2008	11	554358	3366781	0	42233	1456647	0	2902	121880	0	0	0	0
12	2008	12	554204	3368083	0	42112	1490948	0	2886	136106	-10000	0	0	0
13	2009	1	554119	3210713	0	41986	1345889	0	2891	98057	10000	0	0	0
14	2009	2	554205	2802064	0	42022	1164478	0	2895	112372	0	0	0	0
15	2009	3	554412	2918138	0	42107	1275837	0	2942	116052	0	0	0	0
16	2009	4	555062	2907080	0	42357	1310985	0	2983	102752	0	0	0	0
17	2009	5	554962	2985153	0	42458	1269752	0	2993	119301	0	0	0	0
18	2009	6	555371	3778224	0	42555	1550605	0	2996	154169	0	0	0	0
19	2009	7	555632	4146147	0	42594	1882547	0	3000	156494	0	0	0	0
20	2009	8	555760	4259853	0	42634	1794851	0	3006	148647	0	0	0	0
21	2009	9	555860	4234001	0	42592	1850862	0	3006	159011	0	0	0	0
22	2009	10	555786	3520593	0	42408	1550203	0	2991	143406	0	0	0	0
23	2009	11	555199	2897750	0	42135	1379781	0	2953	114479	0	0	0	0
24	2009	12	554905	3085398	0	42050	1332696	0	2932	108219	0	0	0	0
25	2010	1	554878	3087521	0	42001	1260658	0	2933	101451	0	0	0	0
26	2010	2	555037	2637983	0	41967	1170432	0	2932	93193	0	0	0	0
27	2010	3	555110	2891124	0	42042	1279627	0	2954	105814	0	0	0	0
28	2010	4	555753	2985741	0	42203	1298113	0	3137	108184	0	0	0	0
29	2010	5	556453	3092127	0	42360	1320679	0	3118	120605	0	0	0	0
30	2010	6	556809	4146099	0	42452	1593237	0	3123	146088	0	0	0	0
31	2010	7	557080	5801736	0	42494	1961053	0	3122	187377	0	0	0	0
32	2010	8	557327	5710411	0	42512	2132842	0	3124	196046	0	0	0	0
33	2010	9	557761	5326576	0	42481	2068140	0	3124	179606	0	0	0	0
34	2010	10	557350	3920188	0	42356	1769474	0	3106	148729	0	0	0	0
35	2010	11	556728	2955698	0	42088	1316697	0	3044	105279	0	0	0	0
36	2010	12	556464	3081216	0	41992	1366969	0	3020	111485	0	0	0	0
37	2011	1	556355	3055798	0	41949	1266502	0	3018	101872	0	0	0	0
38	2011	2	556340	2646187	0	41936	1156729	0	3017	99080	0	0	0	0
39	2011	3	556472	2893000	0	42001	1310366	0	3039	117693	0	0	0	0
40	2011	4	556921	2731226	0	42197	1264520	0	3075	103378	0	0	0	0
41	2011	5	557591	3040030	0	42389	1328192	0	3083	103728	0	0	0	0
42	2011	6	558070	4255194	0	42457	1623547	0	3100	142747	0	0	0	0
43	2011	7	558395	5010402	0	42527	1891570	0	3119	161618	0	0	0	0
44	2011	8	558558	5403885	0	42568	2036544	0	3128	185546	0	0	0	0
45	2011	9	558271	4085965	0	42472	1809949	0	3139	146897	0	0	0	0
46	2011	10	557850	3195558	0	42285	1428714	0	3141	124675	0	0	0	0
47	2011	11	557259	2818282	0	42055	1303372	0	3122	101368	0	0	0	0
48	2011	12	556952	2911574	0	41964	1294786	0	3099	101345	0	0	0	0
49	2012	1	556825	3010776	0	41859	1264543	0	3125	100517	0	0	0	0
50	2012	2	556805	2667917	0	41858	1187487	0	3127	93032	0	0	0	0
51	2012	3	557097	2754685	0	41998	1241236	0	3147	94965	0	0	0	0
52	2012	4	557897	2911623	0	42277	1266229	0	3170	104982	0	0	0	0
53	2012	5	558543	3369721	0	42463	1430461	0	3185	126575	0	0	0	0
54	2012	6	559016	4074971	0	42534	1617924	0	3189	138375	0	0	0	0
55	2012	7	559226	5202642	0	42567	1831706	0	3195	157891	0	0	0	0
56	2012	8	559548	4837003	0	42584	1924102	0	3212	169250	0	0	0	0
57	2012	9	559333	4274144	0	42525	1793021	0	3215	135882	0	0	0	0

KEVINS MODEL ... excludes Egg Harbor and excludes PSEG

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
551,531	3,218,149		41,955	1,356,312		2,838	100,914
551,727	2,849,717		41,936	1,147,498		2,839	105,211
552,157	2,957,196		42,020	1,260,428		2,868	98,129
552,951	3,003,237		42,245	1,389,554		2,905	110,023
553,875	3,199,417		42,411	1,393,930		2,918	119,100
554,469	4,092,965		42,478	1,681,772		2,917	153,866
554,839	4,848,653		42,543	1,860,210		2,919	152,084
555,104	5,345,244		42,591	2,008,173		2,923	184,236
555,179	5,402,963		42,586	2,126,833		2,923	182,144
554,857	4,037,303		42,386	1,694,699		2,915	147,572
554,358	3,366,781		42,233	1,456,647		2,902	121,880
554,204	3,368,083		42,112	1,490,948		2,886	136,106
554,119	3,210,713		41,986	1,345,889		2,891	98,057
554,205	2,802,064		42,022	1,164,478		2,895	112,372
554,412	2,918,138		42,107	1,275,837		2,942	116,052
555,062	2,907,080		42,357	1,310,985		2,983	102,752
554,962	2,985,153		42,458	1,269,752		2,993	119,301
555,371	3,778,224		42,555	1,550,605		2,996	154,169
555,632	4,146,147		42,594	1,882,547		3,000	156,494
555,760	4,259,853		42,634	1,794,851		3,006	148,647
555,860	4,234,001		42,592	1,850,862		3,006	159,011
555,786	3,520,593		42,408	1,550,203		2,991	143,406
555,199	2,897,750		42,135	1,379,781		2,953	114,479
554,905	3,085,398		42,050	1,332,696		2,932	108,219
554,878	3,087,521		42,001	1,260,658		2,933	101,451
555,037	2,637,983		41,967	1,170,432		2,932	93,193
555,110	2,891,124		42,042	1,279,627		2,954	105,814
555,753	2,985,741		42,203	1,298,113		3,137	108,184
556,453	3,092,127		42,360	1,320,679		3,118	120,605
556,809	4,146,099		42,452	1,593,237		3,123	146,088
557,080	5,801,736		42,494	1,961,053		3,122	187,377
557,327	5,710,411		42,512	2,132,842		3,124	196,046
557,761	5,326,576		42,481	2,068,140		3,124	179,606
557,350	3,920,188		42,356	1,769,474		3,106	148,729
556,728	2,955,698		42,088	1,316,697		3,044	105,279
556,464	3,081,216		41,992	1,366,969		3,020	111,485
556,355	3,055,798		41,949	1,266,502		3,018	101,872
556,340	2,646,187		41,936	1,156,729		3,017	99,080
556,472	2,893,000		42,001	1,310,366		3,039	117,693
556,921	2,731,226		42,197	1,264,520		3,075	103,378
557,591	3,040,030		42,389	1,328,192		3,083	103,728
558,070	4,255,194		42,457	1,623,547		3,100	142,747
558,395	5,010,402		42,527	1,891,570		3,119	161,618
558,558	5,403,885		42,568	2,036,544		3,128	185,546
558,271	4,085,965		42,472	1,809,949		3,139	146,897
557,850	3,195,558		42,285	1,428,714		3,141	124,675
557,259	2,818,282		42,055	1,303,372		3,122	101,368
556,952	2,911,574		41,964	1,294,786		3,099	101,345
556,825	3,010,776		41,859	1,264,543		3,125	100,517
556,805	2,667,917		41,858	1,187,487		3,127	93,032
557,097	2,754,685		41,998	1,241,236		3,147	94,965
557,897	2,911,623		42,277	1,266,229		3,170	104,982
558,543	3,369,721		42,463	1,430,461		3,185	126,575
559,016	4,074,971		42,534	1,617,924		3,189	138,375
559,226	5,202,642		42,567	1,831,706		3,195	157,891
559,548	4,837,003		42,584	1,924,102		3,212	169,250
559,333	4,274,144		42,525	1,793,021		3,215	135,882

NEW JERSEY SALES-USAGE DATA

KEVINS MODEL ... excludes Egg Harbor and excludes PSEG

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID	Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
58	2012	10	558789	3392360	0	42312	1520796	0	3194	123425	0	0	0	0	558,789	3,392,360		42,312	1,520,796		3,194	123,425
59	2012	11	549583	2977665	0	41703	1370254	0	3151	108261	0	0	0	0	549,583	2,977,665		41,703	1,370,254		3,151	108,261
60	2012	12	549151	2861531	0	41548	1193551	0	3139	99420	0	0	0	0	549,151	2,861,531		41,548	1,193,551		3,139	99,420
61	2013	1	549332	2872395	0	41546	1228110	0	3144	91820	0	0	0	0	549,332	2,872,395		41,546	1,228,110		3,144	91,820
62	2013	2	549493	2705074	0	41534	1188110	0	3141	94620	0	0	0	0	549,493	2,705,074		41,534	1,188,110		3,141	94,620
63	2013	3	550019	2593341	0	41571	1174673	0	3157	105569	0	0	0	0	550,019	2,593,341		41,571	1,174,673		3,157	105,569
64	2013	4	551240	2793677	0	41866	1249810	0	3178	91753	0	0	0	0	551,240	2,793,677		41,866	1,249,810		3,178	91,753
65	2013	5	552343	3116964	0	42058	1311091	0	3210	112644	0	0	0	0	552,343	3,116,964		42,058	1,311,091		3,210	112,644
66	2013	6	553317	3727922	0	42188	1511201	0	3218	128928	0	0	0	0	553,317	3,727,922		42,188	1,511,201		3,218	128,928
67	2013	7	554095	4085213	0	42231	1651816	0	3232	134389	0	0	0	0	554,095	4,085,213		42,231	1,651,816		3,232	134,389
68	2013	8	554706	4424642	0	42232	1794786	0	3291	147983	0	0	0	0	554,706	4,424,642		42,232	1,794,786		3,291	147,983
69	2013	9	555007	4060815	0	42219	1670016	0	3297	138115	0	0	0	0	555,007	4,060,815		42,219	1,670,016		3,297	138,115
70	2013	10	554692	3602900	0	42036	1494816	0	3293	137575	0	0	0	0	554,692	3,602,900		42,036	1,494,816		3,293	137,575
71	2013	11	554396	3137114	0	41799	1203658	0	3263	108388	0	0	0	0	554,396	3,137,114		41,799	1,203,658		3,263	108,388
72	2013	12	554162	2805026	0	41719	1199001	0	3204	99096	0	0	0	0	554,162	2,805,026		41,719	1,199,001		3,204	99,096
73	2014	1	553903	3108071	0	41663	1338091	0	3199	100905	0	0	0	0	553,903	3,108,071		41,663	1,338,091		3,199	100,905
74	2014	2	553891	2773730	0	41625	1416024	0	3200	111714	0	0	0	0	553,891	2,773,730		41,625	1,416,024		3,200	111,714
75	2014	3	553873	2614882	0	41653	1236529	0	3205	114793	0	0	0	0	553,873	2,614,882		41,653	1,236,529		3,205	114,793
76	2014	4	554269	2746721	0	41889	1252741	0	3238	106553	0	0	0	0	554,269	2,746,721		41,889	1,252,741		3,238	106,553
77	2014	5	554734	2870422	0	41916	1253624	0	3275	103254	0	0	0	0	554,734	2,870,422		41,916	1,253,624		3,275	103,254
78	2014	6	555076	3627021	0	41942	1439023	0	3287	129091	0	0	0	0	555,076	3,627,021		41,942	1,439,023		3,287	129,091
79	2014	7	554960	4579692	0	41962	1728479	0	3338	157643	0	0	0	0	554,960	4,579,692		41,962	1,728,479		3,338	157,643
80	2014	8	555211	4428652	0	41961	1815868	0	3339	151534	0	0	0	0	555,211	4,428,652		41,961	1,815,868		3,339	151,534
81	2014	9	555642	4357774	0	41929	1734610	0	3345	165095	0	0	0	0	555,642	4,357,774		41,929	1,734,610		3,345	165,095
82	2014	10	555200	3627111	0	41697	1627105	0	3348	151254	0	0	0	0	555,200	3,627,111		41,697	1,627,105		3,348	151,254
83	2014	11	554678	2828531	0	41415	1248094	0	3332	100180	15000	0	0	0	554,678	2,828,531		41,415	1,248,094		3,332	100,180
84	2014	12	554816	2682446	0	41333	1250729	0	3312	126190	-15000	0	0	0	554,816	2,682,446		41,333	1,250,729		3,312	126,190
85	2015	1	554835	2898153	0	41284	1277503	0	3314	98813	0	0	0	0	554,835	2,898,153		41,284	1,277,503		3,314	98,813
86	2015	2	554943	2650357	0	41265	1104147	0	3313	107871	0	0	0	0	554,943	2,650,357		41,265	1,104,147		3,313	107,871
87	2015	3	555352	2745284	0	41214	1199584	0	3421	74682	30000	0	0	0	555,352	2,745,284		41,214	1,199,584		3,421	74,682
88	2015	4	556066	2696723	0	41499	1252948	0	3463	92584	0	0	0	0	556,066	2,696,723		41,499	1,252,948		3,463	92,584
89	2015	5	556728	3167937	0	41635	1328180	0	3473	121749	0	0	0	0	556,728	3,167,937		41,635	1,328,180		3,473	121,749
90	2015	6	561554	4233123	0	42144	1579198	0	3542	155550	0	0	0	0	561,554	4,233,123		42,144	1,579,198		3,542	155,550
91	2015	7	561804	4364369	0	42189	1890144	0	3546	162060	0	0	0	0	561,804	4,364,369		42,189	1,890,144		3,546	162,060
92	2015	8	562150	4966705	0	42241	1787061	0	3553	164964	0	0	0	0	562,150	4,966,705		42,241	1,787,061		3,553	164,964
93	2015	9	562350	5020156	0	42399	1827341	0	3382	178462	0	0	0	0	562,350	5,020,156		42,399	1,827,341		3,382	178,462
94	2015	10	561838	4068843	0	42140	1967665	0	3371	189289	-30000	0	0	0	561,838	4,068,843		42,140	1,967,665		3,371	189,289
95	2015	11	561779	2939260	0	41879	1230294	0	3363	115281	0	0	0	0	561,779	2,939,260		41,879	1,230,294		3,363	115,281
96	2015	12	561736	2878709	0	41761	1324340	0	3350	193120	-80000	0	0	0	561,736	2,878,709		41,761	1,324,340		3,350	193,120
97	2016	1	561735	2835342	0	41723	1243272	0	3343	11340	80000	0	0	0	561,735	2,835,342		41,723	1,243,272		3,343	11,340
98	2016	2	561778	2500280	0	41721	1121570	0	3352	90413	0	0	0	0	561,778	2,500,280		41,721	1,121,570		3,352	90,413
99	2016	3	562190	2630792	0	41821	1243927	0	3379	100138	0	0	0	0	562,190	2,630,792		41,821	1,243,927		3,379	100,138
100	2016	4	562996	2746065	0	42094	1262815	0	3401	104257	0	0	0	0	562,996	2,746,065		42,094	1,262,815		3,401	104,257
101	2016	5	563839	2919518	0	42183	1274589	0	3488	108871	0	0	0	0	563,839	2,919,518		42,183	1,274,589		3,488	108,871
102	2016	6	564455	3971038	0	42296	1583114	0	3490	138726	0	0	0	0	564,455	3,971,038		42,296	1,583,114		3,490	138,726
103	2016	7	564771	5048004	0	42288	1852822	0	3500	168197	0	0	0	0	564,771	5,048,004		42,288	1,852,822		3,500	168,197
104	2016	8	565457	4638484	0	42348	1821688	0	3505	155006	0	0	0	0	565,457	4,638,484		42,348	1,821,688		3,505	155,006
105	2016	9	565674	5275260	0	42336	2069733	0	3513	183237	0	0	0	0	565,674	5,275,260		42,336	2,069,733		3,513	183,237
106	2016	10	565559	3946991	0	42170	1680611	0	3501	156646	0	0	0	0	565,559	3,946,991		42,170	1,680,611		3,501	156,646
107	2016	11	565148	2967959	0	41895	1328583	0	3471	113073	0	0	0	0	565,148	2,967,959		41,895	1,328,583		3,471	113,073
108	2016	12	565267	2835412	0	41902	1401301	0	3472	111527	0	0	0	0	565,267	2,835,412		41,902	1,401,301		3,472	111,527
109	2017	1	565323	2852928	0	41757	1173903	0	3468	99036	0	0	0	0	565,323	2,852,928		41,757	1,173,903		3,468	99,036
110	2017	2	565685	2522499	0	41761	1270383	0	3469	98218	0	0	0	0	565,685	2,522,499		41,761	1,270,383		3,469	98,218
111	2017	3	566170	2512745	0	41834	1127714	0	3482	100521	0	0	0	0	566,170	2,512,745		41,834	1,127,714		3,482	100,521
112	2017	4	577263	2748472	0	42836	1280883	0	3574	106568	0	0	0	0	577,263	2,748,472		42,836	1,280,883		3,574	106,568
113	2017	5	578383	2957766	0	43036	1304327	0	3582	117110	0	0	0	0	578,383	2,957,766		43,036	1,304,327		3,582	117,110
114	2017	6	579001	3841357	0	43095	1616700	0	3590	139401	0	0	0	0	579,001	3,841,357		43,095	1,616,700		3,590	139,401

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
115	2017	7	579322	4767718	0	43167	1763534	0	3596	152357	0	0	0	0
116	2017	8	579756	4395083	0	43202	1823746	0	3601	154802	0	0	0	0
117	2017	9	579726	4229300	0	43131	1766522	0	3602	143568	0	0	0	0
118	2017	10	579823	3835852	0	42970	1598889	0	3588	153216	0	0	0	0
119	2017	11	579418	3092285	0	42635	1399059	0	3545	125898	0	0	0	0
120	2017	12	579547	2781773	0	42552	1223717	0	3537	97936	0	0	0	0
121	2018	1	579985	2957775	0	42541	1305809	0	3546	103544	0	0	0	0
122	2018	2	580307	2704735	0	42509	1226554	0	3547	102753	0	0	0	0
123	2018	3	580577	2569317	0	42521	1224553	0	3553	116708	0	0	0	0
124	2018	4	581443	2636467	0	42776	1244816	0	3584	95931	0	0	0	0
125	2018	5	582372	2918446	0	43003	1319671	0	3595	115755	0	0	0	0
126	2018	6	582920	3608755	0	43086	1514512	0	3620	133096	0	0	0	0
127	2018	7	583578	4847145	0	43142	1773026	0	3625	161883	0	0	0	0
128	2018	8	584107	4292935	0	43187	1813698	0	3631	154238	0	0	0	0
129	2018	9	584085	4427561	0	43171	1857143	0	3630	149629	0	0	0	0
130	2018	10	583982	3136081	0	42947	1519794	0	3617	134541	0	0	0	0
131	2018	11	583764	2942160	0	42698	1223740	0	3579	110526	0	0	0	0
132	2018	12	583840	2748058	0	42599	1279706	0	3576	94256	0	0	0	0
133	2019	1	587788	2863293	0	42829	1238232	0	3599	93622	0	0	0	0
134	2019	2	587973	2649411	0	42819	1225306	0	3615	115522	0	0	0	0
135	2019	3	588208	2591965	0	42802	1247140	0	3644	104536	0	0	0	0
136	2019	4	589148	2606271	0	43113	1396813	0	3659	109731	0	0	0	0
137	2019	5	590034	2925625	0	43350	1365842	0	3668	120021	0	0	0	0
138	2019	6	590367	3571230	0	43449	1465659	0	3678	125284	0	0	0	0
139	2019	7	590961	4153074	0	43488	1700531	0	3687	145092	0	0	0	0
140	2019	8	591385	4628183	0	43489	1883042	0	3688	173964	0	0	0	0
141	2019	9	591714	4419321	0	43539	1758895	0	3692	138002	20000	0	0	0
142	2019	10	591511	4045765	0	43342	1683816	0	3683	172285	-20000	0	0	0
143	2019	11	591140	3040862	0	43055	1376041	0	3649	119612	0	0	0	0
144	2019	12	591150	2763731	0	42952	1295142	0	3643	118657	0	0	0	0
145	2020	1	591439	2898699	0	42908	1288777	0	3646	102906	0	0	0	0
146	2020	2	591600	2599545	0	42922	1211509	0	3648	120993	0	0	0	0
147	2020	3	592161	2602489	0	43051	1209382	0	3671	104350	0	0	0	0
148	2020	4	592848	2997888	0	43219	1105307	0	3680	78035	0	1	1	1
149	2020	5	593896	3167028	0	43392	1044336	0	3696	74131	0	1	1	1
150	2020	6	594912	4011351	0	43547	1264318	0	3701	98872	0	1	1	1
151	2020	7	595524	5644741	0	43608	1746376	0	3704	150264	0	1	1	1
152	2020	8	596189	5126098	0	43657	1787505	0	3709	158572	0	1	1	1
153	2020	9	596580	4506675	0	43709	1706166	0	3709	139327	0	1	1	1
154	2020	10	596389	4001970	0	43554	1527859	0	3689	127303	0	1	1	1
155	2020	11	596175	3109619	0	43300	1272288	0	3659	85430	0	1	1	1
156	2020	12	596263	2997917	0	43204	1261600	0	3646	96077	0	1	1	1
157	2021	1	596399	3082497	0	43170	1211995	0	3644	90008	0	1	0.5	0.5
158	2021	2	596573	2626245	0	43166	1069439	0	3643	85099	0	1	0.5	0.5
159	2021	3	597114	2717102	0	43224	1127965	0	3656	83619	0	1	0.5	0.5
160	2021	4	597921	3051002	0	43461	1270772	0	3751	98663	0	1	0.5	0.5
161	2021	5	598680	3163634	0	43700	1204643	0	3721	92558	0	1	0.5	0.5
162	2021	6	599103	4270679	0	43799	1486357	0	3729	146914	0	1	0.5	0.5
163	2021	7	599261	5050168	0	43788	1879331	0	3730	168527	0	1	0.5	0.5
164	2021	8	599663	4576581	0	43813	1721703	0	3732	152334	0	1	0.5	0.5
165	2021	9	599761	4405606	0	43773	1726141	0	3732	151303	0	1	0.5	0.5
166	2021	10	599468	3721237	0	43634	1530843	0	3725	153408	0	1	0.5	0.5
167	2021	11	599160	2979192	0	43336	1272717	0	3702	121915	0	1	0.5	0.5
168	2021	12	598942	2859143	0	43227	1225920	0	3692	116981	0	1	0.5	0.5
169	2022	1	599200	2917187	0	43174	1250002	0	3678	112091	0	0	0.5	0
170	2022	2	599422	2679248	0	43158	1152418	0	3643	129163	0	0	0.5	0
171	2022	3	599799	2601948	0	43256	1183073	0	3664	117496	0	0	0.5	0

KEVINS MODEL ... excludes Egg Harbor and excludes PSEG

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
579,322	4,767,718		43,167	1,763,534		3,596	152,357
579,756	4,395,083		43,202	1,823,746		3,601	154,802
579,726	4,229,300		43,131	1,766,522		3,602	143,568
579,823	3,835,852		42,970	1,598,889		3,588	153,216
579,418	3,092,285		42,635	1,399,059		3,545	125,898
579,547	2,781,773		42,552	1,223,717		3,537	97,936
579,985	2,957,775		42,541	1,305,809		3,546	103,544
580,307	2,704,735		42,509	1,226,554		3,547	102,753
580,577	2,569,317		42,521	1,224,553		3,553	116,708
581,443	2,636,467		42,776	1,244,816		3,584	95,931
582,372	2,918,446		43,003	1,319,671		3,595	115,755
582,920	3,608,755		43,086	1,514,512		3,620	133,096
583,578	4,847,145		43,142	1,773,026		3,625	161,883
584,107	4,292,935		43,187	1,813,698		3,631	154,238
584,085	4,427,561		43,171	1,857,143		3,630	149,629
583,982	3,136,081		42,947	1,519,794		3,617	134,541
583,764	2,942,160		42,698	1,223,740		3,579	110,526
583,840	2,748,058		42,599	1,279,706		3,576	94,256
587,788	2,863,293		42,829	1,238,232		3,599	93,622
587,973	2,649,411		42,819	1,225,306		3,615	115,522
588,208	2,591,965		42,802	1,247,140		3,644	104,536
589,148	2,606,271		43,113	1,396,813		3,659	109,731
590,034	2,925,625		43,350	1,365,842		3,668	120,021
590,367	3,571,230		43,449	1,465,659		3,678	125,284
590,961	4,153,074		43,488	1,700,531		3,687	145,092
591,385	4,628,183		43,489	1,883,042		3,688	173,964
591,714	4,419,321		43,539	1,758,895		3,692	138,002
591,511	4,045,765		43,342	1,683,816		3,683	172,285
591,140	3,040,862		43,055	1,376,041		3,649	119,612
591,150	2,763,731		42,952	1,295,142		3,643	118,657
591,439	2,898,699		42,908	1,288,777		3,646	102,906
591,600	2,599,545		42,922	1,211,509		3,648	120,993
592,161	2,602,489		43,051	1,209,382		3,671	104,350
592,848	2,997,888		43,219	1,105,307		3,680	78,035
593,896	3,167,028		43,392	1,044,336		3,696	74,131
594,912	4,011,351		43,547	1,264,318		3,701	98,872
595,524	5,644,741		43,608	1,746,376		3,704	150,264
596,189	5,126,098		43,657	1,787,505		3,709	158,572
596,580	4,506,675		43,709	1,706,166		3,709	139,327
596,389	4,001,970		43,554	1,527,859		3,689	127,303
596,175	3,109,619		43,300	1,272,288		3,659	85,430
596,263	2,997,917		43,204	1,261,600		3,646	96,077
596,399	3,082,497		43,170	1,211,995		3,644	90,008
596,573	2,626,245		43,166	1,069,439		3,643	85,099
597,114	2,717,102		43,224	1,127,965		3,656	83,619
597,921	3,051,002		43,461	1,270,772		3,751	98,663
598,680	3,163,634		43,700	1,204,643		3,721	92,558
599,103	4,270,679		43,799	1,486,357		3,729	146,914
599,261	5,050,168		43,788	1,879,331		3,730	168,527
599,663	4,576,581		43,813	1,721,703		3,732	152,334
599,761	4,405,606		43,773	1,726,141		3,732	151,303
599,468	3,721,237		43,634	1,530,843		3,725	153,408
599,160	2,979,192		43,336	1,272,717		3,702	121,915
598,942	2,859,143		43,227	1,225,920		3,692	116,981
599,200	2,917,187		43,174	1,250,002		3,678	112,091
599,422	2,679,248		43,158	1,152,418		3,643	129,163
599,799	2,601,948		43,256	1,183,073		3,664	117,496

NEW JERSEY COMMERCIAL MODEL

																	Rain Lag 2	0.3	0.8 CDD Lag						
																	Rain Lag 1	0.6							
							-0.402	-2.209	-1.959	-0.133	-0.979	4.750	11.487	12.553	12.012	8.032	0.206	-0.007	-0.941	0.033	-3.327					
Period	Obs	Year	Month	Cust	Sales	UPC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Trend	Rain	CDD	COVID	Predicted	Actual	Variance	Weather Effect	Billing Adjustments
1	67	2013	7	42231	1651816	39.114	0	0	0	0	0	0	1	0	0	0	0	-119	2.955	17	0.0	40.284	39.114	1.171	-2.239	0
1	68	2013	8	42232	1794786	42.498	0	0	0	0	0	0	0	1	0	0	0	-118	0.448	5	0.0	43.340	42.498	0.842	-0.242	0
1	69	2013	9	42219	1670016	39.556	0	0	0	0	0	0	0	0	1	0	0	-117	-0.631	-93	0.0	40.593	39.556	1.037	-2.441	0
1	70	2013	10	42036	1494816	35.560	0	0	0	0	0	0	0	0	0	1	0	-116	-0.622	-48	0.0	38.053	35.560	2.492	-0.995	0
1	71	2013	11	41799	1203658	28.796	0	0	0	0	0	0	0	0	0	0	1	-115	0.000	0	0.0	31.215	28.796	2.419	0.000	0
1	72	2013	12	41719	1199001	28.740	0	0	0	0	0	0	0	0	0	0	0	-114	0.000	0	0.0	31.002	28.740	2.262	0.000	0
1	73	2014	1	41663	1338091	32.117	1	0	0	0	0	0	0	0	0	0	0	-113	0.000	0	0.0	30.593	32.117	-1.524	0.000	0
1	74	2014	2	41625	1416024	34.019	0	1	0	0	0	0	0	0	0	0	0	-112	0.000	0	0.0	28.780	34.019	-5.238	0.000	0
1	75	2014	3	41653	1236529	29.686	0	0	1	0	0	0	0	0	0	0	0	-111	0.000	0	0.0	29.023	29.686	-0.664	0.000	0
1	76	2014	4	41889	1252741	29.906	0	0	0	1	0	0	0	0	0	0	0	-110	0.000	0	0.0	30.842	29.906	0.936	0.000	0
1	77	2014	5	41916	1253624	29.908	0	0	0	0	1	0	0	0	0	0	0	-109	0.000	0	0.0	29.990	29.908	0.082	0.000	0
1	78	2014	6	41942	1439023	34.310	0	0	0	0	0	1	0	0	0	0	0	-108	0.251	-24	0.0	34.704	34.310	0.394	-1.009	0
2	79	2014	7	41962	1728479	41.192	0	0	0	0	0	0	1	0	0	0	0	-107	-0.399	-26	0.0	41.963	41.192	0.771	-0.480	0
2	80	2014	8	41961	1815868	43.275	0	0	0	0	0	0	0	1	0	0	0	-106	-0.446	-89	0.0	41.002	43.275	-2.273	-2.500	0
2	81	2014	9	41929	1734610	41.370	0	0	0	0	0	0	0	0	1	0	0	-105	-0.907	-93	0.0	40.758	41.370	-0.613	-2.196	0
2	82	2014	10	41697	1627105	39.022	0	0	0	0	0	0	0	0	0	1	0	-104	-1.334	-18	0.0	39.621	39.022	0.599	0.654	0
2	83	2014	11	41415	1248094	30.136	0	0	0	0	0	0	0	0	0	0	1	-103	0.000	0	0.0	31.134	30.136	0.998	0.000	0
2	84	2014	12	41333	1250729	30.260	0	0	0	0	0	0	0	0	0	0	0	-102	0.000	0	0.0	30.922	30.260	0.662	0.000	0
2	85	2015	1	41284	1277503	30.944	1	0	0	0	0	0	0	0	0	0	0	-101	0.000	0	0.0	30.513	30.944	-0.432	0.000	0
2	86	2015	2	41265	1104147	26.757	0	1	0	0	0	0	0	0	0	0	0	-100	0.000	0	0.0	28.700	26.757	1.942	0.000	0
2	87	2015	3	41214	1199584	29.106	0	0	1	0	0	0	0	0	0	0	0	-99	0.000	0	0.0	28.942	29.106	-0.164	0.000	0
2	88	2015	4	41499	1252948	30.192	0	0	0	1	0	0	0	0	0	0	0	-98	0.000	0	0.0	30.761	30.192	0.569	0.000	0
2	89	2015	5	41635	1328180	31.901	0	0	0	0	1	0	0	0	0	0	0	-97	0.000	0	0.0	29.909	31.901	-1.992	0.000	0
2	90	2015	6	42144	1579198	37.471	0	0	0	0	0	1	0	0	0	0	0	-96	-1.501	46	0.0	38.535	37.471	1.064	2.904	0
3	91	2015	7	42189	1890144	44.802	0	0	0	0	0	0	1	0	0	0	0	-95	0.620	3	0.0	41.890	44.802	-2.912	-0.472	0
3	92	2015	8	42241	1787061	42.306	0	0	0	0	0	0	0	1	0	0	0	-94	-0.427	-16	0.0	43.295	42.306	0.988	-0.126	0
3	93	2015	9	42399	1827341	43.099	0	0	0	0	0	0	0	0	1	0	0	-93	-1.750	2	0.0	44.596	43.099	1.497	1.723	0
3	94	2015	10	42140	1967665	46.694	0	0	0	0	0	0	0	0	0	1	0	-92	-1.038	22	0.0	40.583	46.694	-6.111	1.697	0
3	95	2015	11	41879	1230294	29.377	0	0	0	0	0	0	0	0	0	0	1	-91	0.000	0	0.0	31.054	29.377	1.676	0.000	0
3	96	2015	12	41761	1324340	31.712	0	0	0	0	0	0	0	0	0	0	0	-90	0.000	0	0.0	30.841	31.712	-0.872	0.000	0
3	97	2016	1	41723	1243272	29.798	1	0	0	0	0	0	0	0	0	0	0	-89	0.000	0	0.0	30.432	29.798	0.634	0.000	0
3	98	2016	2	41721	1121570	26.883	0	1	0	0	0	0	0	0	0	0	0	-88	0.000	0	0.0	28.619	26.883	1.736	0.000	0
3	99	2016	3	41821	1243927	29.744	0	0	1	0	0	0	0	0	0	0	0	-87	0.000	0	0.0	28.861	29.744	-0.883	0.000	0
3	100	2016	4	42094	1262815	30.000	0	0	0	1	0	0	0	0	0	0	0	-86	0.000	0	0.0	30.680	30.000	0.681	0.000	0
3	101	2016	5	42183	1274589	30.216	0	0	0	0	1	0	0	0	0	0	0	-85	0.000	0	0.0	29.828	30.216	-0.388	0.000	0
3	102	2016	6	42296	1583114	37.429	0	0	0	0	0	1	0	0	0	0	0	-84	-0.844	4	0.0	36.467	37.429	-0.963	0.916	0
4	103	2016	7	42288	1852822	43.814	0	0	0	0	0	0	1	0	0	0	0	-83	-0.821	-5	0.0	42.893	43.814	-0.921	0.612	0
4	104	2016	8	42348	1821688	43.017	0	0	0	0	0	0	0	1	0	0	0	-82	0.280	18	0.0	43.650	43.017	0.633	0.310	0
4	105	2016	9	42336	2069733	48.888	0	0	0	0	0	0	0	0	1	0	0	-81	-0.893	57	0.0	45.501	48.888	-3.387	2.710	0
4	106	2016	10	42170	1680611	39.853	0	0	0	0	0	0	0	0	0	1	0	-80	-1.223	24	0.0	40.734	39.853	0.881	1.929	0
4	107	2016	11	41895	1328583	31.712	0	0	0	0	0	0	0	0	0	0	1	-79	0.000	0	0.0	30.973	31.712	-0.739	0.000	0
4	108	2016	12	41902	1401301	33.442	0	0	0	0	0	0	0	0	0	0	0	-78	0.000	0	0.0	30.760	33.442	-2.682	0.000	0
4	109	2017	1	41757	1173903	28.113	1	0	0	0	0	0	0	0	0	0	0	-77	0.000	0	0.0	30.351	28.113	2.238	0.000	0
4	110	2017	2	41761	1270383	30.420	0	1	0	0	0	0	0	0	0	0	0	-76	0.000	0	0.0	28.538	30.420	-1.882	0.000	0
4	111	2017	3	41834	1127714	26.957	0	0	1	0	0	0	0	0	0	0	0	-75	0.000	0	0.0	28.780	26.957	1.824	0.000	0
4	112	2017	4	42836	1280883	29.902	0	0	0	1	0	0	0	0	0	0	0	-74	0.000	0	0.0	30.600	29.902	0.698	0.000	0
4	113	2017	5	43036	1304327	30.308	0	0	0	0	1	0	0	0	0	0	0	-73	0.000	0	0.0	29.747	30.308	-0.561	0.000	0
4	114	2017	6	43095	1616700	37.515	0	0	0	0	0	1	0	0	0	0	0	-72	1.301	-13	0.0	33.815	37.515	-3.700	-1.655	0
5	115	2017	7	43167	1763534	40.854	0	0	0	0	0	0	1	0	0	0	0	-71	0.627	-14	0.0	41.161	40.854	0.307	-1.040	0
5	116	2017	8	43202	1823746	42.214	0	0	0	0	0	0	0	1	0	0	0	-70	-0.114	-61	0.0	41.376	42.214	-0.838	-1.883	0
5	117	2017	9	43131	1766522	40.957	0	0	0	0	0	0	0	0	1	0	0	-69	0.162	-73	0.0	40.168	40.957	-0.789	-2.543	0
5	118	2017	10	42970	1598889	37.209	0	0	0	0	0	0	0	0	0	1	0	-68	-0.485	5	0.0	39.338	37.209	2.128	0.613	0
5	119	2017	11	42635	1399059	32.815	0	0	0	0	0	0	0	0	0	0	1	-67	0.000	0	0.0	30.892	32.815	-1.923	0.000	0
5	120	2017	12	42552	1223717	28.758	0	0	0	0	0	0	0	0	0	0	0	-66	0.000	0	0.0	30.679	28.758	1.921	0.000	0
5	121	2018	1	42541	1305809	30.695	1	0	0	0	0	0	0	0	0	0	0	-65	0.000	0	0.0	30.270	30.695	-0.425	0.000	0
5	122	2018	2	42509	1226554	28.854	0	1	0	0	0	0	0	0	0	0	0	-64	0.000	0	0.0	28.457	28.854	-0.397	0.000	0
5	123	2018	3	42521	1224553	28.799	0	0	1	0	0	0	0	0	0	0	0	-63	0.000	0	0.0	28.700	28.799	-0.099	0.000	0
5	124	2018	4	42776	1244816	29.101	0	0	0	1	0	0	0	0	0	0	0	-62	0.000	0	0.0	30.519	29.101	1.418	0.000	0
5	125	2018	5	43003	1319671	30.688	0	0	0	0	1	0	0	0	0	0	0	-61	0.000	0	0.0	29.666	30.688	-1.021	0.000	0
5	126	2018	6	43086	1514512	35.151	0	0	0	0	0	1	0	0	0	0	0	-60	0.781	19	0.0	35.276	35.151	0.125	-0.113	0
6	127	2018	7	43142	1773026	41.097	0	0	0	0	0	0	1	0	0	0	0	-59	0.119	-15	0.0	41.507	41.097	0.410	-0.612	0
6	128	2018	8	43187	1813698	41.996	0	0	0	0	0	0	0	1	0	0	0	-58	0.169	-16	0.0	42.507	41.996	0.511	-0.671	0
6	129	2018	9	43171	1857143	43.018	0	0	0	0	0	0	0	0	1	0	0	-57	1.433	59	0.0	43.219	43.018	0.201	0.589	0
6	130	2018	10	42947	1519794	35.388	0	0	0	0	0	0	0	0	0	1	0	-56	2.601	41	0.0	37.539	35.388	2.151	-1.105	0
6	131	2018	11	42698	1223740	28.660	0	0	0	0	0	0	0	0	0	0	1	-55	0.000	0	0.0	30.811	28.660	2.151	0.000	0
6	132	2018	12	42599	1279706	30.041	0	0	0	0	0	0	0	0	0	0	0	-54	0.000	0	0.0	30.598	30.041	0.558	0.000	0
6	133	2019	1	42829	1238232	28.911	1	0	0	0	0	0	0	0	0	0	0	-53	0.000	0	0.0	30.189	28.911	1.278	0.000	0
6	134	2019	2	42819	1225306	28.616	0	1	0	0	0	0	0	0	0	0	0	-52	0.000	0	0.0	28.376	28.616	-0.240	0.000	0
6	135	2019	3	42802	1247140	29.137	0	0	1	0	0	0	0	0	0	0	0	-51	0.000	0	0.0	28.619	29.137	-0.519	0.000	0

6	136	2019	4	43113	1396813	32.399	0	0	0	1	0	0	0	0	0	0	0	-50	0.000	0	0.0	30.438	32.399	-1.961	0.000	0
6	137	2019	5	43350	1365842	31.507	0	0	0	0	1	0	0	0	0	0	0	-49	0.000	0	0.0	29.586	31.507	-1.922	0.000	0
6	138	2019	6	43449	1465659	33.733	0	0	0	0	0	1	0	0	0	0	0	-48	1.513	-5	0.0	33.714	33.733	-0.018	-1.594	0
7	139	2019	7	43488	1700531	39.103	0	0	0	0	0	0	1	0	0	0	0	-47	1.351	4	0.0	40.884	39.103	1.781	-1.155	0
7	140	2019	8	43489	1883042	43.299	0	0	0	0	0	0	0	1	0	0	0	-46	0.996	29	0.0	43.111	43.299	-0.188	0.013	0
7	141	2019	9	43539	1758895	40.398	0	0	0	0	0	0	0	0	1	0	0	-45	0.177	-10	0.0	42.040	40.398	1.642	-0.510	0
7	142	2019	10	43342	1683816	38.850	0	0	0	0	0	0	0	0	0	1	0	-44	-1.150	-3	0.0	39.542	38.850	0.692	0.979	0
7	143	2019	11	43055	1376041	31.960	0	0	0	0	0	0	0	0	0	0	1	-43	0.000	0	0.0	30.730	31.960	-1.230	0.000	0
7	144	2019	12	42952	1295142	30.153	0	0	0	0	0	0	0	0	0	0	0	-42	0.000	0	0.0	30.518	30.153	0.364	0.000	0
7	145	2020	1	42908	1288777	30.036	1	0	0	0	0	0	0	0	0	0	0	-41	0.000	0	0.0	30.109	30.036	0.073	0.000	0
7	146	2020	2	42922	1211509	28.226	0	1	0	0	0	0	0	0	0	0	0	-40	0.000	0	0.0	28.296	28.226	0.070	0.000	0
7	147	2020	3	43051	1209382	28.092	0	0	1	0	0	0	0	0	0	0	0	-39	0.000	0	0.0	28.538	28.092	0.446	0.000	0
7	148	2020	4	43219	1105307	25.575	0	0	0	1	0	0	0	0	0	0	0	-38	0.000	0	1.0	27.031	25.575	1.456	0.000	0
7	149	2020	5	43392	1044336	24.067	0	0	0	0	1	0	0	0	0	0	0	-37	0.000	0	1.0	26.178	24.067	2.111	0.000	0
7	150	2020	6	43547	1264318	29.033	0	0	0	0	0	1	0	0	0	0	0	-36	-0.880	-11	1.0	32.367	29.033	3.334	0.466	0
8	151	2020	7	43608	1746376	40.047	0	0	0	0	0	0	1	0	0	0	0	-35	-0.019	39	1.0	39.915	40.047	-0.132	1.284	0
8	152	2020	8	43657	1787505	40.944	0	0	0	0	0	0	0	1	0	0	0	-34	1.605	60	1.0	40.134	40.944	-0.811	0.443	0
8	153	2020	9	43709	1706166	39.035	0	0	0	0	0	0	0	0	1	0	0	-33	1.114	23	1.0	38.832	39.035	-0.203	-0.310	0
8	154	2020	10	43554	1527859	35.080	0	0	0	0	0	0	0	0	0	1	0	-32	0.241	-15	1.0	34.427	35.080	-0.653	-0.729	0
8	155	2020	11	43300	1272288	29.383	0	0	0	0	0	0	0	0	0	0	1	-31	0.000	0	1.0	27.323	29.383	-2.060	0.000	0
8	156	2020	12	43204	1261600	29.201	0	0	0	0	0	0	0	0	0	0	0	-30	0.000	0	1.0	27.110	29.201	-2.091	0.000	0
8	157	2021	1	43170	1211995	28.075	1	0	0	0	0	0	0	0	0	0	0	-29	0.000	0	0.5	28.364	28.075	0.290	0.000	0
8	158	2021	2	43166	1069439	24.775	0	1	0	0	0	0	0	0	0	0	0	-28	0.000	0	0.5	26.551	24.775	1.776	0.000	0
8	159	2021	3	43224	1127965	26.096	0	0	1	0	0	0	0	0	0	0	0	-27	0.000	0	0.5	26.794	26.096	0.698	0.000	0
8	160	2021	4	43461	1270772	29.239	0	0	0	1	0	0	0	0	0	0	0	-26	0.000	0	0.5	28.613	29.239	-0.626	0.000	0
8	161	2021	5	43700	1204643	27.566	0	0	0	0	1	0	0	0	0	0	0	-25	0.000	0	0.5	27.761	27.566	0.195	0.000	0
8	162	2021	6	43799	1486357	33.936	0	0	0	0	0	1	0	0	0	0	0	-24	-0.187	12	0.5	34.048	33.936	0.112	0.564	0
9	163	2021	7	43788	1879331	42.919	0	0	0	0	0	0	1	0	0	0	0	-23	0.236	43	0.5	41.414	42.919	-1.505	1.201	0
9	164	2021	8	43813	1721703	39.297	0	0	0	0	0	0	0	1	0	0	0	-22	1.608	-1	0.5	39.724	39.297	0.428	-1.548	0
9	165	2021	9	43773	1726141	39.434	0	0	0	0	0	0	0	0	1	0	0	-21	2.795	53	0.5	39.841	39.434	0.407	-0.884	0
9	166	2021	10	43634	1530843	35.084	0	0	0	0	0	0	0	0	0	1	0	-20	3.106	3	0.5	33.906	35.084	-1.177	-2.832	0
9	167	2021	11	43336	1272717	29.369	0	0	0	0	0	0	0	0	0	0	1	-19	0.000	0	0.5	28.906	29.369	-0.463	0.000	0
9	168	2021	12	43227	1225920	28.360	0	0	0	0	0	0	0	0	0	0	0	-18	0.000	0	0.5	28.693	28.360	0.333	0.000	0
9	169	2022	1	43174	1250002	28.953	1	0	0	0	0	0	0	0	0	0	0	-17	0.000	0	0.5	28.284	28.953	-0.669	0.000	0
9	170	2022	2	43158	1152418	26.702	0	1	0	0	0	0	0	0	0	0	0	-16	0.000	0	0.5	26.471	26.702	-0.232	0.000	0
9	171	2022	3	43256	1183073	27.350	0	0	1	0	0	0	0	0	0	0	0	-15	0.000	0	0.5	26.713	27.350	-0.637	0.000	0
9	172	2022	4	43521	1280553	29.424	0	0	0	1	0	0	0	0	0	0	0	-14	0.000	0	0.5	28.532	29.424	-0.891	0.000	0
9	173	2022	5	43616	1210505	27.754	0	0	0	0	1	0	0	0	0	0	0	-13	0.000	0	0.5	27.680	27.754	-0.074	0.000	0
9	174	2022	6	43694	1443573	33.038	0	0	0	0	0	1	0	0	0	0	0	-12	0.612	21	0.5	33.513	33.038	0.475	0.111	0
10	175	2022	7	43756	1747045	39.927	0	0	0	0	0	0	1	0	0	0	0	-11	-0.366	15	0.5	40.958	39.927	1.031	0.825	0
10	176	2022	8	43799	1970420	44.988	0	0	0	0	0	0	0	1	0	0	0	-10	-2.311	71	0.5	45.696	44.988	0.708	4.504	0
10	177	2022	9	43834	1941773	44.298	0	0	0	0	0	0	0	0	1	0	0	-9	-1.500	75	0.5	44.506	44.298	0.208	3.862	0
10	178	2022	10	43560	1631401	37.452	0	0	0	0	0	0	0	0	0	1	0	-8	-0.096	-9	0.5	36.448	37.452	-1.004	-0.209	0
10	179	2022	11	43269	1283103	29.654	0	0	0	0	0	0	0	0	0	0	1	-7	0.000	0	0.5	28.825	29.654	-0.829	0.000	0
10	180	2022	12	43142	1254005	29.067	0	0	0	0	0	0	0	0	0	0	0	-6	0.000	0	0.5	28.612	29.067	-0.455	0.000	0
10	181	2023	1	43114	1350713	31.329	1	0	0	0	0	0	0	0	0	0	0	-5	0.000	0	0.0	29.866	31.329	-1.463	0.000	0
10	182	2023	2	42895	1097637	25.589	0	1	0	0	0	0	0	0	0	0	0	-4	0.000	0	0.0	28.053	25.589	2.464	0.000	0
10	183	2023	3	43054	1218321	28.298	0	0	1	0	0	0	0	0	0	0	0	-3	0.000	0	0.0	28.296	28.298	-0.002	0.000	0
10	184	2023	4	43382	1405282	32.393	0	0	0	1	0	0	0	0	0	0	0	-2	0.000	0	0.0	30.115	32.393	-2.278	0.000	0
10	185	2023	5	43562	1119200	25.692	0	0	0	0	1	0	0	0	0	0	0	-1	0.000	0	0.0	29.262	25.692	3.570	0.000	0
10	186	2023	6	43692	1538714	35.217	0	0	0	0	0	1	0	0	0	0	0	0	-1.045	-48	0.0	34.395	35.217	-0.822	-0.590	0
11	187	2023	7	43733	1799717	41.152	0	0	0	0	0	0	1	0	0	0	0	1	-1.145	-50	0.0	41.152				
11	188	2023	8	43766	1878163	42.914	0	0	0	0	0	0	0	1	0	0	0	2	-0.148	0	0.0	42.914				
11	189	2023	9	43782	1848760	42.226	0	0	0	0	0	0	0	0	1	0	0	3	0.000	0	0.0	42.226				
11	190	2023	10	43584	1666669	38.240	0	0	0	0	0	0	0	0	0	1	0	4	0.000	0	0.0	38.240				
11	191	2023	11	43309	1316895	30.407	0	0	0	0	0	0	0	0	0	0	1	5	0.000	0	0.0	30.407				
11	192	2023	12	43202	1304452	30.194	0	0	0	0	0	0	0	0	0	0	0	6	0.000	0	0.0	30.194				
11	193	2024	1	43216	1287204	29.785	1	0	0	0	0	0	0	0	0	0	0	7	0.000	0	0.0	29.785				
11	194	2024	2	43169	1207539	27.972	0	1	0	0	0	0	0	0	0	0	0	8	0.000	0	0.0	27.972				
11	195	2024	3	43254	1220415	28.215	0	0	1	0	0	0	0	0	0	0	0	9	0.000	0	0.0	28.215				
11	196	2024	4	43516	1306967	30.034	0	0	0	1	0	0	0	0	0	0	0	10	0.000	0	0.0	30.034				
11	197	2024	5	43701	1275265	29.182	0	0	0	0	1	0	0	0	0	0	0	11	0.000	0	0.0	29.182				
11	198	2024	6	43813	1529271	34.904	0	0	0	0	0	1	0	0	0	0	0	12	0.000	0	0.0	34.904				
12	199	2024	7	43855	1825870	41.635	0	0	0	0	0	0	1	0	0	0	0	13	0.000	0	0.0	41.635				
12	200	2024	8	43887	1873710	42.694	0	0	0	0	0	0	0	1	0	0	0	14	0.000	0	0.0	42.694				
12	201	2024	9	43903	1850330	42.145	0	0	0	0	0	0	0	0	1	0	0	15	0.000	0	0.0	42.145				
12	202	2024	10	43706	1667772	38.159	0	0	0	0	0	0	0	0	0	1	0	16	0.000	0	0.0	38.159				
12	203	2024	11	43430	1317071	30.326	0	0	0	0	0	0	0	0	0	0	1	17	0.000	0	0.0	30.326				
12	204	2024	12	43323	1304611	30.114	0	0	0	0	0	0	0	0	0	0	0	18	0.000	0	0.0	30.114				
12	205	2025	1	43337	1287313	29.705	1	0	0	0	0	0	0	0	0	0	0	19	0.000	0	0.0	29.705				
12	206	2025	2	43290	1207432	27.892	0	1	0	0	0	0	0	0	0	0	0	20	0.000	0	0.0	27.892				
12	207	2025	3	43376	1220330	28.134	0	0	1	0	0	0	0	0	0	0	0	21	0.000	0	0.0	28.134				
12	208	2025	4	43637	1307081	29.953	0	0	0	1	0	0	0	0	0	0	0	22	0.000	0	0.0	29.953				

12	209	2025	5	43822	1275261	29.101	0	0	0	0	1	0	0	0	0	0	0	23	0.000	0	0.0	29.101
12	210	2025	6	43934	1529951	34.824	0	0	0	0	0	1	0	0	0	0	0	24	0.000	0	0.0	34.824
13	211	2025	7	43976	1827363	41.554	0	0	0	0	0	0	1	0	0	0	0	25	0.000	0	0.0	41.554
13	212	2025	8	44008	1875328	42.613	0	0	0	0	0	0	0	1	0	0	0	26	0.000	0	0.0	42.613
13	213	2025	9	44025	1851881	42.065	0	0	0	0	0	0	0	0	1	0	0	27	0.000	0	0.0	42.065
13	214	2025	10	43827	1668856	38.078	0	0	0	0	0	0	0	0	0	1	0	28	0.000	0	0.0	38.078
13	215	2025	11	43551	1317228	30.246	0	0	0	0	0	0	0	0	0	0	1	29	0.000	0	0.0	30.246
13	216	2025	12	43444	1304751	30.033	0	0	0	0	0	0	0	0	0	0	0	30	0.000	0	0.0	30.033
13	217	2026	1	43458	1287402	29.624	1	0	0	0	0	0	0	0	0	0	0	31	0.000	0	0.0	29.624
13	218	2026	2	43411	1207305	27.811	0	1	0	0	0	0	0	0	0	0	0	32	0.000	0	0.0	27.811
13	219	2026	3	43497	1220225	28.053	0	0	1	0	0	0	0	0	0	0	0	33	0.000	0	0.0	28.053
13	220	2026	4	43759	1307176	29.872	0	0	0	1	0	0	0	0	0	0	0	34	0.000	0	0.0	29.872
13	221	2026	5	43943	1275238	29.020	0	0	0	0	1	0	0	0	0	0	0	35	0.000	0	0.0	29.020
13	222	2026	6	44056	1530612	34.743	0	0	0	0	0	1	0	0	0	0	0	36	0.000	0	0.0	34.743

REGRESSION MODEL

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9646
R Square	0.9305
Adjusted R Square	0.9205
Standard Error	1.6629
Observations	120

Commercial Model

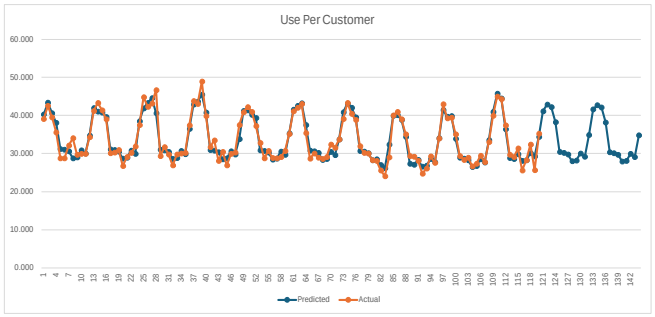
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	15	3849.60	256.6402	92.8076	0.0000
Residual	104	287.59	2.7653		
Total	119	4137.19			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	30.2348	0.6689	45.1998	0.0000	28.9083	31.5613	4.3812	4.8161
Jan	-0.4023	0.7465	-0.5389	0.5911	-1.8827	1.0781	-0.0904	0.4442
Feb	-2.2085	0.7468	-2.9572	0.0038	-3.6896	-0.7275	-0.5977	-0.0631
Mar	-1.9594	0.7472	-2.6223	0.0100	-3.4411	-0.4776	-0.5800	-0.0454
Apr	-0.1334	0.7440	-0.1793	0.8580	-1.6088	1.3420	-0.4491	0.0880
May	-0.9791	0.7442	-1.3157	0.1912	-2.4549	0.4966	0.0664	0.6039
Jun	4.7504	0.7444	6.3813	0.0000	3.2741	6.2266	1.5893	2.1274
Jul	11.4874	0.7498	15.3206	0.0000	10.0005	12.9743	3.0936	3.6314
Aug	12.5532	0.7449	16.8520	0.0000	11.0761	14.0304	3.0495	3.5871
Sep	12.0117	0.7439	16.1477	0.0000	10.5366	13.4868	2.6027	3.1405
Oct	8.0322	0.7438	10.7994	0.0000	6.5573	9.5071	1.1906	1.7252
Nov	0.2061	0.7437	0.2772	0.7822	-1.2687	1.6809	-0.0387	0.4958
Trend	-0.0067	0.0055	-1.2187	0.2257	-0.0177	0.0042	-0.0084	-0.0050
Rain	-0.9406	0.1970	-4.7753	0.0000	-1.3312	-0.5500	-0.2999	-0.1944
CDD	0.0327	0.0063	5.1818	0.0000	0.0202	0.0452	0.0050	0.0095
COVID	-3.3266	0.6199	-5.3667	0.0000	-4.5558	-2.0974	0.2478	0.8078

403.904 Twelve Months Ended June 2023
8.392 Weather
-9.980 COVID
1.697 Declining Use June 2023 to March 2025
403.795 Twelve Months Ended March 2025
33.650 Per Month

-0.96957 Declining Use

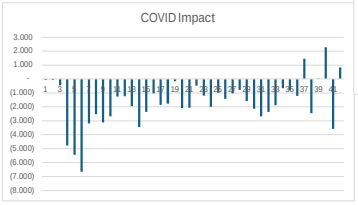


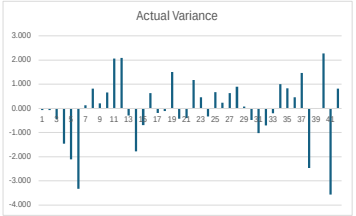
Auto-Correlation: -0.0612
D-W Statistic 2.1149

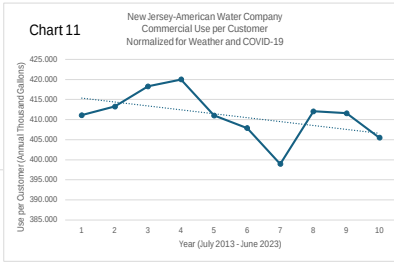
Month	Weather
1	0
2	0
3	0
4	0
5	0
6	1
7	1
8	1
9	1
10	1
11	0
12	0

Period	UPC	Weather	COVID	Normalized UPC
1	404.211	-6.926	0.000	411.137
2	411.627	-1.618	0.000	413.245
3	422.060	3.737	0.000	418.323
4	423.942	3.905	0.000	420.037
5	406.095	-4.966	0.000	411.061
6	404.504	-3.394	0.000	407.898
7	388.793	-0.206	-9.980	398.979
8	383.377	1.252	-29.939	412.064
9	387.683	-3.953	-19.959	411.595
10	403.904	8.392	-9.980	405.492
11				
12				
13				

-0.073	(0.073)
-0.070	(0.070)
-0.446	(0.446)
-1.456	(4.783)
-2.111	(5.437)
-3.334	(6.660)
0.132	(3.194)
0.811	(2.516)
0.203	(3.124)
0.653	(2.674)
2.060	(1.267)
2.091	(1.236)
-0.290	(1.953)
-1.776	(3.440)
-0.698	(2.361)
0.626	(1.037)
-0.195	(1.858)
-0.112	(1.775)
1.505	(0.159)
-0.428	(2.091)
-0.407	(2.070)
1.177	(0.486)
0.463	(1.200)
-0.333	(1.996)
0.669	(0.994)
0.232	(1.432)
0.637	(1.026)
0.891	(0.772)
0.074	(1.590)
-0.475	(2.138)
-1.031	(2.694)
-0.708	(2.372)
-0.208	(1.871)
1.004	(0.660)
0.829	(0.834)
0.455	(1.208)
1.463	1.463
-2.464	(2.464)
0.002	0.002
2.278	2.278
-3.570	(3.570)
0.822	0.822

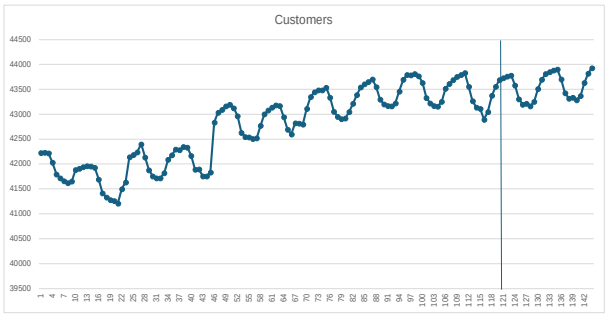






CUSTOMER DATA

Year	Month	Cust	Growth	Select
2013	7	42231		
2013	8	42232	1	0
2013	9	42219	-13	0
2013	10	42036	-183	0
2013	11	41799	-237	0
2013	12	41719	-80	0
2014	1	41663	-56	0
2014	2	41625	-38	0
2014	3	41653	28	0
2014	4	41889	236	0
2014	5	41916	27	0
2014	6	41942	26	0
2014	7	41962	20	0
2014	8	41961	-1	0
2014	9	41929	-32	0
2014	10	41697	-232	0
2014	11	41415	-282	0
2014	12	41333	-82	0
2015	1	41284	-49	0
2015	2	41265	-19	0
2015	3	41214	-51	0
2015	4	41499	285	0
2015	5	41635	136	0
2015	6	42144	509	0
2015	7	42189	45	0
2015	8	42241	52	0
2015	9	42399	158	0
2015	10	42140	-259	0
2015	11	41879	-261	0
2015	12	41761	-118	0
2016	1	41723	-38	0
2016	2	41721	-2	0
2016	3	41821	100	0
2016	4	42094	273	0
2016	5	42183	89	0
2016	6	42296	113	0
2016	7	42288	-8	0
2016	8	42348	60	0
2016	9	42336	-12	0
2016	10	42170	-166	0
2016	11	41895	-275	0
2016	12	41902	7	0
2017	1	41757	-145	0
2017	2	41761	4	0
2017	3	41834	73	0
2017	4	42836	1002	0
2017	5	43036	200	0
2017	6	43095	59	0
2017	7	43167	72	0
2017	8	43202	35	0
2017	9	43131	-71	0
2017	10	42970	-161	0
2017	11	42635	-335	0
2017	12	42552	-83	0
2018	1	42541	-11	0
2018	2	42509	-32	0
2018	3	42521	12	0
2018	4	42776	255	0
2018	5	43003	227	0
2018	6	43086	83	0
2018	7	43142	56	1
2018	8	43187	45	1
2018	9	43171	-16	1
2018	10	42947	-224	1
2018	11	42698	-249	1
2018	12	42599	-99	1
2019	1	42829	230	1
2019	2	42819	-10	1
2019	3	42802	-17	1
2019	4	43113	311	1
2019	5	43350	237	1
2019	6	43449	99	1
2019	7	43488	39	1
2019	8	43489	1	1
2019	9	43539	50	1
2019	10	43342	-197	1
2019	11	43055	-287	1
2019	12	42952	-103	1
2020	1	42908	-44	1
2020	2	42922	14	1
2020	3	43051	129	1
2020	4	43219	168	1
2020	5	43392	173	1
2020	6	43547	155	1
2020	7	43608	61	1
2020	8	43657	49	1
2020	9	43709	52	1
2020	10	43554	-155	1
2020	11	43300	-254	1
2020	12	43204	-96	1
2021	1	43170	-34	1
2021	2	43166	-4	1
2021	3	43224	58	1
2021	4	43461	237	1
2021	5	43700	239	1
2021	6	43799	99	1
2021	7	43788	-11	1
2021	8	43813	25	1
2021	9	43773	-40	1
2021	10	43634	-139	1
2021	11	43336	-298	1
2021	12	43227	-109	1
2022	1	43174	-53	1
2022	2	43158	-16	1
2022	3	43256	98	1
2022	4	43521	265	1
2022	5	43616	95	1
2022	6	43694	78	1
2022	7	43756	62	1
2022	8	43799	43	1
2022	9	43834	35	1
2022	10	43560	-274	1
2022	11	43269	-291	1
2022	12	43142	-127	1
2023	1	43114	-28	1
2023	2	42895	-219	1
2023	3	43054	159	1
2023	4	43382	328	1
2023	5	43562	180	1
2023	6	43692	130	1



Month	Avg Growth Last 60 Months
1	14
2	-47
3	85
4	262
5	185
6	112
7	41
8	33
9	16
10	-198
11	-276
12	-107
	121

WEATHER DATA

Year	Month	Rain	Rain Lag 1	Rain Lag 2	CDD	CDD Lag 1
2013	7	-2.031	5.534	-0.540	32	13
2013	8	0.061	-2.031	5.534	-101	32
2013	9	-0.584	0.061	-2.031	-62	-101
2013	10	-2.900	-0.584	0.061	5	-62
2013	11	-0.368	-2.900	-0.584	-2	5
2013	12	0.585	-0.368	-2.900	0	-2
2014	1	-0.674	0.585	-0.368	0	0
2014	2	0.544	-0.674	0.585	0	0
2014	3	0.128	0.544	-0.674	-1	0
2014	4	1.836	0.128	0.544	-3	-1
2014	5	-0.435	1.836	0.128	-27	-3
2014	6	-0.384	-0.435	1.836	-12	-27
2014	7	-0.378	-0.384	-0.435	-84	-12
2014	8	-1.042	-0.378	-0.384	-111	-84
2014	9	-1.687	-1.042	-0.378	-21	-111
2014	10	-0.089	-1.687	-1.042	-8	-21
2014	11	1.234	-0.089	-1.687	-2	-8
2014	12	0.957	1.234	-0.089	0	-2
2015	1	1.156	0.957	1.234	0	0
2015	2	-1.298	1.156	0.957	0	0
2015	3	1.000	-1.298	1.156	-1	0
2015	4	-1.905	1.000	-1.298	-8	-1
2015	5	-1.923	-1.905	1.000	55	-8
2015	6	2.243	-1.923	-1.905	9	55
2015	7	-1.490	2.243	-1.923	-19	9
2015	8	-2.057	-1.490	2.243	-5	-19
2015	9	-0.685	-2.057	-1.490	33	-5
2015	10	-0.100	-0.685	-2.057	-23	33
2015	11	-1.375	-0.100	-0.685	1	-23
2015	12	0.447	-1.375	-0.100	0	1
2016	1	-0.281	0.447	-1.375	0	0
2016	2	0.537	-0.281	0.447	0	0
2016	3	-1.816	0.537	-0.281	2	0
2016	4	-2.360	-1.816	0.537	-2	2
2016	5	0.052	-2.360	-1.816	7	-2
2016	6	-1.673	0.052	-2.360	-8	7
2016	7	1.673	-1.673	0.052	6	-8
2016	8	-2.215	1.673	-1.673	64	6
2016	9	-0.659	-2.215	1.673	30	64
2016	10	-1.631	-0.659	-2.215	-2	30
2016	11	0.068	-1.631	-0.659	-1	-2
2016	12	-0.957	0.068	-1.631	0	-1
2017	1	0.857	-0.957	0.068	0	0
2017	2	-1.635	0.857	-0.957	0	0
2017	3	0.135	-1.635	0.857	-1	0
2017	4	0.092	0.135	-1.635	16	-1
2017	5	2.115	0.092	0.135	-16	16
2017	6	0.039	2.115	0.092	-4	-16
2017	7	-0.315	0.039	2.115	-53	-4
2017	8	0.637	-0.315	0.039	-91	-53
2017	9	-1.256	0.637	-0.315	-1	-91
2017	10	0.774	-1.256	0.637	28	-1
2017	11	-1.689	0.774	-1.256	-2	28
2017	12	-2.544	-1.689	0.774	0	-2
2018	1	-0.850	-2.544	-1.689	0	0
2018	2	2.779	-0.850	-2.544	1	0
2018	3	0.703	2.779	-0.850	-1	1
2018	4	0.267	0.703	2.779	-4	-1
2018	5	1.245	0.267	0.703	26	-4
2018	6	-0.463	1.245	0.267	-10	26
2018	7	0.234	-0.463	1.245	-35	-10
2018	8	1.679	0.234	-0.463	63	-35
2018	9	3.556	1.679	0.234	44	63
2018	10	-0.363	3.556	1.679	29	44
2018	11	5.588	-0.363	3.556	0	29
2018	12	1.245	5.588	-0.363	0	0
2019	1	1.105	1.245	5.588	0	0
2019	2	0.191	1.105	1.245	0	0
2019	3	0.085	0.191	1.105	0	0
2019	4	-0.258	0.085	0.191	0	0
2019	5	2.520	-0.258	0.085	-5	0
2019	6	0.780	2.520	-0.258	-5	-5
2019	7	1.269	0.780	2.520	39	-5
2019	8	0.008	1.269	0.780	-12	39
2019	9	-2.081	0.008	1.269	-5	-12
2019	10	0.967	-2.081	0.008	6	-5
2019	11	-1.781	0.967	-2.081	-2	6
2019	12	1.630	-1.781	0.967	0	-2
2020	1	-1.358	1.630	-1.781	0	0
2020	2	-0.451	-1.358	1.630	0	0
2020	3	0.015	-0.451	-1.358	-1	0
2020	4	0.139	0.015	-0.451	-9	-1
2020	5	-1.597	0.139	0.015	-22	-9
2020	6	0.371	-1.597	0.139	32	-22
2020	7	2.378	0.371	-1.597	67	32
2020	8	0.668	2.378	0.371	32	67
2020	9	-0.004	0.668	2.378	-14	32
2020	10	0.430	-0.004	0.668	-20	-14
2020	11	1.049	0.430	-0.004	0	-20
2020	12	0.394	1.049	0.430	0	0
2021	1	-1.115	0.394	1.049	0	0
2021	2	1.549	-1.115	0.394	0	0
2021	3	1.270	1.549	-1.115	2	0
2021	4	-0.330	1.270	1.549	1	2
2021	5	-0.168	-0.330	1.270	0	1
2021	6	0.125	-0.168	-0.330	59	0
2021	7	2.113	0.125	-0.168	-18	59
2021	8	3.025	2.113	0.125	66	-18
2021	9	3.465	3.025	2.113	1	66
2021	10	1.193	3.465	3.025	9	1
2021	11	-2.402	1.193	3.465	-2	9
2021	12	-2.560	-2.402	1.193	0	-2
2022	1	0.444	-2.560	-2.402	0	0
2022	2	-0.472	0.444	-2.560	0	0
2022	3	-0.796	-0.472	0.444	0	0
2022	4	0.180	-0.796	-0.472	-4	0
2022	5	1.021	0.180	-0.796	26	-4
2022	6	-0.545	1.021	0.180	2	26
2022	7	-3.452	-0.545	1.021	65	2
2022	8	-0.764	-3.452	-0.545	95	65
2022	9	-0.065	-0.764	-3.452	-6	95
2022	10	1.718	-0.065	-0.764	-22	-6
2022	11	-0.323	1.718	-0.065	9	-22
2022	12	0.803	-0.323	1.718	1	9
2023	1	0.717	0.803	-0.323	0	1
2023	2	-1.743	0.717	0.803	0	0
2023	3	-0.723	-1.743	0.717	-1	0
2023	4	2.338	-0.723	-1.743	13	-1
2023	5	-2.829	2.338	-0.723	-44	13
2023	6	-0.493	-2.829	2.338	-63	-44

2023	7	43733	41	2023	7	0.000	-0.493	-2.829	0	-63
2023	8	43766	33	2023	8	0.000	0.000	-0.493	0	0
2023	9	43782	16	2023	9	0.000	0.000	0.000	0	0
2023	10	43584	-198	2023	10	0.000	0.000	0.000	0	0
2023	11	43309	-276	2023	11	0.000	0.000	0.000	0	0
2023	12	43202	-107	2023	12	0.000	0.000	0.000	0	0
2024	1	43216	14	2024	1	0.000	0.000	0.000	0	0
2024	2	43169	-47	2024	2	0.000	0.000	0.000	0	0
2024	3	43254	85	2024	3	0.000	0.000	0.000	0	0
2024	4	43516	262	2024	4	0.000	0.000	0.000	0	0
2024	5	43701	185	2024	5	0.000	0.000	0.000	0	0
2024	6	43813	112	2024	6	0.000	0.000	0.000	0	0
2024	7	43855	41	2024	7	0.000	0.000	0.000	0	0
2024	8	43887	33	2024	8	0.000	0.000	0.000	0	0
2024	9	43903	16	2024	9	0.000	0.000	0.000	0	0
2024	10	43706	-198	2024	10	0.000	0.000	0.000	0	0
2024	11	43430	-276	2024	11	0.000	0.000	0.000	0	0
2024	12	43323	-107	2024	12	0.000	0.000	0.000	0	0
2025	1	43337	14	2025	1	0.000	0.000	0.000	0	0
2025	2	43290	-47	2025	2	0.000	0.000	0.000	0	0
2025	3	43376	85	2025	3	0.000	0.000	0.000	0	0
2025	4	43637	262	2025	4	0.000	0.000	0.000	0	0
2025	5	43822	185	2025	5	0.000	0.000	0.000	0	0
2025	6	43934	112	2025	6	0.000	0.000	0.000	0	0
2025	7	43976	41	2025	7	0.000	0.000	0.000	0	0
2025	8	44008	33	2025	8	0.000	0.000	0.000	0	0
2025	9	44025	16	2025	9	0.000	0.000	0.000	0	0
2025	10	43827	-198	2025	10	0.000	0.000	0.000	0	0
2025	11	43551	-276	2025	11	0.000	0.000	0.000	0	0
2025	12	43444	-107	2025	12	0.000	0.000	0.000	0	0
2026	1	43458	14	2026	1	0.000	0.000	0.000	0	0
2026	2	43411	-47	2026	2	0.000	0.000	0.000	0	0
2026	3	43497	85	2026	3	0.000	0.000	0.000	0	0
2026	4	43759	262	2026	4	0.000	0.000	0.000	0	0
2026	5	43943	185	2026	5	0.000	0.000	0.000	0	0
2026	6	44056	112	2026	6	0.000	0.000	0.000	0	0

NEW JERSEY WEATHER DATA

				CAL.	CAL.	CAL.	MODEL	MODEL	MODEL							
DU Year	Month	Normal	DATE	CLDD	PRCP	HTDD	CLDD	PRCP	HTDD	Rain	Rain Lag	Rain Lag 2	CDD	CDD Lag	HDD	HDD Lag
2008	1	0	2008.01	0	2.066	938	0	-1.165	-64	-1.165	0.000	0.000	0.000	0.000	-64	0
2008	2	0	2008.02	0	5.442	850	0	2.247	9	2.247	-1.165	0.000	-0.098	0.000	9	-64
2008	3	0	2008.03	0	3.797	704	-1	0.170	-12	0.170	2.247	-1.165	-0.642	-0.098	-12	9
2008	4	0	2008.04	1	2.334	355	-7	-1.803	-27	-1.803	0.170	2.247	-7.460	-0.642	-27	-12
2008	5	0	2008.05	19	3.748	232	-46	-0.373	85	-0.373	-1.803	0.170	-46.316	-7.460	85	-27
2008	6	0	2008.06	250	2.937	3	55	-0.651	-13	-0.651	-0.373	-1.803	54.678	-46.316	-13	85
2008	7	0	2008.07	345	4.791	0	-36	-0.198	0	-0.198	-0.651	-0.373	-36.436	54.678	0	-13
2008	8	0	2008.08	199	1.771	2	-115	-2.206	2	-2.206	-0.198	-0.651	-114.804	-36.436	2	0
2008	9	0	2008.09	118	6.443	45	-30	3.330	3	3.330	-2.206	-0.198	-29.675	-114.804	3	2
2008	10	0	2008.10	4	2.563	362	-20	-1.709	105	-1.709	3.330	-2.206	-20.012	-29.675	105	3
2008	11	0	2008.11	0	3.920	583	-2	0.605	-6	0.605	-1.709	3.330	-1.717	-20.012	-6	105
2008	12	0	2008.12	0	6.277	866	0	2.345	49	2.345	0.605	-1.709	-0.121	-1.717	49	-6
2009	1	0	2009.01	0	2.761	1173	0	-0.471	171	-0.471	2.345	0.605	0.000	-0.121	171	49
2009	2	0	2009.02	0	0.516	819	0	-2.679	-22	-2.679	-0.471	2.345	-0.098	0.000	-22	171
2009	3	0	2009.03	0	1.770	743	-1	-1.858	28	-1.858	-2.679	-0.471	-0.642	-0.098	28	-22
2009	4	0	2009.04	33	4.303	399	24	0.166	17	0.166	-1.858	-2.679	24.497	-0.642	17	28
2009	5	0	2009.05	36	4.440	139	-29	0.318	-8	0.318	0.166	-1.858	-28.588	24.497	-8	17
2009	6	0	2009.06	116	7.106	30	-80	3.518	14	3.518	0.318	0.166	-79.583	-28.588	14	-8
2009	7	0	2009.07	224	6.255	1	-157	1.266	0	1.266	3.518	0.318	-157.359	-79.583	0	14
2009	8	0	2009.08	318	7.620	0	4	3.644	0	3.644	1.266	3.518	4.346	-157.359	0	0
2009	9	0	2009.09	61	3.852	60	-86	0.739	18	0.739	3.644	1.266	-86.497	4.346	18	0
2009	10	0	2009.10	6	5.044	336	-19	0.773	79	0.773	0.739	3.644	-18.860	-86.497	79	18
2009	11	0	2009.11	0	1.631	463	-2	-1.684	-126	-1.684	0.773	0.739	-1.717	-18.860	-126	79
2009	12	0	2009.12	0	7.347	938	0	3.415	121	3.415	-1.684	0.773	-0.121	-1.717	121	-126
2010	1	0	2010.01	0	2.268	1047	0	-0.964	45	-0.964	3.415	-1.684	0.000	-0.121	45	121
2010	2	0	2010.02	0	4.058	922	0	0.863	81	0.863	-0.964	3.415	-0.098	0.000	81	45
2010	3	0	2010.03	0	8.830	570	-1	5.202	-145	5.202	0.863	-0.964	-0.642	-0.098	-145	81
2010	4	0	2010.04	26	2.442	276	18	-1.695	-106	-1.695	5.202	0.863	17.620	-0.642	-106	-145
2010	5	0	2010.05	93	3.039	113	28	-1.082	-34	-1.082	-1.695	5.202	27.728	17.620	-34	-106
2010	6	0	2010.06	280	2.324	10	84	-1.264	-6	-1.264	-1.082	-1.695	84.372	27.728	-6	-34
2010	7	0	2010.07	427	4.534	0	46	-0.456	0	-0.456	-1.264	-1.082	45.712	84.372	0	-6
2010	8	0	2010.08	316	1.440	0	2	-2.536	0	-2.536	-0.456	-1.264	2.002	45.712	0	0
2010	9	0	2010.09	147	2.918	24	-1	-0.195	-18	-0.195	-2.536	-0.456	-0.994	2.002	-18	0
2010	10	0	2010.10	7	3.640	298	-17	-0.631	41	-0.631	-0.195	-2.536	-16.958	-0.994	41	-18
2010	11	0	2010.11	0	2.018	588	-2	-1.296	-1	-1.296	-0.631	-0.195	-1.717	-16.958	-1	41
2010	12	0	2010.12	0	3.045	1029	0	-0.887	212	-0.887	-1.296	-0.631	-0.121	-1.717	212	-1
2011	1	0	2011.01	0	3.280	1135	0	0.049	133	0.049	-0.887	-1.296	0.000	-0.121	133	212
2011	2	0	2011.02	0	3.059	850	0	-0.136	9	-0.136	0.049	-0.887	-0.098	0.000	9	133
2011	3	0	2011.03	0	5.621	718	-1	1.994	3	1.994	-0.136	0.049	-0.642	-0.098	3	9
2011	4	0	2011.04	26	5.834	340	18	1.697	-42	1.697	1.994	-0.136	17.567	-0.642	-42	3
2011	5	0	2011.05	85	3.584	114	21	-0.537	-33	-0.537	1.697	1.994	20.605	17.567	-33	-42
2011	6	0	2011.06	217	3.131	7	22	-0.457	-9	-0.457	-0.537	1.697	21.905	20.605	-9	-33
2011	7	0	2011.07	438	3.448	0	57	-1.542	0	-1.542	-0.457	-0.537	57.228	21.905	0	-9
2011	8	0	2011.08	282	14.928	0	-31	10.951	0	10.951	-1.542	-0.457	-31.197	57.228	0	0
2011	9	0	2011.09	161	6.065	34	14	2.952	-8	2.952	10.951	-1.542	13.950	-31.197	-8	0
2011	10	0	2011.10	7	4.222	291	-17	-0.050	34	-0.050	2.952	10.951	-17.127	13.950	34	-8
2011	11	0	2011.11	0	3.769	459	-2	0.454	-130	0.454	-0.050	2.952	-1.717	-17.127	-130	34
2011	12	0	2011.12	0	4.369	749	0	0.436	-68	0.436	0.454	-0.050	-0.121	-1.717	-68	-130
2012	1	0	2012.01	0	2.771	898	0	-0.460	-104	-0.460	0.436	0.454	0.000	-0.121	-104	-68
2012	2	0	2012.02	0	1.398	752	0	-1.797	-89	-1.797	-0.460	0.436	-0.098	0.000	-89	-104
2012	3	0	2012.03	1	1.438	459	0	-2.189	-257	-2.189	-1.797	-0.460	0.477	-0.098	-257	-89
2012	4	0	2012.04	15	2.828	364	6	-1.309	-18	-1.309	-2.189	-1.797	5.959	0.477	-18	-257
2012	5	0	2012.05	95	3.924	80	31	-0.198	-67	-0.198	-1.309	-2.189	30.545	5.959	-67	-18
2012	6	0	2012.06	181	4.226	27	-14	0.638	11	0.638	-0.198	-1.309	-14.240	30.545	11	-67
2012	7	0	2012.07	407	3.564	0	26	-1.425	0	-1.425	0.638	-0.198	25.855	-14.240	0	11
2012	8	0	2012.08	312	4.832	0	-2	0.855	0	0.855	-1.425	0.638	-2.043	25.855	0	0
2012	9	0	2012.09	119	3.256	53	-28	0.144	12	0.144	0.855	-1.425	-28.107	-2.043	12	0
2012	10	0	2012.10	13	4.396	248	-12	0.125	-8	0.125	0.144	0.855	-11.837	-28.107	-8	12
2012	11	0	2012.11	0	1.132	692	-2	-2.183	103	-2.183	0.125	0.144	-1.717	-11.837	103	-8
2012	12	0	2012.12	0	5.812	730	0	1.880	-87	1.880	-2.183	0.125	-0.121	-1.717	-87	103
2013	1	0	2013.01	0	2.624	941	0	-0.608	-61	-0.608	1.880	-2.183	0.000	-0.121	-61	-87
2013	2	0	2013.02	0	3.166	845	0	-0.029	4	-0.029	-0.608	1.880	-0.098	0.000	4	-61
2013	3	0	2013.03	0	2.665	804	-1	-0.963	88	-0.963	-0.029	-0.608	-0.642	-0.098	88	4
2013	4	0	2013.04	10	2.252	405	1	-1.885	23	-1.885	-0.963	-0.029	0.913	-0.642	23	88
2013	5	0	2013.05	70	3.582	192	5	-0.540	45	-0.540	-1.885	-0.963	5.484	0.913	45	23
2013	6	0	2013.06	208	9.122	12	13	5.534	-5	5.534	-0.540	-1.885	12.666	5.484	-5	45
2013	7	1	2013.07	413	2.958	0	32	-2.031	0	-2.031	5.534	-0.540	31.978	12.666	0	-5
2013	8	1	2013.08	213	4.037	3	-101	0.061	2	0.061	-2.031	5.534	-100.549	31.978	2	0
2013	9	1	2013.09	86	2.529	104	-62	-0.584	62	-0.584	0.061	-2.031	-61.520	-100.549	62	2
2013	10	1	2013.10	29	1.372	278	5	-2.900	21	-2.900	-0.584	0.061	4.624	-61.520	21	62
2013	11	1	2013.11	0	2.947	658	-2	-0.368	70	-0.368	-2.900	-0.584	-1.717	4.624	70	21
2013	12	1	2013.12	0	4.517	906	0	0.585	89	0.585	-0.368	-2.900	0.227	-1.717	89	70
2014	1	1	2014.01	0	2.557	1216	0	-0.674	214	-0.674	0.585	-0.368	0.000	0.227	214	89
2014	2	1	2014.02	0	3.739	1018	0	0.544	177	0.544	-0.674	0.585	-0.098	0.000	177	214
2014	3	1	2014.03	0	3.755	900	-1	0.128	185	0.128	0.544	-0.674	-0.642	-0.098	185	177
2014	4	1	2014.04	6	5.973	430	-3	1.836	48	1.836	0.128	0.544	-3.121	-0.642	48	185
2014	5	1	2014.05	38	3.686	123	-27	-0.435	-24	-0.435	1.836	0.128	-26.574	-3.121	-24	48
2014	6	1	2014.06	184	3.204	5	-12	-0.384	-11	-0.384	-0.435	1.836	-11.725	-26.574	-11	-24
2014	7	1	2014.07	297	4.611	0	-84	-0.378	0	-0.378	-0.384	-0.435	-83.717	-11.725	0	-11

	NORMAL	NORMAL	NORMAL
	CAL.	CAL.	CAL.
Month	CLDD	PRCP	HTDD
1	0	3.231	1002
2	0	3.195	841
3	1	3.627	715
4	9	4.137	382
5	65	4.122	147
6	196	3.588	16
7	381	4.989	0
8	314	3.976	1
9	148	3.112	42
10	24	4.271	256
11	2	3.315	589
12	0	3.932	817

Normal Start:	2013.07
Normal End	2023.06
Normal Months	120.00

2014	8	1	2014.08	202	2.934	1	-111	-1.042	1	-1.042	-0.378	-0.384	-111.290	-83.717	1	0	202	2.934	1	0	0.0000	0
2014	9	1	2014.09	127	1.425	56	-21	-1.687	14	-1.687	-1.042	-0.378	-20.841	-111.290	14	1	127	1.425	56	0	0.0000	0
2014	10	1	2014.10	16	4.182	258	-8	-0.089	2	-0.089	-1.687	-1.042	-8.407	-20.841	2	14	16	4.182	258	0	0.0000	0
2014	11	1	2014.11	0	4.549	689	-2	1.234	100	1.234	-0.089	-1.687	-1.717	-8.407	100	2	0	4.549	689	0	0.0000	0
2014	12	1	2014.12	0	4.889	792	0	0.957	-25	0.957	1.234	-0.089	-0.121	-1.717	-25	100	0	4.889	792	0	0.0000	0
2015	1	1	2015.01	0	4.387	1136	0	1.156	135	1.156	0.957	1.234	0.000	-0.121	135	-25	0	4.387	1136	0	0.0000	0
2015	2	1	2015.02	0	1.897	1198	0	-1.298	357	-1.298	1.156	0.957	-0.098	0.000	357	135	0	1.897	1198	0	0.0000	0
2015	3	1	2015.03	0	4.627	863	-1	1.000	148	1.000	-1.298	1.156	-0.642	-0.098	148	357	0	4.627	863	0	0.0000	0
2015	4	1	2015.04	0	2.232	388	-8	-1.905	6	-1.905	1.000	-1.298	-8.483	-0.642	6	148	0	2.232	388	0	0.0000	0
2015	5	1	2015.05	120	2.198	86	55	-1.923	-61	-1.923	-1.905	1.000	54.747	-8.483	-61	6	120	2.198	86	0	0.0000	0
2015	6	1	2015.06	205	5.831	35	9	2.243	18	2.243	-1.923	-1.905	8.962	54.747	18	-61	205	5.831	35	0	0.0000	0
2015	7	1	2015.07	362	3.499	0	-19	-1.490	0	-1.490	2.243	-1.923	-18.820	8.962	0	18	362	3.499	0	0	0.0000	0
2015	8	1	2015.08	308	1.919	0	-5	-2.057	-1	-2.057	-1.490	2.243	-5.362	-18.820	-1	0	308	1.919	0	0	0.0000	0
2015	9	1	2015.09	181	2.428	12	33	-0.685	-30	-0.685	-2.057	-1.490	33.214	-5.362	-30	-1	181	2.428	12	0	0.0000	0
2015	10	1	2015.10	2	4.172	337	-23	-0.100	81	-0.100	-0.685	-2.057	-22.789	33.214	81	-30	2	4.172	337	0	0.0000	0
2015	11	1	2015.11	3	1.940	455	1	-1.375	-133	-1.375	-0.100	-0.685	0.838	-22.789	-133	81	3	1.940	455	0	0.0000	0
2015	12	1	2015.12	0	4.379	514	0	0.447	-303	0.447	-1.375	-0.100	0.035	0.838	-303	-133	0	4.379	514	0	0.0000	0
2016	1	1	2016.01	0	2.950	1033	0	-0.281	31	-0.281	0.447	-1.375	0.000	0.035	31	-303	0	2.950	1033	0	0.0000	0
2016	2	1	2016.02	0	3.732	838	0	0.537	-3	0.537	-0.281	0.447	-0.098	0.000	-3	31	0	3.732	838	0	0.0000	0
2016	3	1	2016.03	3	1.811	549	2	-1.816	-166	-1.816	0.537	-0.281	2.239	-0.098	-166	-3	3	1.811	549	0	0.0000	0
2016	4	1	2016.04	7	1.777	423	-2	-2.360	41	-2.360	-1.816	0.537	-1.982	2.239	41	-166	7	1.777	423	0	0.0000	0
2016	5	1	2016.05	71	4.174	208	7	0.052	61	0.052	-2.360	-1.816	6.564	-1.982	61	41	71	4.174	208	0	0.0000	0
2016	6	1	2016.06	188	1.915	11	-8	-1.673	-6	-1.673	0.052	-2.360	-7.589	6.564	-6	61	188	1.915	11	0	0.0000	0
2016	7	1	2016.07	387	6.662	0	6	1.673	0	1.673	-1.673	0.052	5.933	-7.589	0	-6	387	6.662	0	0	0.0000	0
2016	8	1	2016.08	377	1.761	0	64	-2.215	-1	-2.215	1.673	-1.673	63.862	5.933	-1	0	377	1.761	0	0	0.0000	0
2016	9	1	2016.09	178	2.453	32	30	-0.659	-10	-0.659	-2.215	1.673	30.231	63.862	-10	-1	178	2.453	32	0	0.0000	0
2016	10	1	2016.10	22	2.640	282	-2	-1.631	26	-1.631	-0.659	-2.215	-2.019	30.231	26	-10	22	2.640	282	0	0.0000	0
2016	11	1	2016.11	0	3.383	527	-1	0.068	-62	0.068	-1.631	-0.659	-1.483	-2.019	-62	26	0	3.383	527	0	0.0000	0
2016	12	1	2016.12	0	2.976	889	0	-0.957	72	-0.957	0.068	-1.631	-0.121	-1.483	72	-62	0	2.976	889	0	0.0000	0
2017	1	1	2017.01	0	4.089	878	0	0.857	-124	0.857	-0.957	0.068	0.000	-0.121	-124	72	0	4.089	878	0	0.0000	0
2017	2	1	2017.02	0	1.560	683	0	-1.635	-158	-1.635	0.857	-0.957	-0.098	0.000	-158	-124	0	1.560	683	0	0.0000	0
2017	3	1	2017.03	0	3.762	798	-1	0.135	82	0.135	-1.635	0.857	-0.642	-0.098	82	-158	0	3.762	798	0	0.0000	0
2017	4	1	2017.04	25	4.230	278	16	0.092	-104	0.092	0.135	-1.635	16.037	-0.642	-104	82	25	4.230	278	0	0.0000	0
2017	5	1	2017.05	49	6.237	199	-16	2.115	52	2.115	0.092	0.135	-15.515	16.037	52	-104	49	6.237	199	0	0.0000	0
2017	6	1	2017.06	192	3.627	30	-4	0.039	13	0.039	2.115	0.092	-3.884	-15.515	13	52	192	3.627	30	0	0.0000	0
2017	7	1	2017.07	328	4.674	0	-53	-0.315	0	-0.315	0.039	2.115	-53.256	-3.884	0	13	328	4.674	0	0	0.0000	0
2017	8	1	2017.08	223	4.614	2	-91	0.637	2	0.637	-0.315	0.039	-91.088	-53.256	2	0	223	4.614	2	0	0.0000	0
2017	9	1	2017.09	147	1.857	39	-1	-1.256	-3	-1.256	0.637	-0.315	-0.928	-91.088	-3	2	147	1.857	39	0	0.0000	0
2017	10	1	2017.10	52	5.045	186	28	0.774	-70	0.774	-1.256	0.637	27.700	-0.928	-70	-3	52	5.045	186	0	0.0000	0
2017	11	1	2017.11	0	1.626	599	-2	-1.689	10	-1.689	0.774	-1.256	-1.639	27.700	10	-70	0	1.626	599	0	0.0000	0
2017	12	1	2017.12	0	1.389	972	0	-2.544	155	-2.544	-1.689	0.774	-0.121	-1.639	155	10	0	1.389	972	0	0.0000	0
2018	1	1	2018.01	0	2.381	1080	0	-0.850	78	-0.850	-2.544	-1.689	0.000	-0.121	78	155	0	2.381	1080	0	0.0000	0
2018	2	1	2018.02	1	5.974	692	1	2.779	-149	2.779	-0.850	-2.544	0.883	0.000	-149	78	1	5.974	692	0	0.0000	0
2018	3	1	2018.03	0	4.330	784	-1	0.703	68	0.703	2.779	-0.850	-0.642	0.883	68	-149	0	4.330	784	0	0.0000	0
2018	4	1	2018.04	4	4.405	510	-4	0.267	128	0.267	0.703	2.779	-4.312	-0.642	128	68	4	4.405	510	0	0.0000	0
2018	5	1	2018.05	91	5.366	75	26	1.245	-72	1.245	0.267	0.703	26.312	-4.312	-72	128	91	5.366	75	0	0.0000	0
2018	6	1	2018.06	185	3.125	18	-10	-0.463	1	-0.463	1.245	0.267	-10.299	26.312	1	-72	185	3.125	18	0	0.0000	0
2018	7	1	2018.07	346	5.223	0	-35	0.234	0	0.234	-0.463	1.245	-35.305	-10.299	0	1	346	5.223	0	0	0.0000	0
2018	8	1	2018.08	377	5.655	0	63	1.679	-1	1.679	0.234	-0.463	62.971	-35.305	-1	0	377	5.655	0	0	0.0000	0
2018	9	1	2018.09	192	6.668	30	44	3.556	-12	3.556	1.679	0.234	44.052	62.971	-12	-1	192	6.668	30	0	0.0000	0
2018	10	1	2018.10	53	3.908	304	29	-0.363	47	-0.363	3.556	1.679	28.714	44.052	47	-12	53	3.908	304	0	0.0000	0
2018	11	1	2018.11	2	8.902	669	0	5.588	80	5.588	-0.363	3.556	0.243	28.714	80	47	2	8.902	669	0	0.0000	0
2018	12	1	2018.12	0	5.177	785	0	1.245	-32	1.245	5.588	-0.363	-0.121	0.243	-32	80	0	5.177	785	0	0.0000	0
2019	1	1	2019.01	0	4.336	1032	0	1.105	30	1.105	1.245	5.588	0.000	-0.121	30	-32	0	4.336	1032	0	0.0000	0
2019	2	1	2019.02	0	3.386	827	0	0.191	-14	0.191	1.105	1.245	-0.098	0.000	-14	30	0	3.386	827	0	0.0000	0
2019	3	1	2019.03	0	3.712	772	0	0.085	56	0.085	0.191	1.105	-0.468	-0.098	56	-14	0	3.712	772	0	0.0000	0
2019	4	1	2019.04	9	3.879	299	0	-0.258	-83	-0.258	0.085	0.191	0.056	-0.468	-83	56	9	3.879	299	0	0.0000	0
2019	5	1	2019.05	60	6.642	122	-5	2.520	-25	2.520	-0.258	0.085	-5.197	0.056	-25	-83	60	6.642	122	0	0.0000	0
2019	6	1	2019.06	190	4.368	17	-5	0.780	0	0.780	2.520	-0.258	-5.379	-5.197	0	-25	190	4.368	17	0	0.0000	0
2019	7	1	2019.07	420	6.258	0	39	1.269	0	1.269	0.780	2.520	39.230	-5.379	0	0	420	6.258	0	0	0.0000	0
2019	8	1	2019.08	302	3.984	0	-12	0.008	-1	0.008	1.269	0.780	-11.777	39.230	-1	0	302	3.984	0	0	0.0000	0
2019	9	1	2019.09	142	1.031	17	-5	-2.081	-24	-2.081	0.008	1.269	-5.353	-11.777	-24	-1	142	1.031	17	0	0.0000	0
2019	10	1	2019.10	30	5.238	227	6	0.967	-29	0.967	-2.081	0.008	5.685	-5.353	-29	-24	30	5.238	227	0	0.0000	0
2019	11	1	2019.11	0	1.534	703	-2	-1.781	114	-1.781	0.967	-2.081	-1.717	5.685	114	-29	0	1.534	703	0	0.0000	0
2019	12	1	2019.12	0	5.562	870	0	1.630	53	1.630	-1.781	0.967	-0.121	-1.717	53	114	0	5.562	870	0	0.0000	0
2020	1	1	2020.01	0	1.873	854	0	-1.358	-148	-1.358	1.630	-1.781	0.000	-0.121	-148	53	0	1.873	854	0	0.0000	0
2020	2	1	2020.02	0	2.744	737	0	-0.451	-104	-0.451	-1.358	1.630	-0.098	0.000	-104	-148	0	2.744	737	0	0.0000	0
2020	3	1	2020.03	0	3.642	555	-1	0.015	-160	0.015	-0.451	-1.358	-0.642	-0.098	-160	-104	0	3.642	555	0	0.0000	0
2020	4	1	2020.04	0	4.276	453	-9	0.139	71	0.139	0.015	-0.451	-8.789	-0.642	71	-160	0	4.276	453	0	0.0000	0
2020	5	1	2020.05	43	2.524	200	-22	-1.597	53	-1.597	0.139	0.015	-21.715	-8.789	53	71	43	2.524	200	0	0.0000	0
2020	6	1	2020.06	227	3.959	11	32	0.371	-5	0.371	-1.597	0.139	31.686	-21.715	-5	53	227	3.959	11	0	0.0000	0
2020	7	1	2020.07	448	7.368	0	67	2.378	0	2.378	0.371	-1.597	66.676	31.686	0	-5	448	7.368	0	0	0.0000	0
2020	8	1	2020.08	345	4.644	0	32	0.668	-1	0.668	2.378	0.371	31.726	66.676	-1	0	345	4.644	0	0	0.0000	0
2020	9	1	2020.09	133	3.109	62	-14	-0.004	20	-0.004	0.668	2.378	-14.170	31.726	20	-1	133	3.109	62	0	0.0000	0
2020	10	1	2020.10	4	4.702	246	-20	0.430	-11	0.430	-0.004	0.668	-20.061	-14.170	-11	20	4	4.702	246	0	0.0000	0
2020	11	1	2020.11	2	4.363	463	0	1.049	-125	1.049	0.430	-0.004	0.098	-20.061	-125	-11	2	4.363	463	0	0.0000	0
2020	12	1	2020.12	0	4.326	846	0	0.394	29	0.394	1.049	0.430	-0.121	0.098	29	-125	0	4.326	846	0	0.0000	0
2021	1	1	2021.01	0	2.116	967	0	-1.115	-35	-1.115	0.394	1.049	0.000	-0.121	-35	29	0	2.116	967	0	0.0000	0
2021	2	1	2021.02	0	4.744	906	0	1.549	65	1.549	-1.115	0.394	-0.098	0.000	65	-35	0	4.744	906	0	0.0000	0
2021	3	1	2021.03	3	4.897	633	2	1.270	-82	1.270	1.549	-1.115	1.871	-0.098	-82	65	3	4.897	633	0	0.0000	0
2021	4	1	2021.04	10	3.807	356	1	-0.330	-26	-0.330	1.270	1.549	0.907	1.871	-26	-82	10	3.807	356	0	0.0000	0
2021	5	1	2021.05	65	3.954	169	0	-0.168	22	-0.168	-0.330	1.270	0.117	0.907	22	-26	65	3.954	169	0	0.0000	0
2021	6	1	2021.06	254	3.713	9	59	0.125	-7	0.125	-0.168	-0.330	58.846	0.117	-7	22	254	3.713	9	0	0.0000	0

2021	7	1	2021.07	363	7.102	0	-18	2.113	0	2.113	0.125	-0.168	-17.976	58.846	0	-7
2021	8	1	2021.08	380	7.001	0	66	3.025	-1	3.025	2.113	0.125	66.384	-17.976	-1	0
2021	9	1	2021.09	149	6.577	17	1	3.465	-25	3.465	3.025	2.113	1.199	66.384	-25	-1
2021	10	1	2021.10	33	5.465	130	9	1.193	-126	1.193	3.465	3.025	8.882	1.199	-126	-25
2021	11	1	2021.11	0	0.913	629	-2	-2.402	40	-2.402	1.193	3.465	-1.717	8.882	40	-126
2021	12	1	2021.12	0	1.373	709	0	-2.560	-108	-2.560	-2.402	1.193	-0.121	-1.717	-108	40
2022	1	1	2022.01	0	3.675	1112	0	0.444	110	0.444	-2.560	-2.402	0.000	-0.121	110	-108
2022	2	1	2022.02	0	2.723	801	0	-0.472	-40	-0.472	0.444	-2.560	-0.098	0.000	-40	110
2022	3	1	2022.03	1	2.831	628	0	-0.796	-87	-0.796	-0.472	0.444	0.209	-0.098	-87	-40
2022	4	1	2022.04	5	4.317	397	-4	0.180	15	0.180	-0.796	-0.472	-3.774	0.209	15	-87
2022	5	1	2022.05	91	5.142	115	26	1.021	-32	1.021	0.180	-0.796	25.699	-3.774	-32	15
2022	6	1	2022.06	198	3.043	7	2	-0.545	-9	-0.545	1.021	0.180	2.042	25.699	-9	-32
2022	7	1	2022.07	446	1.538	0	65	-3.452	0	-3.452	-0.545	1.021	65.257	2.042	0	-9
2022	8	1	2022.08	409	3.213	0	95	-0.764	-1	-0.764	-3.452	-0.545	95.124	65.257	-1	0
2022	9	1	2022.09	142	3.047	51	-6	-0.065	9	-0.065	-0.764	-3.452	-5.883	95.124	9	-1
2022	10	1	2022.10	2	5.989	316	-22	1.718	59	1.718	-0.065	-0.764	-22.327	-5.883	59	9
2022	11	1	2022.11	11	2.991	495	9	-0.323	-93	-0.323	1.718	-0.065	8.814	-22.327	-93	59
2022	12	1	2022.12	1	4.735	888	1	0.803	71	0.803	-0.323	1.718	0.581	8.814	71	-93
2023	1	1	2023.01	0	3.948	711	0	0.717	-291	0.717	0.803	-0.323	0.000	0.581	-291	71
2023	2	1	2023.02	0	1.453	709	0	-1.743	-132	-1.743	0.717	0.803	-0.098	0.000	-132	-291
2023	3	1	2023.03	0	2.904	672	-1	-0.723	-43	-0.723	-1.743	0.717	-0.642	-0.098	-43	-132
2023	4	1	2023.04	22	6.476	286	13	2.338	-96	2.338	-0.723	-1.743	13.464	-0.642	-96	-43
2023	5	1	2023.05	20	1.293	174	-44	-2.829	27	-2.829	2.338	-0.723	-44.435	13.464	27	-96
2023	6	1	2023.06	133	3.095	23	-63	-0.493	6	-0.493	-2.829	2.338	-62.658	-44.435	6	27
2023	7	0	2023.07													
2023	8	0	2023.08													
2023	9	0	2023.09													
2023	10	0	2023.10													
2023	11	0	2023.11													
2023	12	0	2023.12													

363	7.102	0	0	0.0000	0
380	7.001	0	0	0.0000	0
149	6.577	17	0	0.0000	0
33	5.465	130	0	0.0000	0
0	0.913	629	0	0.0000	0
0	1.373	709	0	0.0000	0
0	3.675	1112	0	0.0000	0
0	2.723	801	0	0.0000	0
1	2.831	628	0	0.0000	0
5	4.317	397	0	0.0000	0
91	5.142	115	0	0.0000	0
198	3.043	7	0	0.0000	0
446	1.538	0	0	0.0000	0
409	3.213	0	0	0.0000	0
142	3.047	51	0	0.0000	0
2	5.989	316	0	0.0000	0
11	2.991	495	0	0.0000	0
1	4.735	888	0	0.0000	0
0	3.948	711	0	0.0000	0
0	1.453	709	0	0.0000	0
0	2.904	672	0	0.0000	0
22	6.476	286	0	0.0000	0
20	1.293	174	0	0.0000	0
133	3.095	23	0	0.0000	0

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
1	2008	1	551531	3218149	0	41955	1356312	0	2838	100914	0	0	0	0
2	2008	2	551727	2849717	0	41936	1147498	0	2839	105211	0	0	0	0
3	2008	3	552157	2957196	0	42020	1260428	0	2868	98129	0	0	0	0
4	2008	4	552951	3003237	0	42245	1389554	0	2905	110023	0	0	0	0
5	2008	5	553875	3199417	0	42411	1393930	0	2918	119100	0	0	0	0
6	2008	6	554469	4092965	0	42478	1681772	0	2917	153866	0	0	0	0
7	2008	7	554839	4848653	0	42543	1860210	0	2919	152084	10000	0	0	0
8	2008	8	555104	5345244	0	42591	2008173	0	2923	184236	-10000	0	0	0
9	2008	9	555179	5402963	0	42586	2126833	0	2923	182144	0	0	0	0
10	2008	10	554857	4037303	0	42386	1694699	0	2915	147572	0	0	0	0
11	2008	11	554358	3366781	0	42233	1456647	0	2902	121880	0	0	0	0
12	2008	12	554204	3368083	0	42112	1490948	0	2886	136106	-10000	0	0	0
13	2009	1	554119	3210713	0	41986	1345889	0	2891	98057	10000	0	0	0
14	2009	2	554205	2802064	0	42022	1164478	0	2895	112372	0	0	0	0
15	2009	3	554412	2918138	0	42107	1275837	0	2942	116052	0	0	0	0
16	2009	4	555062	2907080	0	42357	1310985	0	2983	102752	0	0	0	0
17	2009	5	554962	2985153	0	42458	1269752	0	2993	119301	0	0	0	0
18	2009	6	555371	3778224	0	42555	1550605	0	2996	154169	0	0	0	0
19	2009	7	555632	4146147	0	42594	1882547	0	3000	156494	0	0	0	0
20	2009	8	555760	4259853	0	42634	1794851	0	3006	148647	0	0	0	0
21	2009	9	555860	4234001	0	42592	1850862	0	3006	159011	0	0	0	0
22	2009	10	555786	3520593	0	42408	1550203	0	2991	143406	0	0	0	0
23	2009	11	555199	2897750	0	42135	1379781	0	2953	114479	0	0	0	0
24	2009	12	554905	3085398	0	42050	1332696	0	2932	108219	0	0	0	0
25	2010	1	554878	3087521	0	42001	1260658	0	2933	101451	0	0	0	0
26	2010	2	555037	2637983	0	41967	1170432	0	2932	93193	0	0	0	0
27	2010	3	555110	2891124	0	42042	1279627	0	2954	105814	0	0	0	0
28	2010	4	555753	2985741	0	42203	1298113	0	3137	108184	0	0	0	0
29	2010	5	556453	3092127	0	42360	1320679	0	3118	120605	0	0	0	0
30	2010	6	556809	4146099	0	42452	1593237	0	3123	146088	0	0	0	0
31	2010	7	557080	5801736	0	42494	1961053	0	3122	187377	0	0	0	0
32	2010	8	557327	5710411	0	42512	2132842	0	3124	196046	0	0	0	0
33	2010	9	557761	5326576	0	42481	2068140	0	3124	179606	0	0	0	0
34	2010	10	557350	3920188	0	42356	1769474	0	3106	148729	0	0	0	0
35	2010	11	556728	2955698	0	42088	1316697	0	3044	105279	0	0	0	0
36	2010	12	556464	3081216	0	41992	1366969	0	3020	111485	0	0	0	0
37	2011	1	556355	3055798	0	41949	1266502	0	3018	101872	0	0	0	0
38	2011	2	556340	2646187	0	41936	1156729	0	3017	99080	0	0	0	0
39	2011	3	556472	2893000	0	42001	1310366	0	3039	117693	0	0	0	0
40	2011	4	556921	2731226	0	42197	1264520	0	3075	103378	0	0	0	0
41	2011	5	557591	3040030	0	42389	1328192	0	3083	103728	0	0	0	0
42	2011	6	558070	4255194	0	42457	1623547	0	3100	142747	0	0	0	0
43	2011	7	558395	5010402	0	42527	1891570	0	3119	161618	0	0	0	0
44	2011	8	558558	5403885	0	42568	2036544	0	3128	185546	0	0	0	0
45	2011	9	558271	4085965	0	42472	1809949	0	3139	146897	0	0	0	0
46	2011	10	557850	3195558	0	42285	1428714	0	3141	124675	0	0	0	0
47	2011	11	557259	2818282	0	42055	1303372	0	3122	101368	0	0	0	0
48	2011	12	556952	2911574	0	41964	1294786	0	3099	101345	0	0	0	0
49	2012	1	556825	3010776	0	41859	1264543	0	3125	100517	0	0	0	0
50	2012	2	556805	2667917	0	41858	1187487	0	3127	93032	0	0	0	0
51	2012	3	557097	2754685	0	41998	1241236	0	3147	94965	0	0	0	0
52	2012	4	557897	2911623	0	42277	1266229	0	3170	104982	0	0	0	0
53	2012	5	558543	3369721	0	42463	1430461	0	3185	126575	0	0	0	0
54	2012	6	559016	4074971	0	42534	1617924	0	3189	138375	0	0	0	0
55	2012	7	559226	5202642	0	42567	1831706	0	3195	157891	0	0	0	0
56	2012	8	559548	4837003	0	42584	1924102	0	3212	169250	0	0	0	0
57	2012	9	559333	4274144	0	42525	1793021	0	3215	135882	0	0	0	0
58	2012	10	558789	3392360	0	42312	1520796	0	3194	123425	0	0	0	0
59	2012	11	549583	2977665	0	41703	1370254	0	3151	108261	0	0	0	0

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
551,531	3,218,149		41,955	1,356,312		2,838	100,914
551,727	2,849,717		41,936	1,147,498		2,839	105,211
552,157	2,957,196		42,020	1,260,428		2,868	98,129
552,951	3,003,237		42,245	1,389,554		2,905	110,023
553,875	3,199,417		42,411	1,393,930		2,918	119,100
554,469	4,092,965		42,478	1,681,772		2,917	153,866
554,839	4,848,653		42,543	1,860,210		2,919	152,084
555,104	5,345,244		42,591	2,008,173		2,923	184,236
555,179	5,402,963		42,586	2,126,833		2,923	182,144
554,857	4,037,303		42,386	1,694,699		2,915	147,572
554,358	3,366,781		42,233	1,456,647		2,902	121,880
554,204	3,368,083		42,112	1,490,948		2,886	136,106
554,119	3,210,713		41,986	1,345,889		2,891	98,057
554,205	2,802,064		42,022	1,164,478		2,895	112,372
554,412	2,918,138		42,107	1,275,837		2,942	116,052
555,062	2,907,080		42,357	1,310,985		2,983	102,752
554,962	2,985,153		42,458	1,269,752		2,993	119,301
555,371	3,778,224		42,555	1,550,605		2,996	154,169
555,632	4,146,147		42,594	1,882,547		3,000	156,494
555,760	4,259,853		42,634	1,794,851		3,006	148,647
555,860	4,234,001		42,592	1,850,862		3,006	159,011
555,786	3,520,593		42,408	1,550,203		2,991	143,406
555,199	2,897,750		42,135	1,379,781		2,953	114,479
554,905	3,085,398		42,050	1,332,696		2,932	108,219
554,878	3,087,521		42,001	1,260,658		2,933	101,451
555,037	2,637,983		41,967	1,170,432		2,932	93,193
555,110	2,891,124		42,042	1,279,627		2,954	105,814
555,753	2,985,741		42,203	1,298,113		3,137	108,184
556,453	3,092,127		42,360	1,320,679		3,118	120,605
556,809	4,146,099		42,452	1,593,237		3,123	146,088
557,080	5,801,736		42,494	1,961,053		3,122	187,377
557,327	5,710,411		42,512	2,132,842		3,124	196,046
557,761	5,326,576		42,481	2,068,140		3,124	179,606
557,350	3,920,188		42,356	1,769,474		3,106	148,729
556,728	2,955,698		42,088	1,316,697		3,044	105,279
556,464	3,081,216		41,992	1,366,969		3,020	111,485
556,355	3,055,798		41,949	1,266,502		3,018	101,872
556,340	2,646,187		41,936	1,156,729		3,017	99,080
556,472	2,893,000		42,001	1,310,366		3,039	117,693
556,921	2,731,226		42,197	1,264,520		3,075	103,378
557,591	3,040,030		42,389	1,328,192		3,083	103,728
558,070	4,255,194		42,457	1,623,547		3,100	142,747
558,395	5,010,402		42,527	1,891,570		3,119	161,618
558,558	5,403,885		42,568	2,036,544		3,128	185,546
558,271	4,085,965		42,472	1,809,949		3,139	146,897
557,850	3,195,558		42,285	1,428,714		3,141	124,675
557,259	2,818,282		42,055	1,303,372		3,122	101,368
556,952	2,911,574		41,964	1,294,786		3,099	101,345
556,825	3,010,776		41,859	1,264,543		3,125	100,517
556,805	2,667,917		41,858	1,187,487		3,127	93,032
557,097	2,754,685		41,998	1,241,236		3,147	94,965
557,897	2,911,623		42,277	1,266,229		3,170	104,982
558,543	3,369,721		42,463	1,430,461		3,185	126,575
559,016	4,074,971		42,534	1,617,924		3,189	138,375
559,226	5,202,642		42,567	1,831,706		3,195	157,891
559,548	4,837,003		42,584	1,924,102		3,212	169,250
559,333	4,274,144		42,525	1,793,021		3,215	135,882
558,789	3,392,360		42,312	1,520,796		3,194	123,425
549,583	2,977,665		41,703	1,370,254		3,151	108,261

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
60	2012	12	549151	2861531	0	41548	1193551	0	3139	99420	0	0	0	0
61	2013	1	549332	2872395	0	41546	1228110	0	3144	91820	0	0	0	0
62	2013	2	549493	2705074	0	41534	1188110	0	3141	94620	0	0	0	0
63	2013	3	550019	2593341	0	41571	1174673	0	3157	105569	0	0	0	0
64	2013	4	551240	2793677	0	41866	1249810	0	3178	91753	0	0	0	0
65	2013	5	552343	3116964	0	42058	1311091	0	3210	112644	0	0	0	0
66	2013	6	553317	3727922	0	42188	1511201	0	3218	128928	0	0	0	0
67	2013	7	554095	4085213	0	42231	1651816	0	3232	134389	0	0	0	0
68	2013	8	554706	4424642	0	42232	1794786	0	3291	147983	0	0	0	0
69	2013	9	555007	4060815	0	42219	1670016	0	3297	138115	0	0	0	0
70	2013	10	554692	3602900	0	42036	1494816	0	3293	137575	0	0	0	0
71	2013	11	554396	3137114	0	41799	1203658	0	3263	108388	0	0	0	0
72	2013	12	554162	2805026	0	41719	1199001	0	3204	99096	0	0	0	0
73	2014	1	553903	3108071	0	41663	1338091	0	3199	100905	0	0	0	0
74	2014	2	553891	2773730	0	41625	1416024	0	3200	111714	0	0	0	0
75	2014	3	553873	2614882	0	41653	1236529	0	3205	114793	0	0	0	0
76	2014	4	554269	2746721	0	41889	1252741	0	3238	106553	0	0	0	0
77	2014	5	554734	2870422	0	41916	1253624	0	3275	103254	0	0	0	0
78	2014	6	555076	3627021	0	41942	1439023	0	3287	129091	0	0	0	0
79	2014	7	554960	4579692	0	41962	1728479	0	3338	157643	0	0	0	0
80	2014	8	555211	4428652	0	41961	1815868	0	3339	151534	0	0	0	0
81	2014	9	555642	4357774	0	41929	1734610	0	3345	165095	0	0	0	0
82	2014	10	555200	3627111	0	41697	1627105	0	3348	151254	0	0	0	0
83	2014	11	554678	2828531	0	41415	1248094	0	3332	100180	15000	0	0	0
84	2014	12	554816	2682446	0	41333	1250729	0	3312	126190	-15000	0	0	0
85	2015	1	554835	2898153	0	41284	1277503	0	3314	98813	0	0	0	0
86	2015	2	554943	2650357	0	41265	1104147	0	3313	107871	0	0	0	0
87	2015	3	555352	2745284	0	41214	1199584	0	3421	74682	30000	0	0	0
88	2015	4	556066	2696723	0	41499	1252948	0	3463	92584	0	0	0	0
89	2015	5	556728	3167937	0	41635	1328180	0	3473	121749	0	0	0	0
90	2015	6	561554	4233123	0	42144	1579198	0	3542	155550	0	0	0	0
91	2015	7	561804	4364369	0	42189	1890144	0	3546	162060	0	0	0	0
92	2015	8	562150	4966705	0	42241	1787061	0	3553	164964	0	0	0	0
93	2015	9	562350	5020156	0	42399	1827341	0	3382	178462	0	0	0	0
94	2015	10	561838	4068843	0	42140	1967665	0	3371	189289	-30000	0	0	0
95	2015	11	561779	2939260	0	41879	1230294	0	3363	115281	0	0	0	0
96	2015	12	561736	2878709	0	41761	1324340	0	3350	193120	-80000	0	0	0
97	2016	1	561735	2835342	0	41723	1243272	0	3343	11340	80000	0	0	0
98	2016	2	561778	2500280	0	41721	1121570	0	3352	90413	0	0	0	0
99	2016	3	562190	2630792	0	41821	1243927	0	3379	100138	0	0	0	0
100	2016	4	562996	2746065	0	42094	1262815	0	3401	104257	0	0	0	0
101	2016	5	563839	2919518	0	42183	1274589	0	3488	108871	0	0	0	0
102	2016	6	564455	3971038	0	42296	1583114	0	3490	138726	0	0	0	0
103	2016	7	564771	5048004	0	42288	1852822	0	3500	168197	0	0	0	0
104	2016	8	565457	4638484	0	42348	1821688	0	3505	155006	0	0	0	0
105	2016	9	565674	5275260	0	42336	2069733	0	3513	183237	0	0	0	0
106	2016	10	565559	3946991	0	42170	1680611	0	3501	156646	0	0	0	0
107	2016	11	565148	2967959	0	41895	1328583	0	3471	113073	0	0	0	0
108	2016	12	565267	2835412	0	41902	1401301	0	3472	111527	0	0	0	0
109	2017	1	565323	2852928	0	41757	1173903	0	3468	99036	0	0	0	0
110	2017	2	565685	2522499	0	41761	1270383	0	3469	98218	0	0	0	0
111	2017	3	566170	2512745	0	41834	1127714	0	3482	100521	0	0	0	0
112	2017	4	577263	2748472	0	42836	1280883	0	3574	106568	0	0	0	0
113	2017	5	578383	2957766	0	43036	1304327	0	3582	117110	0	0	0	0
114	2017	6	579001	3841357	0	43095	1616700	0	3590	139401	0	0	0	0
115	2017	7	579322	4767718	0	43167	1763534	0	3596	152357	0	0	0	0
116	2017	8	579756	4395083	0	43202	1823746	0	3601	154802	0	0	0	0
117	2017	9	579726	4229300	0	43131	1766522	0	3602	143568	0	0	0	0
118	2017	10	579823	3835852	0	42970	1598889	0	3588	153216	0	0	0	0

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
549,151	2,861,531		41,548	1,193,551		3,139	99,420
549,332	2,872,395		41,546	1,228,110		3,144	91,820
549,493	2,705,074		41,534	1,188,110		3,141	94,620
550,019	2,593,341		41,571	1,174,673		3,157	105,569
551,240	2,793,677		41,866	1,249,810		3,178	91,753
552,343	3,116,964		42,058	1,311,091		3,210	112,644
553,317	3,727,922		42,188	1,511,201		3,218	128,928
554,095	4,085,213		42,231	1,651,816		3,232	134,389
554,706	4,424,642		42,232	1,794,786		3,291	147,983
555,007	4,060,815		42,219	1,670,016		3,297	138,115
554,692	3,602,900		42,036	1,494,816		3,293	137,575
554,396	3,137,114		41,799	1,203,658		3,263	108,388
554,162	2,805,026		41,719	1,199,001		3,204	99,096
553,903	3,108,071		41,663	1,338,091		3,199	100,905
553,891	2,773,730		41,625	1,416,024		3,200	111,714
553,873	2,614,882		41,653	1,236,529		3,205	114,793
554,269	2,746,721		41,889	1,252,741		3,238	106,553
554,734	2,870,422		41,916	1,253,624		3,275	103,254
555,076	3,627,021		41,942	1,439,023		3,287	129,091
554,960	4,579,692		41,962	1,728,479		3,338	157,643
555,211	4,428,652		41,961	1,815,868		3,339	151,534
555,642	4,357,774		41,929	1,734,610		3,345	165,095
555,200	3,627,111		41,697	1,627,105		3,348	151,254
554,678	2,828,531		41,415	1,248,094		3,332	100,180
554,816	2,682,446		41,333	1,250,729		3,312	126,190
554,835	2,898,153		41,284	1,277,503		3,314	98,813
554,943	2,650,357		41,265	1,104,147		3,313	107,871
555,352	2,745,284		41,214	1,199,584		3,421	74,682
556,066	2,696,723		41,499	1,252,948		3,463	92,584
556,728	3,167,937		41,635	1,328,180		3,473	121,749
561,554	4,233,123		42,144	1,579,198		3,542	155,550
561,804	4,364,369		42,189	1,890,144		3,546	162,060
562,150	4,966,705		42,241	1,787,061		3,553	164,964
562,350	5,020,156		42,399	1,827,341		3,382	178,462
561,838	4,068,843		42,140	1,967,665		3,371	189,289
561,779	2,939,260		41,879	1,230,294		3,363	115,281
561,736	2,878,709		41,761	1,324,340		3,350	193,120
561,735	2,835,342		41,723	1,243,272		3,343	11,340
561,778	2,500,280		41,721	1,121,570		3,352	90,413
562,190	2,630,792		41,821	1,243,927		3,379	100,138
562,996	2,746,065		42,094	1,262,815		3,401	104,257
563,839	2,919,518		42,183	1,274,589		3,488	108,871
564,455	3,971,038		42,296	1,583,114		3,490	138,726
564,771	5,048,004		42,288	1,852,822		3,500	168,197
565,457	4,638,484		42,348	1,821,688		3,505	155,006
565,674	5,275,260		42,336	2,069,733		3,513	183,237
565,559	3,946,991		42,170	1,680,611		3,501	156,646
565,148	2,967,959		41,895	1,328,583		3,471	113,073
565,267	2,835,412		41,902	1,401,301		3,472	111,527
565,323	2,852,928		41,757	1,173,903		3,468	99,036
565,685	2,522,499		41,761	1,270,383		3,469	98,218
566,170	2,512,745		41,834	1,127,714		3,482	100,521
577,263	2,748,472		42,836	1,280,883		3,574	106,568
578,383	2,957,766		43,036	1,304,327		3,582	117,110
579,001	3,841,357		43,095	1,616,700		3,590	139,401
579,322	4,767,718		43,167	1,763,534		3,596	152,357
579,756	4,395,083		43,202	1,823,746		3,601	154,802
579,726	4,229,300		43,131	1,766,522		3,602	143,568
579,823	3,835,852		42,970	1,598,889		3,588	153,216

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
119	2017	11	579418	3092285	0	42635	1399059	0	3545	125898	0	0	0	0
120	2017	12	579547	2781773	0	42552	1223717	0	3537	97936	0	0	0	0
121	2018	1	579985	2957775	0	42541	1305809	0	3546	103544	0	0	0	0
122	2018	2	580307	2704735	0	42509	1226554	0	3547	102753	0	0	0	0
123	2018	3	580577	2569317	0	42521	1224553	0	3553	116708	0	0	0	0
124	2018	4	581443	2636467	0	42776	1244816	0	3584	95931	0	0	0	0
125	2018	5	582372	2918446	0	43003	1319671	0	3595	115755	0	0	0	0
126	2018	6	582920	3608755	0	43086	1514512	0	3620	133096	0	0	0	0
127	2018	7	583578	4847145	0	43142	1773026	0	3625	161883	0	0	0	0
128	2018	8	584107	4292935	0	43187	1813698	0	3631	154238	0	0	0	0
129	2018	9	584085	4427561	0	43171	1857143	0	3630	149629	0	0	0	0
130	2018	10	583982	3136081	0	42947	1519794	0	3617	134541	0	0	0	0
131	2018	11	583764	2942160	0	42698	1223740	0	3579	110526	0	0	0	0
132	2018	12	583840	2748058	0	42599	1279706	0	3576	94256	0	0	0	0
133	2019	1	587788	2863293	0	42829	1238232	0	3599	93622	0	0	0	0
134	2019	2	587973	2649411	0	42819	1225306	0	3615	115522	0	0	0	0
135	2019	3	588208	2591965	0	42802	1247140	0	3644	104536	0	0	0	0
136	2019	4	589148	2606271	0	43113	1396813	0	3659	109731	0	0	0	0
137	2019	5	590034	2925625	0	43350	1365842	0	3668	120021	0	0	0	0
138	2019	6	590367	3571230	0	43449	1465659	0	3678	125284	0	0	0	0
139	2019	7	590961	4153074	0	43488	1700531	0	3687	145092	0	0	0	0
140	2019	8	591385	4628183	0	43489	1883042	0	3688	173964	0	0	0	0
141	2019	9	591714	4419321	0	43539	1758895	0	3692	138002	20000	0	0	0
142	2019	10	591511	4045765	0	43342	1683816	0	3683	172285	-20000	0	0	0
143	2019	11	591140	3040862	0	43055	1376041	0	3649	119612	0	0	0	0
144	2019	12	591150	2763731	0	42952	1295142	0	3643	118657	0	0	0	0
145	2020	1	591439	2898699	0	42908	1288777	0	3646	102906	0	0	0	0
146	2020	2	591600	2599545	0	42922	1211509	0	3648	120993	0	0	0	0
147	2020	3	592161	2602489	0	43051	1209382	0	3671	104350	0	0	0	0
148	2020	4	592848	2997888	0	43219	1105307	0	3680	78035	0	1	1	1
149	2020	5	593896	3167028	0	43392	1044336	0	3696	74131	0	1	1	1
150	2020	6	594912	4011351	0	43547	1264318	0	3701	98872	0	1	1	1
151	2020	7	595524	5644741	0	43608	1746376	0	3704	150264	0	1	1	1
152	2020	8	596189	5126098	0	43657	1787505	0	3709	158572	0	1	1	1
153	2020	9	596580	4506675	0	43709	1706166	0	3709	139327	0	1	1	1
154	2020	10	596389	4001970	0	43554	1527859	0	3689	127303	0	1	1	1
155	2020	11	596175	3109619	0	43300	1272288	0	3659	85430	0	1	1	1
156	2020	12	596263	2997917	0	43204	1261600	0	3646	96077	0	1	1	1
157	2021	1	596399	3082497	0	43170	1211995	0	3644	90008	0	1	0.5	0.5
158	2021	2	596573	2626245	0	43166	1069439	0	3643	85099	0	1	0.5	0.5
159	2021	3	597114	2717102	0	43224	1127965	0	3656	83619	0	1	0.5	0.5
160	2021	4	597921	3051002	0	43461	1270772	0	3751	98663	0	1	0.5	0.5
161	2021	5	598680	3163634	0	43700	1204643	0	3721	92558	0	1	0.5	0.5
162	2021	6	599103	4270679	0	43799	1486357	0	3729	146914	0	1	0.5	0.5
163	2021	7	599261	5050168	0	43788	1879331	0	3730	168527	0	1	0.5	0.5
164	2021	8	599663	4576581	0	43813	1721703	0	3732	152334	0	1	0.5	0.5
165	2021	9	599761	4405606	0	43773	1726141	0	3732	151303	0	1	0.5	0.5
166	2021	10	599468	3721237	0	43634	1530843	0	3725	153408	0	1	0.5	0.5
167	2021	11	599160	2979192	0	43336	1272717	0	3702	121915	0	1	0.5	0.5
168	2021	12	598942	2859143	0	43227	1225920	0	3692	116981	0	1	0.5	0.5
169	2022	1	599200	2917187	0	43174	1250002	0	3678	112091	0	0	0.5	0
170	2022	2	599422	2679248	0	43158	1152418	0	3643	129163	0	0	0.5	0
171	2022	3	599799	2601948	0	43256	1183073	0	3664	117496	0	0	0.5	0
172	2022	4	600391	2874150	0	43521	1280553	0	3690	129711	0	0	0.5	0
173	2022	5	600682	2839738	0	43616	1210505	0	3698	119654	0	0	0.5	0
174	2022	6	600971	3668397	0	43694	1443573	0	3697	140028	0	0	0.5	0
175	2022	7	601159	5264896	0	43756	1747045	0	3692	159332	0	0	0.5	0
176	2022	8	601776	5340516	0	43799	1970420	0	3704	204236	0	0	0.5	0
177	2022	9	602132	5362194	0	43834	1941773	0	3697	189663	0	0	0.5	0

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
579,418	3,092,285		42,635	1,399,059		3,545	125,898
579,547	2,781,773		42,552	1,223,717		3,537	97,936
579,985	2,957,775		42,541	1,305,809		3,546	103,544
580,307	2,704,735		42,509	1,226,554		3,547	102,753
580,577	2,569,317		42,521	1,224,553		3,553	116,708
581,443	2,636,467		42,776	1,244,816		3,584	95,931
582,372	2,918,446		43,003	1,319,671		3,595	115,755
582,920	3,608,755		43,086	1,514,512		3,620	133,096
583,578	4,847,145		43,142	1,773,026		3,625	161,883
584,107	4,292,935		43,187	1,813,698		3,631	154,238
584,085	4,427,561		43,171	1,857,143		3,630	149,629
583,982	3,136,081		42,947	1,519,794		3,617	134,541
583,764	2,942,160		42,698	1,223,740		3,579	110,526
583,840	2,748,058		42,599	1,279,706		3,576	94,256
587,788	2,863,293		42,829	1,238,232		3,599	93,622
587,973	2,649,411		42,819	1,225,306		3,615	115,522
588,208	2,591,965		42,802	1,247,140		3,644	104,536
589,148	2,606,271		43,113	1,396,813		3,659	109,731
590,034	2,925,625		43,350	1,365,842		3,668	120,021
590,367	3,571,230		43,449	1,465,659		3,678	125,284
590,961	4,153,074		43,488	1,700,531		3,687	145,092
591,385	4,628,183		43,489	1,883,042		3,688	173,964
591,714	4,419,321		43,539	1,758,895		3,692	138,002
591,511	4,045,765		43,342	1,683,816		3,683	172,285
591,140	3,040,862		43,055	1,376,041		3,649	119,612
591,150	2,763,731		42,952	1,295,142		3,643	118,657
591,439	2,898,699		42,908	1,288,777		3,646	102,906
591,600	2,599,545		42,922	1,211,509		3,648	120,993
592,161	2,602,489		43,051	1,209,382		3,671	104,350
592,848	2,997,888		43,219	1,105,307		3,680	78,035
593,896	3,167,028		43,392	1,044,336		3,696	74,131
594,912	4,011,351		43,547	1,264,318		3,701	98,872
595,524	5,644,741		43,608	1,746,376		3,704	150,264
596,189	5,126,098		43,657	1,787,505		3,709	158,572
596,580	4,506,675		43,709	1,706,166		3,709	139,327
596,389	4,001,970		43,554	1,527,859		3,689	127,303
596,175	3,109,619		43,300	1,272,288		3,659	85,430
596,263	2,997,917		43,204	1,261,600		3,646	96,077
596,399	3,082,497		43,170	1,211,995		3,644	90,008
596,573	2,626,245		43,166	1,069,439		3,643	85,099
597,114	2,717,102		43,224	1,127,965		3,656	83,619
597,921	3,051,002		43,461	1,270,772		3,751	98,663
598,680	3,163,634		43,700	1,204,643		3,721	92,558
599,103	4,270,679		43,799	1,486,357		3,729	146,914
599,261	5,050,168		43,788	1,879,331		3,730	168,527
599,663	4,576,581		43,813	1,721,703		3,732	152,334
599,761	4,405,606		43,773	1,726,141		3,732	151,303
599,468	3,721,237		43,634	1,530,843		3,725	153,408
599,160	2,979,192		43,336	1,272,717		3,702	121,915
598,942	2,859,143		43,227	1,225,920		3,692	116,981
599,200	2,917,187		43,174	1,250,002		3,678	112,091
599,422	2,679,248		43,158	1,152,418		3,643	129,163
599,799	2,601,948		43,256	1,183,073		3,664	117,496
600,391	2,874,150		43,521	1,280,553		3,690	129,711
600,682	2,839,738		43,616	1,210,505		3,698	119,654
600,971	3,668,397		43,694	1,443,573		3,697	140,028
601,159	5,264,896		43,756	1,747,045		3,692	159,332
601,776	5,340,516		43,799	1,970,420		3,704	204,236
602,132	5,362,194		43,834	1,941,773		3,697	189,663

NEW JERSEY OPA MODEL

																		Rain Lag 2	0.3	0.7 CDD Lag						
																		Rain Lag 1	0.7							
							-2.584	-1.087	-2.231	-2.128	-0.735	6.623	13.268	14.474	13.919	11.208	1.025	-0.005	-1.493	0.041	-7.622				Weather	Billing
Period	Obs	Year	Month	Cust	Sales	UPC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Trend	Rain	CDD	COVID	Predicted	Actual	Variance	Effect	Adjustments
1	67	2013	7	3232	134389	41.581	0	0	0	0	0	0	1	0	0	0	0	-119	3.712	18	0.0	40.914	41.581	-0.667	-4.793	0
1	68	2013	8	3291	147983	44.966	0	0	0	0	0	0	0	1	0	0	0	-118	0.239	-8	0.0	46.237	44.966	1.271	-0.672	0
1	69	2013	9	3297	138115	41.891	0	0	0	0	0	0	0	0	1	0	0	-117	-0.566	-89	0.0	43.587	41.891	1.696	-2.763	0
1	70	2013	10	3293	137575	41.778	0	0	0	0	0	0	0	0	0	1	0	-116	-0.390	-42	0.0	42.523	41.778	0.745	-1.110	0
1	71	2013	11	3263	108388	33.217	0	0	0	0	0	0	0	0	0	0	1	-115	0.000	0	0.0	33.445	33.217	0.228	0.000	0
1	72	2013	12	3204	99096	30.929	0	0	0	0	0	0	0	0	0	0	0	-114	0.000	0	0.0	32.416	30.929	1.487	0.000	0
1	73	2014	1	3199	100905	31.543	1	0	0	0	0	0	0	0	0	0	0	-113	0.000	0	0.0	29.827	31.543	-1.716	0.000	0
1	74	2014	2	3200	111714	34.911	0	1	0	0	0	0	0	0	0	0	0	-112	0.000	0	0.0	31.319	34.911	-3.592	0.000	0
1	75	2014	3	3205	114793	35.817	0	0	1	0	0	0	0	0	0	0	0	-111	0.000	0	0.0	30.170	35.817	-5.646	0.000	0
1	76	2014	4	3238	106553	32.907	0	0	0	1	0	0	0	0	0	0	0	-110	0.000	0	0.0	30.268	32.907	-2.639	0.000	0
1	77	2014	5	3275	103254	31.528	0	0	0	0	1	0	0	0	0	0	0	-109	0.000	0	0.0	31.656	31.528	0.128	0.000	0
1	78	2014	6	3287	129091	39.273	0	0	0	0	0	1	0	0	0	0	0	-108	0.246	-22	0.0	37.744	39.273	-1.529	-1.266	0
2	79	2014	7	3338	157643	47.227	0	0	0	0	0	0	1	0	0	0	0	-107	-0.399	-33	0.0	44.892	47.227	-2.335	-0.757	0
2	80	2014	8	3339	151534	45.383	0	0	0	0	0	0	0	1	0	0	0	-106	-0.380	-92	0.0	43.682	45.383	-1.701	-3.169	0
2	81	2014	9	3345	165095	49.356	0	0	0	0	0	0	0	0	1	0	0	-105	-0.843	-84	0.0	44.132	49.356	-5.224	-2.160	0
2	82	2014	10	3348	151254	45.177	0	0	0	0	0	0	0	0	0	1	0	-104	-1.494	-17	0.0	45.111	45.177	-0.066	1.536	0
2	83	2014	11	3332	115180	34.568	0	0	0	0	0	0	0	0	0	0	1	-103	0.000	0	0.0	33.387	34.568	-1.181	0.000	15000
2	84	2014	12	3312	111190	33.572	0	0	0	0	0	0	0	0	0	0	0	-102	0.000	0	0.0	32.358	33.572	-1.214	0.000	-15000
2	85	2015	1	3314	98813	29.817	1	0	0	0	0	0	0	0	0	0	0	-101	0.000	0	0.0	29.769	29.817	-0.048	0.000	0
2	86	2015	2	3313	107871	32.560	0	1	0	0	0	0	0	0	0	0	0	-100	0.000	0	0.0	31.261	32.560	-1.299	0.000	0
2	87	2015	3	3421	104682	30.600	0	0	1	0	0	0	0	0	0	0	0	-99	0.000	0	0.0	30.113	30.600	-0.487	0.000	30000
2	88	2015	4	3463	92584	26.735	0	0	0	1	0	0	0	0	0	0	0	-98	0.000	0	0.0	30.210	26.735	3.475	0.000	0
2	89	2015	5	3473	121749	35.056	0	0	0	0	1	0	0	0	0	0	0	-97	0.000	0	0.0	31.598	35.056	-3.458	0.000	0
2	90	2015	6	3542	155550	43.916	0	0	0	0	0	1	0	0	0	0	0	-96	-1.918	41	0.0	43.482	43.916	-0.434	4.530	0
3	91	2015	7	3546	162060	45.702	0	0	0	0	0	0	1	0	0	0	0	-95	0.993	1	0.0	44.133	45.702	-1.569	-1.458	0
3	92	2015	8	3553	164964	46.429	0	0	0	0	0	0	0	1	0	0	0	-94	-0.370	-15	0.0	46.745	46.429	0.316	-0.048	0
3	93	2015	9	3382	178462	52.768	0	0	0	0	0	0	0	0	1	0	0	-93	-1.887	6	0.0	49.304	52.768	-3.464	3.070	0
3	94	2015	10	3371	159289	47.253	0	0	0	0	0	0	0	0	0	1	0	-92	-1.096	16	0.0	45.822	47.253	-1.431	2.304	-30000
3	95	2015	11	3363	115281	34.279	0	0	0	0	0	0	0	0	0	0	1	-91	0.000	0	0.0	33.329	34.279	-0.950	0.000	0
3	96	2015	12	3350	113120	33.767	0	0	0	0	0	0	0	0	0	0	0	-90	0.000	0	0.0	32.300	33.767	-1.467	0.000	-80000
3	97	2016	1	3343	91340	27.323	1	0	0	0	0	0	0	0	0	0	0	-89	0.000	0	0.0	29.711	27.323	2.388	0.000	80000
3	98	2016	2	3352	90413	26.973	0	1	0	0	0	0	0	0	0	0	0	-88	0.000	0	0.0	31.203	26.973	4.231	0.000	0
3	99	2016	3	3379	100138	29.635	0	0	1	0	0	0	0	0	0	0	0	-87	0.000	0	0.0	30.055	29.635	0.419	0.000	0
3	100	2016	4	3401	104257	30.655	0	0	0	1	0	0	0	0	0	0	0	-86	0.000	0	0.0	30.152	30.655	-0.502	0.000	0
3	101	2016	5	3488	108871	31.213	0	0	0	0	1	0	0	0	0	0	0	-85	0.000	0	0.0	31.540	31.213	0.327	0.000	0
3	102	2016	6	3490	138726	39.750	0	0	0	0	0	1	0	0	0	0	0	-84	-0.671	2	0.0	39.991	39.750	0.241	1.097	0
4	103	2016	7	3500	168197	48.056	0	0	0	0	0	0	1	0	0	0	0	-83	-1.155	-4	0.0	47.115	48.056	-0.941	1.582	0
4	104	2016	8	3505	155006	44.224	0	0	0	0	0	0	0	1	0	0	0	-82	0.669	23	0.0	46.683	44.224	2.459	-0.052	0
4	105	2016	9	3513	183237	52.160	0	0	0	0	0	0	0	0	1	0	0	-81	-1.049	54	0.0	49.926	52.160	-2.234	3.750	0
4	106	2016	10	3501	156646	44.743	0	0	0	0	0	0	0	0	0	1	0	-80	-1.126	21	0.0	45.976	44.743	1.233	2.516	0
4	107	2016	11	3471	113073	32.577	0	0	0	0	0	0	0	0	0	0	1	-79	0.000	0	0.0	33.271	32.577	0.695	0.000	0
4	108	2016	12	3472	111527	32.122	0	0	0	0	0	0	0	0	0	0	0	-78	0.000	0	0.0	32.242	32.122	0.120	0.000	0
4	109	2017	1	3468	99036	28.557	1	0	0	0	0	0	0	0	0	0	0	-77	0.000	0	0.0	29.653	28.557	1.096	0.000	0
4	110	2017	2	3469	98218	28.313	0	1	0	0	0	0	0	0	0	0	0	-76	0.000	0	0.0	31.146	28.313	2.833	0.000	0
4	111	2017	3	3482	100521	28.869	0	0	1	0	0	0	0	0	0	0	0	-75	0.000	0	0.0	29.997	28.869	1.128	0.000	0
4	112	2017	4	3574	106568	29.818	0	0	0	1	0	0	0	0	0	0	0	-74	0.000	0	0.0	30.095	29.818	0.277	0.000	0
4	113	2017	5	3582	117110	32.694	0	0	0	0	1	0	0	0	0	0	0	-73	0.000	0	0.0	31.483	32.694	-1.212	0.000	0
4	114	2017	6	3590	139401	38.830	0	0	0	0	0	1	0	0	0	0	0	-72	1.509	-12	0.0	36.095	38.830	-2.735	-2.741	0
5	115	2017	7	3596	152357	42.368	0	0	0	0	0	0	1	0	0	0	0	-71	0.662	-19	0.0	43.727	42.368	1.359	-1.748	0
5	116	2017	8	3601	154802	42.989	0	0	0	0	0	0	0	1	0	0	0	-70	-0.209	-65	0.0	44.365	42.989	1.376	-2.312	0
5	117	2017	9	3602	143568	39.858	0	0	0	0	0	0	0	0	1	0	0	-69	0.352	-64	0.0	42.992	39.858	3.134	-3.126	0
5	118	2017	10	3588	153216	42.702	0	0	0	0	0	0	0	0	0	1	0	-68	-0.688	8	0.0	44.740	42.702	2.038	1.338	0
5	119	2017	11	3545	125898	35.514	0	0	0	0	0	0	0	0	0	0	1	-67	0.000	0	0.0	33.214	35.514	-2.301	0.000	0
5	120	2017	12	3537	97936	27.689	0	0	0	0	0	0	0	0	0	0	0	-66	0.000	0	0.0	32.184	27.689	4.495	0.000	0
5	121	2018	1	3546	103544	29.200	1	0	0	0	0	0	0	0	0	0	0	-65	0.000	0	0.0	29.596	29.200	0.395	0.000	0
5	122	2018	2	3547	102753	28.969	0	1	0	0	0	0	0	0	0	0	0	-64	0.000	0	0.0	31.088	28.969	2.119	0.000	0
5	123	2018	3	3553	116708	32.848	0	0	1	0	0	0	0	0	0	0	0	-63	0.000	0	0.0	29.939	32.848	-2.909	0.000	0
5	124	2018	4	3584	95931	26.766	0	0	0	1	0	0	0	0	0	0	0	-62	0.000	0	0.0	30.037	26.766	3.270	0.000	0
5	125	2018	5	3595	115755	32.199	0	0	0	0	1	0	0	0	0	0	0	-61	0.000	0	0.0	31.425	32.199	-0.774	0.000	0
5	126	2018	6	3620	133096	36.767	0	0	0	0	0	1	0	0	0	0	0	-60	0.951	15	0.0	37.980	36.767	1.214	-0.798	0
6	127	2018	7	3625	161883	44.657	0	0	0	0	0	0	1	0	0	0	0	-59	0.049	-18	0.0	44.621	44.657	-0.036	-0.796	0
6	128	2018	8	3631	154238	42.478	0	0	0	0	0	0	0	1	0	0	0	-58	0.025	-6	0.0	46.346	42.478	3.868	-0.273	0
6	129	2018	9	3630	149629	41.220	0	0	0	0	0	0	0	0	1	0	0	-57	1.245	57	0.0	46.528	41.220	5.308	0.468	0
6	130	2018	10	3617	134541	37.197	0	0	0	0	0	0	0	0	0	1	0	-56	2.993	39	0.0	40.477	37.197	3.280	-2.867	0
6	131	2018	11	3579	110526	30.882	0	0	0	0	0	0	0	0	0	0	1	-55	0.000	0	0.0	33.156	30.882	2.274	0.000	0
6	132	2018	12	3576	94256	26.358	0	0	0	0	0	0	0	0	0	0	0	-54	0.000	0	0.0	32.126	26.358	5.768	0.000	0

NEW JERSEY OPA MODEL

																	Rain Lag 2	0.3	0.7 CDD Lag							
																	Rain Lag 1	0.7								
							-2.584	-1.087	-2.231	-2.128	-0.735	6.623	13.268	14.474	13.919	11.208	1.025	-0.005	-1.493	0.041	-7.622				Weather	Billing
Period	Obs	Year	Month	Cust	Sales	UPC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Trend	Rain	CDD	COVID	Predicted	Actual	Variance	Effect	Adjustments
6	133	2019	1	3599	93622	26.013	1	0	0	0	0	0	0	0	0	0	0	-53	0.000	0	0.0	29.538	26.013	3.524	0.000	0
6	134	2019	2	3615	115522	31.956	0	1	0	0	0	0	0	0	0	0	0	-52	0.000	0	0.0	31.030	31.956	-0.926	0.000	0
6	135	2019	3	3644	104536	28.687	0	0	1	0	0	0	0	0	0	0	0	-51	0.000	0	0.0	29.881	28.687	1.194	0.000	0
6	136	2019	4	3659	109731	29.989	0	0	0	1	0	0	0	0	0	0	0	-50	0.000	0	0.0	29.979	29.989	-0.011	0.000	0
6	137	2019	5	3668	120021	32.721	0	0	0	0	1	0	0	0	0	0	0	-49	0.000	0	0.0	31.367	32.721	-1.354	0.000	0
6	138	2019	6	3678	125284	34.063	0	0	0	0	0	1	0	0	0	0	0	-48	1.687	-5	0.0	35.989	34.063	1.926	-2.732	0
7	139	2019	7	3687	145092	39.352	0	0	0	0	0	0	1	0	0	0	0	-47	1.302	8	0.0	43.741	39.352	4.389	-1.619	0
7	140	2019	8	3688	173964	47.170	0	0	0	0	0	0	0	1	0	0	0	-46	1.122	24	0.0	45.858	47.170	-1.312	-0.704	0
7	141	2019	9	3692	158002	42.796	0	0	0	0	0	0	0	0	1	0	0	-45	0.386	-10	0.0	45.026	42.796	2.230	-0.976	20000
7	142	2019	10	3683	152285	41.348	0	0	0	0	0	0	0	0	0	1	0	-44	-1.455	-2	0.0	45.376	41.348	4.028	2.089	-20000
7	143	2019	11	3649	119612	32.779	0	0	0	0	0	0	0	0	0	0	1	-43	0.000	0	0.0	33.098	32.779	0.319	0.000	0
7	144	2019	12	3643	118657	32.571	0	0	0	0	0	0	0	0	0	0	0	-42	0.000	0	0.0	32.068	32.571	-0.503	0.000	0
7	145	2020	1	3646	102906	28.224	1	0	0	0	0	0	0	0	0	0	0	-41	0.000	0	0.0	29.480	28.224	1.255	0.000	0
7	146	2020	2	3648	120993	33.167	0	1	0	0	0	0	0	0	0	0	0	-40	0.000	0	0.0	30.972	33.167	-2.195	0.000	0
7	147	2020	3	3671	104350	28.425	0	0	1	0	0	0	0	0	0	0	0	-39	0.000	0	0.0	29.823	28.425	1.398	0.000	0
7	148	2020	4	3680	78035	21.205	0	0	0	1	0	0	0	0	0	0	0	-38	0.000	0	1.0	22.299	21.205	1.094	0.000	0
7	149	2020	5	3696	74131	20.057	0	0	0	0	1	0	0	0	0	0	0	-37	0.000	0	1.0	23.687	20.057	3.630	0.000	0
7	150	2020	6	3701	98872	26.715	0	0	0	0	0	1	0	0	0	0	0	-36	-1.076	-6	1.0	32.417	26.715	5.702	1.376	0
8	151	2020	7	3704	150264	40.568	0	0	0	0	0	0	1	0	0	0	0	-35	-0.220	42	1.0	39.722	40.568	-0.846	2.042	0
8	152	2020	8	3709	158572	42.753	0	0	0	0	0	0	0	1	0	0	0	-34	1.776	56	1.0	38.512	42.753	-4.241	-0.370	0
8	153	2020	9	3709	139327	37.565	0	0	0	0	0	0	0	0	1	0	0	-33	1.181	18	1.0	37.288	37.565	-0.277	-1.034	0
8	154	2020	10	3689	127303	34.509	0	0	0	0	0	0	0	0	0	1	0	-32	0.198	-16	1.0	34.664	34.509	0.155	-0.943	0
8	155	2020	11	3659	85430	23.348	0	0	0	0	0	0	0	0	0	0	1	-31	0.000	0	1.0	25.418	23.348	2.070	0.000	0
8	156	2020	12	3646	96077	26.351	0	0	0	0	0	0	0	0	0	0	0	-30	0.000	0	1.0	24.388	26.351	-1.963	0.000	0
8	157	2021	1	3644	90008	24.700	1	0	0	0	0	0	0	0	0	0	0	-29	0.000	0	0.5	25.611	24.700	0.911	0.000	0
8	158	2021	2	3643	85099	23.360	0	1	0	0	0	0	0	0	0	0	0	-28	0.000	0	0.5	27.103	23.360	3.743	0.000	0
8	159	2021	3	3656	83619	22.872	0	0	1	0	0	0	0	0	0	0	0	-27	0.000	0	0.5	25.954	22.872	3.083	0.000	0
8	160	2021	4	3751	98663	26.303	0	0	0	1	0	0	0	0	0	0	0	-26	0.000	0	0.5	26.052	26.303	-0.251	0.000	0
8	161	2021	5	3721	92558	24.874	0	0	0	0	1	0	0	0	0	0	0	-25	0.000	0	0.5	27.440	24.874	2.566	0.000	0
8	162	2021	6	3729	146914	39.398	0	0	0	0	0	1	0	0	0	0	0	-24	-0.217	18	0.5	35.838	39.398	-3.560	1.044	0
9	163	2021	7	3730	168527	45.181	0	0	0	0	0	0	1	0	0	0	0	-23	0.037	36	0.5	42.831	45.181	-2.350	1.398	0
9	164	2021	8	3732	152334	40.818	0	0	0	0	0	0	0	1	0	0	0	-22	1.517	7	0.5	40.668	40.818	-0.150	-1.967	0
9	165	2021	9	3732	151303	40.542	0	0	0	0	0	0	0	0	1	0	0	-21	2.751	47	0.5	39.869	40.542	-0.673	-2.207	0
9	166	2021	10	3725	153408	41.183	0	0	0	0	0	0	0	0	0	1	0	-20	3.333	4	0.5	34.524	41.183	-6.659	-4.835	0
9	167	2021	11	3702	121915	32.932	0	0	0	0	0	0	0	0	0	0	1	-19	0.000	0	0.5	29.171	32.932	-3.761	0.000	0
9	168	2021	12	3692	116981	31.685	0	0	0	0	0	0	0	0	0	0	0	-18	0.000	0	0.5	28.142	31.685	-3.543	0.000	0
9	169	2022	1	3678	112091	30.476	1	0	0	0	0	0	0	0	0	0	0	-17	0.000	0	0.0	29.364	30.476	-1.112	0.000	0
9	170	2022	2	3643	129163	35.455	0	1	0	0	0	0	0	0	0	0	0	-16	0.000	0	0.0	30.856	35.455	-4.599	0.000	0
9	171	2022	3	3664	117496	32.068	0	0	1	0	0	0	0	0	0	0	0	-15	0.000	0	0.0	29.707	32.068	-2.360	0.000	0
9	172	2022	4	3690	129711	35.152	0	0	0	1	0	0	0	0	0	0	0	-14	0.000	0	0.0	29.805	35.152	-5.347	0.000	0
9	173	2022	5	3698	119654	32.356	0	0	0	0	1	0	0	0	0	0	0	-13	0.000	0	0.0	31.193	32.356	-1.163	0.000	0
9	174	2022	6	3697	140028	37.876	0	0	0	0	0	1	0	0	0	0	0	-12	0.768	19	0.0	38.155	37.876	0.279	-0.392	0
10	175	2022	7	3692	159332	43.156	0	0	0	0	0	0	1	0	0	0	0	-11	-0.075	21	0.0	46.152	43.156	2.996	0.966	0
10	176	2022	8	3704	204236	55.139	0	0	0	0	0	0	0	1	0	0	0	-10	-2.580	74	0.0	53.255	55.139	-1.885	6.867	0
10	177	2022	9	3697	189663	51.302	0	0	0	0	0	0	0	0	1	0	0	-9	-1.570	65	0.0	50.806	51.302	-0.496	4.977	0
10	178	2022	10	3690	171236	46.405	0	0	0	0	0	0	0	0	0	1	0	-8	-0.275	-11	0.0	43.083	46.405	-3.322	-0.029	0
10	179	2022	11	3660	110960	30.317	0	0	0	0	0	0	0	0	0	0	1	-7	0.000	0	0.0	32.924	30.317	2.607	0.000	0
10	180	2022	12	3650	128020	35.074	0	0	0	0	0	0	0	0	0	0	0	-6	0.000	0	0.0	31.895	35.074	-3.179	0.000	0
10	181	2023	1	3652	131477	36.001	1	0	0	0	0	0	0	0	0	0	0	-5	0.000	0	0.0	29.306	36.001	-6.695	0.000	0
10	182	2023	2	4168	129680	31.113	0	1	0	0	0	0	0	0	0	0	0	-4	0.000	0	0.0	30.798	31.113	-0.315	0.000	0
10	183	2023	3	4183	106536	25.469	0	0	1	0	0	0	0	0	0	0	0	-3	0.000	0	0.0	29.650	25.469	4.181	0.000	0
10	184	2023	4	4209	122539	29.114	0	0	0	1	0	0	0	0	0	0	0	-2	0.000	0	0.0	29.747	29.114	0.634	0.000	0
10	185	2023	5	4225	126012	29.825	0	0	0	0	1	0	0	0	0	0	0	-1	0.000	0	0.0	31.135	29.825	1.310	0.000	0
10	186	2023	6	4233	167098	39.475	0	0	0	0	0	1	0	0	0	0	0	0	-1.279	-50	0.0	38.372	39.475	-1.103	-0.117	0
11	187	2023	7	4236	191152	45.130	0	0	0	0	0	0	1	0	0	0	0	1	-1.194	-44	0.0	45.130				
11	188	2023	8	4241	197414	46.551	0	0	0	0	0	0	0	1	0	0	0	2	-0.148	0	0.0	46.551				
11	189	2023	9	4240	194068	45.771	0	0	0	0	0	0	0	0	1	0	0	3	0.000	0	0.0	45.771				
11	190	2023	10	4229	182069	43.055	0	0	0	0	0	0	0	0	0	1	0	4	0.000	0	0.0	43.055				
11	191	2023	11	4198	137966	32.866	0	0	0	0	0	0	0	0	0	0	1	5	0.000	0	0.0	32.866				
11	192	2023	12	4189	133377	31.837	0	0	0	0	0	0	0	0	0	0	0	6	0.000	0	0.0	31.837				
11	193	2024	1	4192	122603	29.248	1	0	0	0	0	0	0	0	0	0	0	7	0.000	0	0.0	29.248				
11	194	2024	2	4291	131920	30.740	0	1	0	0	0	0	0	0	0	0	0	8	0.000	0	0.0	30.740				
11	195	2024	3	4312	127588	29.592	0	0	1	0	0	0	0	0	0	0	0	9	0.000	0	0.0	29.592				
11	196	2024	4	4346	129024	29.689	0	0	0	1	0	0	0	0	0	0	0	10	0.000	0	0.0	29.689				
11	197	2024	5	4350	135174	31.077	0	0	0	0	1	0	0	0	0	0	0	11	0.000	0	0.0	31.077				
11	198	2024	6	4356	167391	38.431	0	0	0	0	0	1	0	0	0	0	0	12	0.000	0	0.0	38.431				
12	199	2024	7	4358	196426	45.071	0	0	0	0	0	0	1	0	0	0	0	13	0.000	0	0.0	45.071				

NEW JERSEY OPA MODEL

																	Rain Lag 2	0.3	0.7	CDD Lag					
																	Rain Lag 1	0.7							
							-2.584	-1.087	-2.231	-2.128	-0.735	6.623	13.268	14.474	13.919	11.208	1.025	-0.005	-1.493	0.041	-7.622					
Period	Obs	Year	Month	Cust	Sales	UPC	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Trend	Rain	CDD	COVID	Predicted	Actual	Variance	Weather Effect	Billing Adjustments
12	200	2024	8	4363	201904	46.272	0	0	0	0	0	0	0	1	0	0	0	14	0.000	0	0.0	46.272				
12	201	2024	9	4363	199427	45.713	0	0	0	0	0	0	0	0	1	0	0	15	0.000	0	0.0	45.713				
12	202	2024	10	4351	187096	42.997	0	0	0	0	0	0	0	0	0	1	0	16	0.000	0	0.0	42.997				
12	203	2024	11	4320	141746	32.808	0	0	0	0	0	0	0	0	0	0	1	17	0.000	0	0.0	32.808				
12	204	2024	12	4312	137031	31.779	0	0	0	0	0	0	0	0	0	0	0	18	0.000	0	0.0	31.779				
12	205	2025	1	4314	125939	29.190	1	0	0	0	0	0	0	0	0	0	0	19	0.000	0	0.0	29.190				
12	206	2025	2	4414	135433	30.683	0	1	0	0	0	0	0	0	0	0	0	20	0.000	0	0.0	30.683				
12	207	2025	3	4434	130959	29.534	0	0	1	0	0	0	0	0	0	0	0	21	0.000	0	0.0	29.534				
12	208	2025	4	4468	132406	29.632	0	0	0	1	0	0	0	0	0	0	0	22	0.000	0	0.0	29.632				
12	209	2025	5	4472	138726	31.020	0	0	0	0	1	0	0	0	0	0	0	23	0.000	0	0.0	31.020				
12	210	2025	6	4478	171844	38.373	0	0	0	0	0	1	0	0	0	0	0	24	0.000	0	0.0	38.373				
13	211	2025	7	4481	201693	45.013	0	0	0	0	0	0	1	0	0	0	0	25	0.000	0	0.0	45.013				
13	212	2025	8	4486	207317	46.214	0	0	0	0	0	0	0	1	0	0	0	26	0.000	0	0.0	46.214				
13	213	2025	9	4485	204772	45.655	0	0	0	0	0	0	0	0	1	0	0	27	0.000	0	0.0	45.655				
13	214	2025	10	4474	192109	42.939	0	0	0	0	0	0	0	0	0	1	0	28	0.000	0	0.0	42.939				
13	215	2025	11	4443	145511	32.751	0	0	0	0	0	0	0	0	0	0	1	29	0.000	0	0.0	32.751				
13	216	2025	12	4435	140670	31.721	0	0	0	0	0	0	0	0	0	0	0	30	0.000	0	0.0	31.721				
13	217	2026	1	4437	129261	29.133	1	0	0	0	0	0	0	0	0	0	0	31	0.000	0	0.0	29.133				
13	218	2026	2	4537	138932	30.625	0	1	0	0	0	0	0	0	0	0	0	32	0.000	0	0.0	30.625				
13	219	2026	3	4557	134316	29.476	0	0	1	0	0	0	0	0	0	0	0	33	0.000	0	0.0	29.476				
13	220	2026	4	4591	135773	29.574	0	0	0	1	0	0	0	0	0	0	0	34	0.000	0	0.0	29.574				
13	221	2026	5	4595	142263	30.962	0	0	0	0	1	0	0	0	0	0	0	35	0.000	0	0.0	30.962				
13	222	2026	6	4601	176282	38.316	0	0	0	0	0	1	0	0	0	0	0	36	0.000	0	0.0	38.316				

REGRESSION MODEL

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9390
R Square	0.8817
Adjusted R Square	0.8646
Standard Error	2.7705
Observations	120

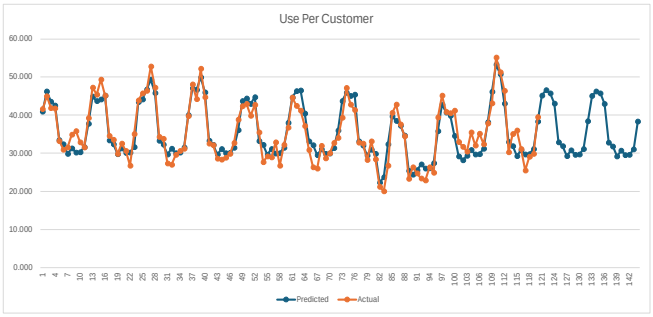
OPA Model

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	15	5947.30	396.4868	51.6537	0.0000
Residual	104	798.29	7.6759		
Total	119	6745.59			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	31.8657	1.0382	30.6943	0.0000	29.8070	33.9244	4.3812	4.8161
Jan	-2.5837	1.2430	-2.0786	0.0401	-5.0486	-0.1188	-0.0904	0.4442
Feb	-1.0867	1.2433	-0.8740	0.3841	-3.5521	1.3788	-0.5977	-0.0631
Mar	-2.2306	1.2436	-1.7936	0.0758	-4.6967	0.2356	-0.5800	-0.0454
Apr	-2.1280	1.2395	-1.7169	0.0890	-4.5859	0.3299	-0.4491	0.0880
May	-0.7353	1.2397	-0.5931	0.5544	-3.1936	1.7231	0.0664	0.6039
Jun	6.6234	1.2400	5.3415	0.0000	4.1645	9.0824	1.5893	2.1274
Jul	13.2675	1.2494	10.6194	0.0000	10.7900	15.7451	3.0936	3.6314
Aug	14.4740	1.2406	11.6667	0.0000	12.0138	16.9342	3.0495	3.5871
Sep	13.9194	1.2393	11.2320	0.0000	11.4619	16.3770	2.6027	3.1405
Oct	11.2082	1.2391	9.0453	0.0000	8.7510	13.6655	1.1906	1.7252
Nov	1.0247	1.2390	0.8270	0.4101	-1.4324	3.4818	-0.0387	0.4958
Trend	-0.0048	0.0082	-0.5901	0.5564	-0.0210	0.0114	-0.0084	-0.0050
Rain	-1.4933	0.2969	-5.0301	0.0000	-2.0821	-0.9046	-0.2999	-0.1944
CDD	0.0406	0.0109	3.7112	0.0003	0.0189	0.0623	0.0050	0.0095
COVID	-7.6220	0.9612	-7.9296	0.0000	-9.5281	-5.7159	0.2478	0.8078

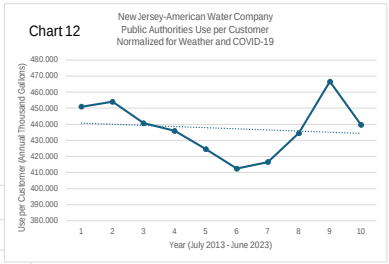
452.391	Twelve Months Ended June 2023
12.663	Weather
0.000	COVID
1.215	Declining Use June 2023 to March 2025
438.512	Twelve Months Ended March 2025
36.543	Per Month
-0.6945	Declining Use



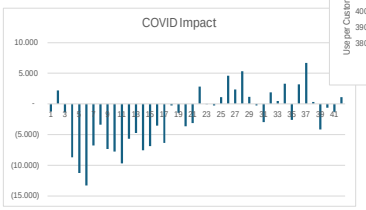
Auto-Correlation: 0.2951
D-W Statistic 1.4084

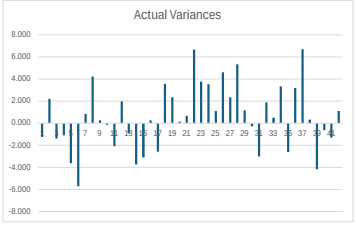
Month	Weather
1	0
2	0
3	0
4	0
5	0
6	1
7	1
8	1
9	1
10	1
11	0
12	0

Period	UPC	Weather	COVID	Normalized UPC
1	440.340	-10.604	0.000	450.944
2	453.966	-0.020	0.000	453.987
3	445.748	4.965	0.000	440.782
4	440.963	5.055	0.000	435.907
5	417.870	-6.646	0.000	424.516
6	406.223	-6.201	0.000	412.424
7	393.811	0.167	-22.866	416.510
8	366.601	0.739	-68.598	434.460
9	435.726	-8.002	-22.866	466.594
10	452.391	12.663	0.000	439.728
11				
12				
13				



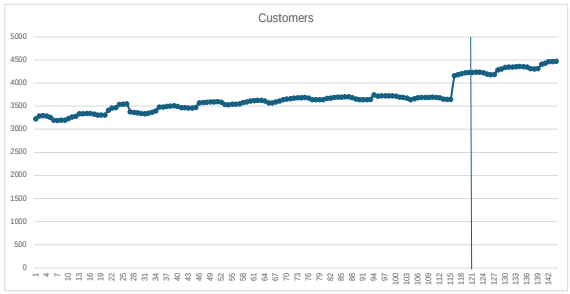
-1.255	(1.255)
2.195	2.195
-1.398	(1.398)
-1.094	(8.716)
-3.630	(11.252)
-5.702	(13.324)
0.846	(6.776)
4.241	(3.381)
0.277	(7.345)
-0.155	(7.777)
-2.070	(9.692)
1.963	(5.659)
-0.911	(4.722)
-3.743	(7.554)
-3.083	(6.894)
0.251	(3.560)
-2.566	(6.377)
3.560	(0.251)
2.350	(1.461)
0.150	(3.661)
0.673	(3.138)
6.659	2.848
3.761	(0.050)
3.543	(0.268)
1.112	1.112
4.599	4.599
2.360	2.360
5.347	5.347
1.163	1.163
-0.279	(0.279)
-2.996	(2.996)
1.885	1.885
0.496	0.496
3.322	3.322
-2.607	(2.607)
3.179	3.179
6.695	6.695
0.315	0.315
-4.181	(4.181)
-0.634	(0.634)
-1.310	(1.310)
1.103	1.103





CUSTOMER DATA

Year	Month	Cust	Growth	Select
2013	7	3232		
2013	8	3291	59	0
2013	9	3297	6	0
2013	10	3293	-4	0
2013	11	3263	-30	0
2013	12	3204	-59	0
2014	1	3199	-5	0
2014	2	3200	1	0
2014	3	3205	5	0
2014	4	3238	33	0
2014	5	3275	37	0
2014	6	3287	12	0
2014	7	3338	51	0
2014	8	3339	1	0
2014	9	3345	6	0
2014	10	3348	3	0
2014	11	3332	-16	0
2014	12	3312	-20	0
2015	1	3314	2	0
2015	2	3313	-1	0
2015	3	3421	108	0
2015	4	3463	42	0
2015	5	3473	10	0
2015	6	3542	69	0
2015	7	3546	4	0
2015	8	3553	7	0
2015	9	3382	-171	0
2015	10	3371	-11	0
2015	11	3363	-8	0
2015	12	3350	-13	0
2016	1	3343	-7	0
2016	2	3352	9	0
2016	3	3379	27	0
2016	4	3401	22	0
2016	5	3488	87	0
2016	6	3490	2	0
2016	7	3500	10	0
2016	8	3505	5	0
2016	9	3513	8	0
2016	10	3501	-12	0
2016	11	3471	-30	0
2016	12	3472	1	0
2017	1	3468	-4	0
2017	2	3469	1	0
2017	3	3482	13	0
2017	4	3574	92	0
2017	5	3582	8	0
2017	6	3590	8	0
2017	7	3596	6	0
2017	8	3601	5	0
2017	9	3602	1	0
2017	10	3588	-14	0
2017	11	3545	-43	0
2017	12	3537	-8	0
2018	1	3546	9	0
2018	2	3547	1	0
2018	3	3553	6	0
2018	4	3584	31	0
2018	5	3595	11	0
2018	6	3620	25	0
2018	7	3625	5	1
2018	8	3631	6	1
2018	9	3630	-1	1
2018	10	3617	-13	1
2018	11	3579	-38	1
2018	12	3576	-3	1
2019	1	3599	23	1
2019	2	3615	16	1
2019	3	3644	29	1
2019	4	3659	15	1
2019	5	3668	9	1
2019	6	3678	10	1
2019	7	3687	9	1
2019	8	3688	1	1
2019	9	3692	4	1
2019	10	3683	-9	1
2019	11	3649	-34	1
2019	12	3643	-6	1
2020	1	3646	3	1
2020	2	3648	2	1
2020	3	3671	23	1
2020	4	3680	9	1
2020	5	3696	16	1
2020	6	3701	5	1
2020	7	3704	3	1
2020	8	3709	5	1
2020	9	3709	0	1
2020	10	3689	-20	1
2020	11	3659	-30	1
2020	12	3646	-13	1
2021	1	3644	-2	1
2021	2	3643	-1	1
2021	3	3656	13	1
2021	4	3751	95	1
2021	5	3721	-30	1
2021	6	3729	8	1
2021	7	3730	1	1
2021	8	3732	2	1
2021	9	3732	0	1
2021	10	3725	-7	1
2021	11	3702	-23	1
2021	12	3692	-10	1
2022	1	3678	-14	1
2022	2	3643	-35	1
2022	3	3664	21	1
2022	4	3690	26	1
2022	5	3698	8	1
2022	6	3697	-1	1
2022	7	3692	-5	1
2022	8	3704	12	1
2022	9	3697	-7	1
2022	10	3690	-7	1
2022	11	3660	-30	1
2022	12	3650	-10	1
2023	1	3652	2	1
2023	2	4168	516	1
2023	3	4183	15	1
2023	4	4209	26	1
2023	5	4225	16	1
2023	6	4233	8	1



Month	Avg Growth Last 60 Months
1	2
2	100
3	20
4	34
5	4
6	6
7	3
8	5
9	-1
10	-11
11	-31
12	-8

WEATHER DATA

Year	Month	Rain	Rain Lag 1	Rain Lag 2	CDD	CDD Lag 1
2013	7	-2.031	5.534	-0.540	32	13
2013	8	0.061	-2.031	5.534	-101	32
2013	9	-0.584	0.061	-2.031	-62	-101
2013	10	-2.900	-0.584	0.061	5	-62
2013	11	-0.368	-2.900	-0.584	-2	5
2013	12	0.585	-0.368	-2.900	0	-2
2014	1	-0.674	0.585	-0.368	0	0
2014	2	0.544	-0.674	0.585	0	0
2014	3	0.128	0.544	-0.674	-1	0
2014	4	1.836	0.128	0.544	-3	-1
2014	5	-0.435	1.836	0.128	-27	-3
2014	6	-0.384	-0.435	1.836	-12	-27
2014	7	-0.378	-0.384	-0.435	-84	-12
2014	8	-1.042	-0.378	-0.384	-111	-84
2014	9	-1.687	-1.042	-0.378	-21	-111
2014	10	-0.089	-1.687	-1.042	-8	-21
2014	11	1.234	-0.089	-1.687	-2	-8
2014	12	0.957	1.234	-0.089	0	-2
2015	1	1.156	0.957	1.234	0	0
2015	2	-1.298	1.156	0.957	0	0
2015	3	1.000	-1.298	1.156	-1	0
2015	4	-1.905	1.000	-1.298	-8	-1
2015	5	-1.923	-1.905	1.000	55	-8
2015	6	2.243	-1.923	-1.905	9	55
2015	7	-1.490	2.243	-1.923	-19	9
2015	8	-2.057	-1.490	2.243	-5	-19
2015	9	-0.685	-2.057	-1.490	33	-5
2015	10	-0.100	-0.685	-2.057	-23	33
2015	11	-1.375	-0.100	-0.685	1	-23
2015	12	0.447	-1.375	-0.100	0	1
2016	1	-0.281	0.447	-1.375	0	0
2016	2	0.537	-0.281	0.447	0	0
2016	3	-1.816	0.537	-0.281	2	0
2016	4	-2.360	-1.816	0.537	-2	2
2016	5	0.052	-2.360	-1.816	7	-2
2016	6	-1.673	0.052	-2.360	-8	7
2016	7	1.673	-1.673	0.052	6	-8
2016	8	-2.215	1.673	-1.673	64	6
2016	9	-0.659	-2.215	1.673	30	64
2016	10	-1.631	-0.659	-2.215	-2	30
2016	11	0.068	-1.631	-0.659	-1	-2
2016	12	-0.957	0.068	-1.631	0	-1
2017	1	0.857	-0.957	0.068	0	0
2017	2	-1.635	0.857	-0.957	0	0
2017	3	0.135	-1.635	0.857	-1	0
2017	4	0.092	0.135	-1.635	16	-1
2017	5	2.115	0.092	0.135	-16	16
2017	6	0.039	2.115	0.092	-4	-16
2017	7	-0.315	0.039	2.115	-53	-4
2017	8	0.637	-0.315	0.039	-91	-53
2017	9	-1.256	0.637	-0.315	-1	-91
2017	10	0.774	-1.256	0.637	28	-1
2017	11	-1.689	0.774	-1.256	-2	28
2017	12	-2.544	-1.689	0.774	0	-2
2018	1	-0.850	-2.544	-1.689	0	0
2018	2	2.779	-0.850	-2.544	1	0
2018	3	0.703	2.779	-0.850	-1	1
2018	4	0.267	0.703	2.779	-4	-1
2018	5	1.245	0.267	0.703	26	-4
2018	6	-0.463	1.245	0.267	-10	26
2018	7	0.234	-0.463	1.245	-35	-10
2018	8	1.679	0.234	-0.463	63	-35
2018	9	3.556	1.679	0.234	44	63
2018	10	-0.363	3.556	1.679	29	44
2018	11	5.588	-0.363	3.556	0	29
2018	12	1.245	5.588	-0.363	0	0
2019	1	1.105	1.245	5.588	0	0
2019	2	0.191	1.105	1.245	0	0
2019	3	0.085	0.191	1.105	0	0
2019	4	-0.258	0.085	0.191	0	0
2019	5	2.520	-0.258	0.085	-5	0
2019	6	0.780	2.520	-0.258	-5	-5
2019	7	1.269	0.780	2.520	39	-5
2019	8	0.008	1.269	0.780	-12	39
2019	9	-2.081	0.008	1.269	-5	-12
2019	10	0.967	-2.081	0.008	6	-5
2019	11	-1.781	0.967	-2.081	-2	6
2019	12	1.630	-1.781	0.967	0	-2
2020	1	-1.358	1.630	-1.781	0	0
2020	2	-0.451	-1.358	1.630	0	0
2020	3	0.015	-0.451	-1.358	-1	0
2020	4	0.139	0.015	-0.451	-9	-1
2020	5	-1.597	0.139	0.015	-22	-9
2020	6	0.371	-1.597	0.139	32	-22
2020	7	2.378	0.371	-1.597	67	32
2020	8	0.668	2.378	0.371	32	67
2020	9	-0.004	0.668	2.378	-14	32
2020	10	0.430	-0.004	0.668	-20	-14
2020	11	1.049	0.430	-0.004	0	-20
2020	12	0.394	1.049	0.430	0	0
2021	1	-1.115	0.394	1.049	0	0
2021	2	1.549	-1.115	0.394	0	0
2021	3	1.270	1.549	-1.115	2	0
2021	4	-0.330	1.270	1.549	1	2
2021	5	-0.168	-0.330	1.270	0	1
2021	6	0.125	-0.168	-0.330	59	0
2021	7	2.113	0.125	-0.168	-18	59
2021	8	3.025	2.113	0.125	66	-18
2021	9	3.465	3.025	2.113	1	66
2021	10	1.193	3.465	3.025	9	1
2021	11	-2.402	1.193	3.465	-2	9
2021	12	-2.560	-2.402	1.193	0	-2
2022	1	0.444	-2.560	-2.402	0	0
2022	2	-0.472	0.444	-2.560	0	0
2022	3	-0.796	-0.472	0.444	0	0
2022	4	0.180	-0.796	-0.472	-4	0
2022	5	1.021	0.180	-0.796	26	-4
2022	6	-0.545	1.021	0.180	2	26
2022	7	-3.452	-0.545	1.021	65	2
2022	8	-0.764	-3.452	-0.545	95	65
2022	9	-0.065	-0.764	-3.452	-6	95
2022	10	1.718	-0.065	-0.764	-22	-6
2022	11	-0.323	1.718	-0.065	9	-22
2022	12	0.803	-0.323	1.718	1	9
2023	1	0.717	0.803	-0.323	0	1
2023	2	-1.743	0.717	0.803	0	0
2023	3	-0.723	-1.743	0.717	-1	0
2023	4	2.338	-0.723	-1.743	13	-1
2023	5	-2.829	2.338	-0.723	-44	13
2023	6	-0.493	-2.829	2.338	-63	-44

CUSTOMER DATA

Year	Month	Cust	Growth	Select
2023	7	4236	3	
2023	8	4241	5	
2023	9	4240	-1	
2023	10	4229	-11	
2023	11	4198	-31	
2023	12	4189	-8	
2024	1	4192	2	
2024	2	4291	100	
2024	3	4312	20	
2024	4	4346	34	
2024	5	4350	4	
2024	6	4356	6	
2024	7	4358	3	
2024	8	4363	5	
2024	9	4363	-1	
2024	10	4351	-11	
2024	11	4320	-31	
2024	12	4312	-8	
2025	1	4314	2	
2025	2	4414	100	
2025	3	4434	20	
2025	4	4468	34	
2025	5	4472	4	
2025	6	4478	6	
2025	7	4481	3	
2025	8	4486	5	
2025	9	4485	-1	
2025	10	4474	-11	
2025	11	4443	-31	
2025	12	4435	-8	
2026	1	4437	2	
2026	2	4537	100	
2026	3	4557	20	
2026	4	4591	34	
2026	5	4595	4	
2026	6	4601	6	

WEATHER DATA

Year	Month	Rain	Rain Lag 1	Rain Lag 2	CDD	CDD Lag 1
2023	7	0.000	-0.493	-2.829	0	-63
2023	8	0.000	0.000	-0.493	0	0
2023	9	0.000	0.000	0.000	0	0
2023	10	0.000	0.000	0.000	0	0
2023	11	0.000	0.000	0.000	0	0
2023	12	0.000	0.000	0.000	0	0
2024	1	0.000	0.000	0.000	0	0
2024	2	0.000	0.000	0.000	0	0
2024	3	0.000	0.000	0.000	0	0
2024	4	0.000	0.000	0.000	0	0
2024	5	0.000	0.000	0.000	0	0
2024	6	0.000	0.000	0.000	0	0
2024	7	0.000	0.000	0.000	0	0
2024	8	0.000	0.000	0.000	0	0
2024	9	0.000	0.000	0.000	0	0
2024	10	0.000	0.000	0.000	0	0
2024	11	0.000	0.000	0.000	0	0
2024	12	0.000	0.000	0.000	0	0
2025	1	0.000	0.000	0.000	0	0
2025	2	0.000	0.000	0.000	0	0
2025	3	0.000	0.000	0.000	0	0
2025	4	0.000	0.000	0.000	0	0
2025	5	0.000	0.000	0.000	0	0
2025	6	0.000	0.000	0.000	0	0
2025	7	0.000	0.000	0.000	0	0
2025	8	0.000	0.000	0.000	0	0
2025	9	0.000	0.000	0.000	0	0
2025	10	0.000	0.000	0.000	0	0
2025	11	0.000	0.000	0.000	0	0
2025	12	0.000	0.000	0.000	0	0
2026	1	0.000	0.000	0.000	0	0
2026	2	0.000	0.000	0.000	0	0
2026	3	0.000	0.000	0.000	0	0
2026	4	0.000	0.000	0.000	0	0
2026	5	0.000	0.000	0.000	0	0
2026	6	0.000	0.000	0.000	0	0

NEW JERSEY WEATHER DATA

				CAL.	CAL.	CAL.	MODEL	MODEL	MODEL							
DU Year	Month	Normal	DATE	CLDD	PRCP	HTDD	CLDD	PRCP	HTDD	Rain	Rain Lag	Rain Lag 2	CDD	CDD Lag	HDD	HDD Lag
2008	1	0	2008.01	0	2.066	938	0	-1.165	-64	-1.165	0.000	0.000	0.000	0.000	-64	0
2008	2	0	2008.02	0	5.442	850	0	2.247	9	2.247	-1.165	0.000	-0.098	0.000	9	-64
2008	3	0	2008.03	0	3.797	704	-1	0.170	-12	0.170	2.247	-1.165	-0.642	-0.098	-12	9
2008	4	0	2008.04	1	2.334	355	-7	-1.803	-27	-1.803	0.170	2.247	-7.460	-0.642	-27	-12
2008	5	0	2008.05	19	3.748	232	-46	-0.373	85	-0.373	-1.803	0.170	-46.316	-7.460	85	-27
2008	6	0	2008.06	250	2.937	3	55	-0.651	-13	-0.651	-0.373	-1.803	54.678	-46.316	-13	85
2008	7	0	2008.07	345	4.791	0	-36	-0.198	0	-0.198	-0.651	-0.373	-36.436	54.678	0	-13
2008	8	0	2008.08	199	1.771	2	-115	-2.206	2	-2.206	-0.198	-0.651	-114.804	-36.436	2	0
2008	9	0	2008.09	118	6.443	45	-30	3.330	3	3.330	-2.206	-0.198	-29.675	-114.804	3	2
2008	10	0	2008.10	4	2.563	362	-20	-1.709	105	-1.709	3.330	-2.206	-20.012	-29.675	105	3
2008	11	0	2008.11	0	3.920	583	-2	0.605	-6	0.605	-1.709	3.330	-1.717	-20.012	-6	105
2008	12	0	2008.12	0	6.277	866	0	2.345	49	2.345	0.605	-1.709	-0.121	-1.717	49	-6
2009	1	0	2009.01	0	2.761	1173	0	-0.471	171	-0.471	2.345	0.605	0.000	-0.121	171	49
2009	2	0	2009.02	0	0.516	819	0	-2.679	-22	-2.679	-0.471	2.345	-0.098	0.000	-22	171
2009	3	0	2009.03	0	1.770	743	-1	-1.858	28	-1.858	-2.679	-0.471	-0.642	-0.098	28	-22
2009	4	0	2009.04	33	4.303	399	24	0.166	17	0.166	-1.858	-2.679	24.497	-0.642	17	28
2009	5	0	2009.05	36	4.440	139	-29	0.318	-8	0.318	0.166	-1.858	-28.588	24.497	-8	17
2009	6	0	2009.06	116	7.106	30	-80	3.518	14	3.518	0.318	0.166	-79.583	-28.588	14	-8
2009	7	0	2009.07	224	6.255	1	-157	1.266	0	1.266	3.518	0.318	-157.359	-79.583	0	14
2009	8	0	2009.08	318	7.620	0	4	3.644	0	3.644	1.266	3.518	4.346	-157.359	0	0
2009	9	0	2009.09	61	3.852	60	-86	0.739	18	0.739	3.644	1.266	-86.497	4.346	18	0
2009	10	0	2009.10	6	5.044	336	-19	0.773	79	0.773	0.739	3.644	-18.860	-86.497	79	18
2009	11	0	2009.11	0	1.631	463	-2	-1.684	-126	-1.684	0.773	0.739	-1.717	-18.860	-126	79
2009	12	0	2009.12	0	7.347	938	0	3.415	121	3.415	-1.684	0.773	-0.121	-1.717	121	-126
2010	1	0	2010.01	0	2.268	1047	0	-0.964	45	-0.964	3.415	-1.684	0.000	-0.121	45	121
2010	2	0	2010.02	0	4.058	922	0	0.863	81	0.863	-0.964	3.415	-0.098	0.000	81	45
2010	3	0	2010.03	0	8.830	570	-1	5.202	-145	5.202	0.863	-0.964	-0.642	-0.098	-145	81
2010	4	0	2010.04	26	2.442	276	18	-1.695	-106	-1.695	5.202	0.863	17.620	-0.642	-106	-145
2010	5	0	2010.05	93	3.039	113	28	-1.082	-34	-1.082	-1.695	5.202	27.728	17.620	-34	-106
2010	6	0	2010.06	280	2.324	10	84	-1.264	-6	-1.264	-1.082	-1.695	84.372	27.728	-6	-34
2010	7	0	2010.07	427	4.534	0	46	-0.456	0	-0.456	-1.264	-1.082	45.712	84.372	0	-6
2010	8	0	2010.08	316	1.440	0	2	-2.536	0	-2.536	-0.456	-1.264	2.002	45.712	0	0
2010	9	0	2010.09	147	2.918	24	-1	-0.195	-18	-0.195	-2.536	-0.456	-0.994	2.002	-18	0
2010	10	0	2010.10	7	3.640	298	-17	-0.631	41	-0.631	-0.195	-2.536	-16.958	-0.994	41	-18
2010	11	0	2010.11	0	2.018	588	-2	-1.296	-1	-1.296	-0.631	-0.195	-1.717	-16.958	-1	41
2010	12	0	2010.12	0	3.045	1029	0	-0.887	212	-0.887	-1.296	-0.631	-0.121	-1.717	212	-1
2011	1	0	2011.01	0	3.280	1135	0	0.049	133	0.049	-0.887	-1.296	0.000	-0.121	133	212
2011	2	0	2011.02	0	3.059	850	0	-0.136	9	-0.136	0.049	-0.887	-0.098	0.000	9	133
2011	3	0	2011.03	0	5.621	718	-1	1.994	3	1.994	-0.136	0.049	-0.642	-0.098	3	9
2011	4	0	2011.04	26	5.834	340	18	1.697	-42	1.697	1.994	-0.136	17.567	-0.642	-42	3
2011	5	0	2011.05	85	3.584	114	21	-0.537	-33	-0.537	1.697	1.994	20.605	17.567	-33	-42
2011	6	0	2011.06	217	3.131	7	22	-0.457	-9	-0.457	-0.537	1.697	21.905	20.605	-9	-33
2011	7	0	2011.07	438	3.448	0	57	-1.542	0	-1.542	-0.457	-0.537	57.228	21.905	0	-9
2011	8	0	2011.08	282	14.928	0	-31	10.951	0	10.951	-1.542	-0.457	-31.197	57.228	0	0
2011	9	0	2011.09	161	6.065	34	14	2.952	-8	2.952	10.951	-1.542	13.950	-31.197	-8	0
2011	10	0	2011.10	7	4.222	291	-17	-0.050	34	-0.050	2.952	10.951	-17.127	13.950	34	-8
2011	11	0	2011.11	0	3.769	459	-2	0.454	-130	0.454	-0.050	2.952	-1.717	-17.127	-130	34
2011	12	0	2011.12	0	4.369	749	0	0.436	-68	0.436	0.454	-0.050	-0.121	-1.717	-68	-130
2012	1	0	2012.01	0	2.771	898	0	-0.460	-104	-0.460	0.436	0.454	0.000	-0.121	-104	-68
2012	2	0	2012.02	0	1.398	752	0	-1.797	-89	-1.797	-0.460	0.436	-0.098	0.000	-89	-104
2012	3	0	2012.03	1	1.438	459	0	-2.189	-257	-2.189	-1.797	-0.460	0.477	-0.098	-257	-89
2012	4	0	2012.04	15	2.828	364	6	-1.309	-18	-1.309	-2.189	-1.797	5.959	0.477	-18	-257
2012	5	0	2012.05	95	3.924	80	31	-0.198	-67	-0.198	-1.309	-2.189	30.545	5.959	-67	-18
2012	6	0	2012.06	181	4.226	27	-14	0.638	11	0.638	-0.198	-1.309	-14.240	30.545	11	-67
2012	7	0	2012.07	407	3.564	0	26	-1.425	0	-1.425	0.638	-0.198	25.855	-14.240	0	11
2012	8	0	2012.08	312	4.832	0	-2	0.855	0	0.855	-1.425	0.638	-2.043	25.855	0	0
2012	9	0	2012.09	119	3.256	53	-28	0.144	12	0.144	0.855	-1.425	-28.107	-2.043	12	0
2012	10	0	2012.10	13	4.396	248	-12	0.125	-8	0.125	0.144	0.855	-11.837	-28.107	-8	12
2012	11	0	2012.11	0	1.132	692	-2	-2.183	103	-2.183	0.125	0.144	-1.717	-11.837	103	-8
2012	12	0	2012.12	0	5.812	730	0	1.880	-87	1.880	-2.183	0.125	-0.121	-1.717	-87	103
2013	1	0	2013.01	0	2.624	941	0	-0.608	-61	-0.608	1.880	-2.183	0.000	-0.121	-61	-87
2013	2	0	2013.02	0	3.166	845	0	-0.029	4	-0.029	-0.608	1.880	-0.098	0.000	4	-61
2013	3	0	2013.03	0	2.665	804	-1	-0.963	88	-0.963	-0.029	-0.608	-0.642	-0.098	88	4
2013	4	0	2013.04	10	2.252	405	1	-1.885	23	-1.885	-0.963	-0.029	0.913	-0.642	23	88
2013	5	0	2013.05	70	3.582	192	5	-0.540	45	-0.540	-1.885	-0.963	5.484	0.913	45	23
2013	6	0	2013.06	208	9.122	12	13	5.534	-5	5.534	-0.540	-1.885	12.666	5.484	-5	45
2013	7	1	2013.07	413	2.958	0	32	-2.031	0	-2.031	5.534	-0.540	31.978	12.666	0	-5
2013	8	1	2013.08	213	4.037	3	-101	0.061	2	0.061	-2.031	5.534	-100.549	31.978	2	0
2013	9	1	2013.09	86	2.529	104	-62	-0.584	62	-0.584	0.061	-2.031	-61.520	-100.549	62	2
2013	10	1	2013.10	29	1.372	278	5	-2.900	21	-2.900	-0.584	0.061	4.624	-61.520	21	62
2013	11	1	2013.11	0	2.947	658	-2	-0.368	70	-0.368	-2.900	-0.584	-1.717	4.624	70	21
2013	12	1	2013.12	0	4.517	906	0	0.585	89	0.585	-0.368	-2.900	0.227	-1.717	89	70
2014	1	1	2014.01	0	2.557	1216	0	-0.674	214	-0.674	0.585	-0.368	0.000	0.227	214	89
2014	2	1	2014.02	0	3.739	1018	0	0.544	177	0.544	-0.674	0.585	-0.098	0.000	177	214
2014	3	1	2014.03	0	3.755	900	-1	0.128	185	0.128	0.544	-0.674	-0.642	-0.098	185	177
2014	4	1	2014.04	6	5.973	430	-3	1.836	48	1.836	0.128	0.544	-3.121	-0.642	48	185
2014	5	1	2014.05	38	3.686	123	-27	-0.435	-24	-0.435	1.836	0.128	-26.574	-3.121	-24	48
2014	6	1	2014.06	184	3.204	5	-12	-0.384	-11	-0.384	-0.435	1.836	-11.725	-26.574	-11	-24
2014	7	1	2014.07	297	4.611	0	-84	-0.378	0	-0.378	-0.384	-0.435	-83.717	-11.725	0	-11

	NORMAL	NORMAL	NORMAL
	CAL.	CAL.	CAL.
Month	CLDD	PRCP	HTDD
1	0	3.231	1002
2	0	3.195	841
3	1	3.627	715
4	9	4.137	382
5	65	4.122	147
6	196	3.588	16
7	381	4.989	0
8	314	3.976	1
9	148	3.112	42
10	24	4.271	256
11	2	3.315	589
12	0	3.932	817

Normal Start:	2013.07
Normal End	2023.06
Normal Months	120.00

0	2.066	938	0	0.0000	0	
0	5.442	850	0	0.0000	0	
0	3.797	704	0	0.0000	0	
1	2.334	355	0	0.0000	0	
19	3.748	232	0	0.0000	0	
250	2.937	3	0	0.0000	0	
345	4.791	0	0	0.0000	0	
199	1.771	2	0	0.0000	0	
118	6.443	45	0	0.0000	0	
4	2.563	362	0	0.0000	0	
0	3.920	583	0	0.0000	0	
0	6.277	866	0	0.0000	0	
0	2.761	1173	0	0.0000	0	
0	0.516	819	0	0.0000	0	
0	1.770	743	0	0.0000	0	
33	4.303	399	0	0.0000	0	
36	4.440	139	0	0.0000	0	
116	7.106	30	0	0.0000	0	
224	6.255	1	0	0.0000	0	
318	7.620	0	0	0.0000	0	
61	3.852	60	0	0.0000	0	
6	5.044	336	0	0.0000	0	
0	1.631	463	0	0.0000	0	
0	7.347	938	0	0.0000	0	
0	2.268	1047	0	0.0000	0	
0	4.058	922	0	0.0000	0	
0	8.830	570	0	0.0000	0	
26	2.442	276	0	0.0000	0	
93	3.039	113	0	0.0000	0	
280	2.324	10	0	0.0000	0	
427	4.534	0	0	0.0000	0	
316	1.440	0	0	0.0000	0	
147	2.918	24	0	0.0000	0	
7	3.640	298	0	0.0000	0	
0	2.018	588	0	0.0000	0	
0	3.045	1029	0	0.0000	0	
0	3.280	1135	0	0.0000	0	
0	3.059	850	0	0.0000	0	
0	5.621	718	0	0.0000	0	
26	5.834	340	0	0.0000	0	
85	3.584	114	0	0.0000	0	
217	3.131	7	0	0.0000	0	
438	3.448	0	0	0.0000	0	
282	14.928	0	0	0.0000	0	
161	6.065	34	0	0.0000	0	
7	4.222	291	0	0.0000	0	
0	3.769	459	0	0.0000	0	
0	4.369	749	0	0.0000	0	
0	2.771	898	0	0.0000	0	
0	1.398	752	0	0.0000	0	
1	1.438	459	0	0.0000	0	
15	2.828	364	0	0.0000	0	
95	3.924	80	0	0.0000	0	
181	4.226	27	0	0.0000	0	
407	3.564	0	0	0.0000	0	
312	4.832	0	0	0.0000	0	
119	3.256	53	0	0.0000	0	
13	4.396	248	0	0.0000	0	
0	1.132	692	0	0.0000	0	
0	5.812	730	0	0.0000	0	
0	2.624	941	0	0.0000	0	
0	3.166	845	0	0.0000	0	
0	2.665	804	0	0.0000	0	
10	2.252	405	0	0.0000	0	
70	3.582	192	0	0.0000	0	
208	9.122	12	0	0.0000	0	
413	2.958	0	0	0.0000	0	
213	4.037	3	0	0.0000	0	
86	2.529	104	0	0.0000	0	
29	1.372	278	0	0.0000	0	
0	2.947	658	0	0.0000	0	
0	4.517	906	0	0.0000	0	
0	2.557	1216	0	0.0000	0	
0	3.739	1018	0	0.0000	0	
0	3.755	900	0	0.0000	0	
6	5.973	430	0	0.0000	0	
38	3.686	123	0	0.0000	0	
184	3.204	5	0	0.0000	0	
297	4.611	0	0	0.0000	0	

NEW JERSEY WEATHER DATA

				CAL.	CAL.	CAL.	MODEL	MODEL	MODEL							
DU Year	Month	Normal	DATE	CLDD	PRCP	HTDD	CLDD	PRCP	HTDD	Rain	Rain Lag	Rain Lag 2	CDD	CDD Lag	HDD	HDD Lag
2014	8	1	2014.08	202	2.934	1	-111	-1.042	1	-1.042	-0.378	-0.384	-111.290	-83.717	1	0
2014	9	1	2014.09	127	1.425	56	-21	-1.687	14	-1.687	-1.042	-0.378	-20.841	-111.290	14	1
2014	10	1	2014.10	16	4.182	258	-8	-0.089	2	-0.089	-1.687	-1.042	-8.407	-20.841	2	14
2014	11	1	2014.11	0	4.549	689	-2	1.234	100	1.234	-0.089	-1.687	-1.717	-8.407	100	2
2014	12	1	2014.12	0	4.889	792	0	0.957	-25	0.957	1.234	-0.089	-0.121	-1.717	-25	100
2015	1	1	2015.01	0	4.387	1136	0	1.156	135	1.156	0.957	1.234	0.000	-0.121	135	-25
2015	2	1	2015.02	0	1.897	1198	0	-1.298	357	-1.298	1.156	0.957	-0.098	0.000	357	135
2015	3	1	2015.03	0	4.627	863	-1	1.000	148	1.000	-1.298	1.156	-0.642	-0.098	148	357
2015	4	1	2015.04	0	2.232	388	-8	-1.905	6	-1.905	1.000	-1.298	-8.483	-0.642	6	148
2015	5	1	2015.05	120	2.198	86	55	-1.923	-61	-1.923	-1.905	1.000	54.747	-8.483	-61	6
2015	6	1	2015.06	205	5.831	35	9	2.243	18	2.243	-1.923	-1.905	8.962	54.747	18	-61
2015	7	1	2015.07	362	3.499	0	-19	-1.490	0	-1.490	2.243	-1.923	-18.820	8.962	0	18
2015	8	1	2015.08	308	1.919	0	-5	-2.057	-1	-2.057	-1.490	2.243	-5.362	-18.820	-1	0
2015	9	1	2015.09	181	2.428	12	33	-0.685	-30	-0.685	-2.057	-1.490	33.214	-5.362	-30	-1
2015	10	1	2015.10	2	4.172	337	-23	-0.100	81	-0.100	-0.685	-2.057	-22.789	33.214	81	-30
2015	11	1	2015.11	3	1.940	455	1	-1.375	-133	-1.375	-0.100	-0.685	0.838	-22.789	-133	81
2015	12	1	2015.12	0	4.379	514	0	0.447	-303	0.447	-1.375	-0.100	0.035	0.838	-303	-133
2016	1	1	2016.01	0	2.950	1033	0	-0.281	31	-0.281	0.447	-1.375	0.000	0.035	31	-303
2016	2	1	2016.02	0	3.732	838	0	0.537	-3	0.537	-0.281	0.447	-0.098	0.000	-3	31
2016	3	1	2016.03	3	1.811	549	2	-1.816	-166	-1.816	0.537	-0.281	2.239	-0.098	-166	-3
2016	4	1	2016.04	7	1.777	423	-2	-2.360	41	-2.360	-1.816	0.537	-1.982	2.239	41	-166
2016	5	1	2016.05	71	4.174	208	7	0.052	61	0.052	-2.360	-1.816	6.564	-1.982	61	41
2016	6	1	2016.06	188	1.915	11	-8	-1.673	-6	-1.673	0.052	-2.360	-7.589	6.564	-6	61
2016	7	1	2016.07	387	6.662	0	6	1.673	0	1.673	-1.673	0.052	5.933	-7.589	0	-6
2016	8	1	2016.08	377	1.761	0	64	-2.215	-1	-2.215	1.673	-1.673	63.862	5.933	-1	0
2016	9	1	2016.09	178	2.453	32	30	-0.659	-10	-0.659	-2.215	1.673	30.231	63.862	-10	-1
2016	10	1	2016.10	22	2.640	282	-2	-1.631	26	-1.631	-0.659	-2.215	-2.019	30.231	26	-10
2016	11	1	2016.11	0	3.383	527	-1	0.068	-62	0.068	-1.631	-0.659	-1.483	-2.019	-62	26
2016	12	1	2016.12	0	2.976	889	0	-0.957	72	-0.957	0.068	-1.631	-0.121	-1.483	72	-62
2017	1	1	2017.01	0	4.089	878	0	0.857	-124	0.857	-0.957	0.068	0.000	-0.121	-124	72
2017	2	1	2017.02	0	1.560	683	0	-1.635	-158	-1.635	0.857	-0.957	-0.098	0.000	-158	-124
2017	3	1	2017.03	0	3.762	798	-1	0.135	82	0.135	-1.635	0.857	-0.642	-0.098	82	-158
2017	4	1	2017.04	25	4.230	278	16	0.092	-104	0.092	0.135	-1.635	16.037	-0.642	-104	82
2017	5	1	2017.05	49	6.237	199	-16	2.115	52	2.115	0.092	0.135	-15.515	16.037	52	-104
2017	6	1	2017.06	192	3.627	30	-4	0.039	13	0.039	2.115	0.092	-3.884	-15.515	13	52
2017	7	1	2017.07	328	4.674	0	-53	-0.315	0	-0.315	0.039	2.115	-53.256	-3.884	0	13
2017	8	1	2017.08	223	4.614	2	-91	0.637	2	0.637	-0.315	0.039	-91.088	-53.256	2	0
2017	9	1	2017.09	147	1.857	39	-1	-1.256	-3	-1.256	0.637	-0.315	-0.928	-91.088	-3	2
2017	10	1	2017.10	52	5.045	186	28	0.774	-70	0.774	-1.256	0.637	27.700	-0.928	-70	-3
2017	11	1	2017.11	0	1.626	599	-2	-1.689	10	-1.689	0.774	-1.256	-1.639	27.700	10	-70
2017	12	1	2017.12	0	1.389	972	0	-2.544	155	-2.544	-1.689	0.774	-0.121	-1.639	155	10
2018	1	1	2018.01	0	2.381	1080	0	-0.850	78	-0.850	-2.544	-1.689	0.000	-0.121	78	155
2018	2	1	2018.02	1	5.974	692	1	2.779	-149	2.779	-0.850	-2.544	0.883	0.000	-149	78
2018	3	1	2018.03	0	4.330	784	-1	0.703	68	0.703	2.779	-0.850	-0.642	0.883	68	-149
2018	4	1	2018.04	4	4.405	510	-4	0.267	128	0.267	0.703	2.779	-4.312	-0.642	128	68
2018	5	1	2018.05	91	5.366	75	26	1.245	-72	1.245	0.267	0.703	26.312	-4.312	-72	128
2018	6	1	2018.06	185	3.125	18	-10	-0.463	1	-0.463	1.245	0.267	-10.299	26.312	1	-72
2018	7	1	2018.07	346	5.223	0	-35	0.234	0	0.234	-0.463	1.245	-35.305	-10.299	0	1
2018	8	1	2018.08	377	5.655	0	63	1.679	-1	1.679	0.234	-0.463	62.971	-35.305	-1	0
2018	9	1	2018.09	192	6.668	30	44	3.556	-12	3.556	1.679	0.234	44.052	62.971	-12	-1
2018	10	1	2018.10	53	3.908	304	29	-0.363	47	-0.363	3.556	1.679	28.714	44.052	47	-12
2018	11	1	2018.11	2	8.902	669	0	5.588	80	5.588	-0.363	3.556	0.243	28.714	80	47
2018	12	1	2018.12	0	5.177	785	0	1.245	-32	1.245	5.588	-0.363	-0.121	0.243	-32	80
2019	1	1	2019.01	0	4.336	1032	0	1.105	30	1.105	1.245	5.588	0.000	-0.121	30	-32
2019	2	1	2019.02	0	3.386	827	0	0.191	-14	0.191	1.105	1.245	-0.098	0.000	-14	30
2019	3	1	2019.03	0	3.712	772	0	0.085	56	0.085	0.191	1.105	-0.468	-0.098	56	-14
2019	4	1	2019.04	9	3.879	299	0	-0.258	-83	-0.258	0.085	0.191	0.056	-0.468	-83	56
2019	5	1	2019.05	60	6.642	122	-5	2.520	-25	2.520	-0.258	0.085	-5.197	0.056	-25	-83
2019	6	1	2019.06	190	4.368	17	-5	0.780	0	0.780	2.520	-0.258	-5.379	-5.197	0	-25
2019	7	1	2019.07	420	6.258	0	39	1.269	0	1.269	0.780	2.520	39.230	-5.379	0	0
2019	8	1	2019.08	302	3.984	0	-12	0.008	-1	0.008	1.269	0.780	-11.777	39.230	-1	0
2019	9	1	2019.09	142	1.031	17	-5	-2.081	-24	-2.081	0.008	1.269	-5.353	-11.777	-24	-1
2019	10	1	2019.10	30	5.238	227	6	0.967	-29	0.967	-2.081	0.008	5.685	-5.353	-29	-24
2019	11	1	2019.11	0	1.534	703	-2	-1.781	114	-1.781	0.967	-2.081	-1.717	5.685	114	-29
2019	12	1	2019.12	0	5.562	870	0	1.630	53	1.630	-1.781	0.967	-0.121	-1.717	53	114
2020	1	1	2020.01	0	1.873	854	0	-1.358	-148	-1.358	1.630	-1.781	0.000	-0.121	-148	53
2020	2	1	2020.02	0	2.744	737	0	-0.451	-104	-0.451	-1.358	1.630	-0.098	0.000	-104	-148
2020	3	1	2020.03	0	3.642	555	-1	0.015	-160	0.015	-0.451	-1.358	-0.642	-0.098	-160	-104
2020	4	1	2020.04	0	4.276	453	-9	0.139	71	0.139	0.015	-0.451	-8.789	-0.642	71	-160
2020	5	1	2020.05	43	2.524	200	-22	-1.597	53	-1.597	0.139	0.015	-21.715	-8.789	53	71
2020	6	1	2020.06	227	3.959	11	32	0.371	-5	0.371	-1.597	0.139	31.686	-21.715	-5	53
2020	7	1	2020.07	448	7.368	0	67	2.378	0	2.378	0.371	-1.597	66.676	31.686	0	-5
2020	8	1	2020.08	345	4.644	0	32	0.668	-1	0.668	2.378	0.371	31.726	66.676	-1	0
2020	9	1	2020.09	133	3.109	62	-14	-0.004	20	-0.004	0.668	2.378	-14.170	31.726	20	-1
2020	10	1	2020.10	4	4.702	246	-20	0.430	-11	0.430	-0.004	0.668	-20.061	-14.170	-11	20
2020	11	1	2020.11	2	4.363	463	0	1.049	-125	1.049	0.430	-0.004	0.098	-20.061	-125	-11
2020	12	1	2020.12	0	4.326	846	0	0.394	29	0.394	1.049	0.430	-0.121	0.098	29	-125
2021	1	1	2021.01	0	2.116	967	0	-1.115	-35	-1.115	0.394	1.049	0.000	-0.121	-35	29
2021	2	1	2021.02	0	4.744	906	0	1.549	65	1.549	-1.115	0.394	-0.098	0.000	65	-35

	NORMAL	NORMAL	NORMAL
	CAL.	CAL.	CAL.
Month	CLDD	PRCP	HTDD
1	202	2.934	1
2	127	1.425	56
3	16	4.182	258
4	0	4.549	689
5	0	4.889	792
6	0	4.387	1136
7	0	1.897	1198
8	0	4.627	863
9	0	2.232	388
10	120	2.198	86
11	205	5.831	35
12	362	3.499	0

308	1.919	0	0	0.0000	0	
181	2.428	12	0	0.0000	0	
2	4.172	337	0	0.0000	0	
3	1.940	455	0	0.0000	0	
0	4.379	514	0	0.0000	0	
0	2.950	1033	0	0.0000	0	
0	3.732	838	0	0.0000	0	
3	1.811	549	0	0.0000	0	
7	1.777	423	0	0.0000	0	
71	4.174	208	0	0.0000	0	
188	1.915	11	0	0.0000	0	
387	6.662	0	0	0.0000	0	
377	1.761	0	0	0.0000	0	
178	2.453	32	0	0.0000	0	
22	2.640	282	0	0.0000	0	
0	3.383	527	0	0.0000	0	
0	2.976	889	0	0.0000	0	
0	4.089	878	0	0.0000	0	
0	1.560	683	0	0.0000	0	
0	3.762	798	0	0.0000	0	
25	4.230	278	0	0.0000	0	
49	6.237	199	0	0.0000	0	
192	3.627	30	0	0.0000	0	
328	4.674	0	0	0.0000	0	
223	4.614	2	0	0.0000	0	
147	1.857	39	0	0.0000	0	
52	5.045	186	0	0.0000	0	
0	1.626	599	0	0.0000	0	
0	1.389	972	0	0.0000	0	
0	2.381	1080	0	0.0000	0	
1	5.974	692	0	0.0000	0	
0	4.330	784	0	0.0000	0	
4	4.405	510	0	0.0000	0	
91	5.366	75	0	0.0000	0	
185	3.125	18	0	0.0000	0	
346	5.223	0	0	0.0000	0	
377	5.655	0	0	0.0000	0	
192	6.668	30	0	0.0000	0	
53	3.908	304	0	0.0000	0	
2	8.902	669	0	0.0000	0	
0	5.177	785	0	0.0000	0	
0	4.336	1032	0	0.0000	0	
0	3.386	827	0	0.0000	0	
0	3.712	772	0	0.0000	0	
9	3.879	299	0	0.0000	0	
60	6.642	122	0	0.0000	0	
190	4.368	17	0	0.0000	0	
420	6.258	0	0	0.0000	0	
302	3.984	0	0	0.0000	0	
142	1.031	17	0	0.0000	0	
30	5.238	227	0	0.0000	0	
0	1.534	703	0	0.0000	0	
0	5.562	870	0	0.0000	0	
0	1.873	854	0	0.0000	0	
0	2.744	737	0	0.0000	0	
0	3.642	555	0	0.0000	0	
0	4.276	453	0	0.0000	0	
43	2.524	200	0	0.0000	0	
227	3.959	11	0	0.0000	0	
448	7.368	0	0	0.0000	0	
345	4.644	0	0	0.0000	0	
133	3.109	62	0	0.0000	0	
4	4.702	246	0	0.0000	0	
2	4.363	463	0	0.0000	0	
0	4.326	846	0	0.0000	0	
0	2.116	967	0	0.0000	0	
0	4.744	906	0	0.0000	0	

NEW JERSEY WEATHER DATA

				CAL.	CAL.	CAL.	MODEL	MODEL	MODEL								
DU Year	Month	Normal	DATE	CLDD	PRCP	HTDD	CLDD	PRCP	HTDD	Rain	Rain Lag	Rain Lag 2	CDD	CDD Lag	HDD	HDD Lag	
2021	3	1	2021.03	3	4.897	633	2	1.270	-82	1.270	1.549	-1.115	1.871	-0.098	-82	65	
2021	4	1	2021.04	10	3.807	356	1	-0.330	-26	-0.330	1.270	1.549	0.907	1.871	-26	-82	
2021	5	1	2021.05	65	3.954	169	0	-0.168	22	-0.168	-0.330	1.270	0.117	0.907	22	-26	
2021	6	1	2021.06	254	3.713	9	59	0.125	-7	0.125	-0.168	-0.330	58.846	0.117	-7	22	
2021	7	1	2021.07	363	7.102	0	-18	2.113	0	2.113	0.125	-0.168	-17.976	58.846	0	-7	
2021	8	1	2021.08	380	7.001	0	66	3.025	-1	3.025	2.113	0.125	66.384	-17.976	-1	0	
2021	9	1	2021.09	149	6.577	17	1	3.465	-25	3.465	3.025	2.113	1.199	66.384	-25	-1	
2021	10	1	2021.10	33	5.465	130	9	1.193	-126	1.193	3.465	3.025	8.882	1.199	-126	-25	
2021	11	1	2021.11	0	0.913	629	-2	-2.402	40	-2.402	1.193	3.465	-1.717	8.882	40	-126	
2021	12	1	2021.12	0	1.373	709	0	-2.560	-108	-2.560	-2.402	1.193	-0.121	-1.717	-108	40	
2022	1	1	2022.01	0	3.675	1112	0	0.444	110	0.444	-2.560	-2.402	0.000	-0.121	110	-108	
2022	2	1	2022.02	0	2.723	801	0	-0.472	-40	-0.472	0.444	-2.560	-0.098	0.000	-40	110	
2022	3	1	2022.03	1	2.831	628	0	-0.796	-87	-0.796	-0.472	0.444	0.209	-0.098	-87	-40	
2022	4	1	2022.04	5	4.317	397	-4	0.180	15	0.180	-0.796	-0.472	-3.774	0.209	15	-87	
2022	5	1	2022.05	91	5.142	115	26	1.021	-32	1.021	0.180	-0.796	25.699	-3.774	-32	15	
2022	6	1	2022.06	198	3.043	7	2	-0.545	-9	-0.545	1.021	0.180	2.042	25.699	-9	-32	
2022	7	1	2022.07	446	1.538	0	65	-3.452	0	-3.452	-0.545	1.021	65.257	2.042	0	-9	
2022	8	1	2022.08	409	3.213	0	95	-0.764	-1	-0.764	-3.452	-0.545	95.124	65.257	-1	0	
2022	9	1	2022.09	142	3.047	51	-6	-0.065	9	-0.065	-0.764	-3.452	-5.883	95.124	9	-1	
2022	10	1	2022.10	2	5.989	316	-22	1.718	59	1.718	-0.065	-0.764	-22.327	-5.883	59	9	
2022	11	1	2022.11	11	2.991	495	9	-0.323	-93	-0.323	1.718	-0.065	8.814	-22.327	-93	59	
2022	12	1	2022.12	1	4.735	888	1	0.803	71	0.803	-0.323	1.718	0.581	8.814	71	-93	
2023	1	1	2023.01	0	3.948	711	0	0.717	-291	0.717	0.803	-0.323	0.000	0.581	-291	71	
2023	2	1	2023.02	0	1.453	709	0	-1.743	-132	-1.743	0.717	0.803	-0.098	0.000	-132	-291	
2023	3	1	2023.03	0	2.904	672	-1	-0.723	-43	-0.723	-1.743	0.717	-0.642	-0.098	-43	-132	
2023	4	1	2023.04	22	6.476	286	13	2.338	-96	2.338	-0.723	-1.743	13.464	-0.642	-96	-43	
2023	5	1	2023.05	20	1.293	174	-44	-2.829	27	-2.829	2.338	-0.723	-44.435	13.464	27	-96	
2023	6	1	2023.06	133	3.095	23	-63	-0.493	6	-0.493	-2.829	2.338	-62.658	-44.435	6	27	
2023	7	0	2023.07														
2023	8	0	2023.08														
2023	9	0	2023.09														
2023	10	0	2023.10														
2023	11	0	2023.11														
2023	12	0	2023.12														

	NORMAL	NORMAL	NORMAL
	CAL.	CAL.	CAL.
Month	CLDD	PRCP	HTDD
3	4.897	633	
10	3.807	356	
65	3.954	169	
254	3.713	9	
363	7.102	0	
380	7.001	0	
149	6.577	17	
33	5.465	130	
0	0.913	629	
0	1.373	709	
0	3.675	1112	
0	2.723	801	
1	2.831	628	
5	4.317	397	
91	5.142	115	
198	3.043	7	
446	1.538	0	
409	3.213	0	
142	3.047	51	
2	5.989	316	
11	2.991	495	
1	4.735	888	
0	3.948	711	
0	1.453	709	
0	2.904	672	
22	6.476	286	
20	1.293	174	
133	3.095	23	

3	4.897	633	0	0.0000	0	
10	3.807	356	0	0.0000	0	
65	3.954	169	0	0.0000	0	
254	3.713	9	0	0.0000	0	
363	7.102	0	0	0.0000	0	
380	7.001	0	0	0.0000	0	
149	6.577	17	0	0.0000	0	
33	5.465	130	0	0.0000	0	
0	0.913	629	0	0.0000	0	
0	1.373	709	0	0.0000	0	
0	3.675	1112	0	0.0000	0	
0	2.723	801	0	0.0000	0	
1	2.831	628	0	0.0000	0	
5	4.317	397	0	0.0000	0	
91	5.142	115	0	0.0000	0	
198	3.043	7	0	0.0000	0	
446	1.538	0	0	0.0000	0	
409	3.213	0	0	0.0000	0	
142	3.047	51	0	0.0000	0	
2	5.989	316	0	0.0000	0	
11	2.991	495	0	0.0000	0	
1	4.735	888	0	0.0000	0	
0	3.948	711	0	0.0000	0	
0	1.453	709	0	0.0000	0	
0	2.904	672	0	0.0000	0	
22	6.476	286	0	0.0000	0	
20	1.293	174	0	0.0000	0	
133	3.095	23	0	0.0000	0	

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
1	2008	1	551531	3218149	0	41955	1356312	0	2838	100914	0	0	0	0
2	2008	2	551727	2849717	0	41936	1147498	0	2839	105211	0	0	0	0
3	2008	3	552157	2957196	0	42020	1260428	0	2868	98129	0	0	0	0
4	2008	4	552951	3003237	0	42245	1389554	0	2905	110023	0	0	0	0
5	2008	5	553875	3199417	0	42411	1393930	0	2918	119100	0	0	0	0
6	2008	6	554469	4092965	0	42478	1681772	0	2917	153866	0	0	0	0
7	2008	7	554839	4848653	0	42543	1860210	0	2919	152084	10000	0	0	0
8	2008	8	555104	5345244	0	42591	2008173	0	2923	184236	-10000	0	0	0
9	2008	9	555179	5402963	0	42586	2126833	0	2923	182144	0	0	0	0
10	2008	10	554857	4037303	0	42386	1694699	0	2915	147572	0	0	0	0
11	2008	11	554358	3366781	0	42233	1456647	0	2902	121880	0	0	0	0
12	2008	12	554204	3368083	0	42112	1490948	0	2886	136106	-10000	0	0	0
13	2009	1	554119	3210713	0	41986	1345889	0	2891	98057	10000	0	0	0
14	2009	2	554205	2802064	0	42022	1164478	0	2895	112372	0	0	0	0
15	2009	3	554412	2918138	0	42107	1275837	0	2942	116052	0	0	0	0
16	2009	4	555062	2907080	0	42357	1310985	0	2983	102752	0	0	0	0
17	2009	5	554962	2985153	0	42458	1269752	0	2993	119301	0	0	0	0
18	2009	6	555371	3778224	0	42555	1550605	0	2996	154169	0	0	0	0
19	2009	7	555632	4146147	0	42594	1882547	0	3000	156494	0	0	0	0
20	2009	8	555760	4259853	0	42634	1794851	0	3006	148647	0	0	0	0
21	2009	9	555860	4234001	0	42592	1850862	0	3006	159011	0	0	0	0
22	2009	10	555786	3520593	0	42408	1550203	0	2991	143406	0	0	0	0
23	2009	11	555199	2897750	0	42135	1379781	0	2953	114479	0	0	0	0
24	2009	12	554905	3085398	0	42050	1332696	0	2932	108219	0	0	0	0
25	2010	1	554878	3087521	0	42001	1260658	0	2933	101451	0	0	0	0
26	2010	2	555037	2637983	0	41967	1170432	0	2932	93193	0	0	0	0
27	2010	3	555110	2891124	0	42042	1279627	0	2954	105814	0	0	0	0
28	2010	4	555753	2985741	0	42203	1298113	0	3137	108184	0	0	0	0
29	2010	5	556453	3092127	0	42360	1320679	0	3118	120605	0	0	0	0
30	2010	6	556809	4146099	0	42452	1593237	0	3123	146088	0	0	0	0
31	2010	7	557080	5801736	0	42494	1961053	0	3122	187377	0	0	0	0
32	2010	8	557327	5710411	0	42512	2132842	0	3124	196046	0	0	0	0
33	2010	9	557761	5326576	0	42481	2068140	0	3124	179606	0	0	0	0
34	2010	10	557350	3920188	0	42356	1769474	0	3106	148729	0	0	0	0
35	2010	11	556728	2955698	0	42088	1316697	0	3044	105279	0	0	0	0
36	2010	12	556464	3081216	0	41992	1366969	0	3020	111485	0	0	0	0
37	2011	1	556355	3055798	0	41949	1266502	0	3018	101872	0	0	0	0
38	2011	2	556340	2646187	0	41936	1156729	0	3017	99080	0	0	0	0
39	2011	3	556472	2893000	0	42001	1310366	0	3039	117693	0	0	0	0
40	2011	4	556921	2731226	0	42197	1264520	0	3075	103378	0	0	0	0
41	2011	5	557591	3040030	0	42389	1328192	0	3083	103728	0	0	0	0
42	2011	6	558070	4255194	0	42457	1623547	0	3100	142747	0	0	0	0
43	2011	7	558395	5010402	0	42527	1891570	0	3119	161618	0	0	0	0
44	2011	8	558558	5403885	0	42568	2036544	0	3128	185546	0	0	0	0
45	2011	9	558271	4085965	0	42472	1809949	0	3139	146897	0	0	0	0
46	2011	10	557850	3195558	0	42285	1428714	0	3141	124675	0	0	0	0
47	2011	11	557259	2818282	0	42055	1303372	0	3122	101368	0	0	0	0
48	2011	12	556952	2911574	0	41964	1294786	0	3099	101345	0	0	0	0
49	2012	1	556825	3010776	0	41859	1264543	0	3125	100517	0	0	0	0
50	2012	2	556805	2667917	0	41858	1187487	0	3127	93032	0	0	0	0
51	2012	3	557097	2754685	0	41998	1241236	0	3147	94965	0	0	0	0
52	2012	4	557897	2911623	0	42277	1266229	0	3170	104982	0	0	0	0
53	2012	5	558543	3369721	0	42463	1430461	0	3185	126575	0	0	0	0
54	2012	6	559016	4074971	0	42534	1617924	0	3189	138375	0	0	0	0
55	2012	7	559226	5202642	0	42567	1831706	0	3195	157891	0	0	0	0
56	2012	8	559548	4837003	0	42584	1924102	0	3212	169250	0	0	0	0
57	2012	9	559333	4274144	0	42525	1793021	0	3215	135882	0	0	0	0

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
551,531	3,218,149		41,955	1,356,312		2,838	100,914
551,727	2,849,717		41,936	1,147,498		2,839	105,211
552,157	2,957,196		42,020	1,260,428		2,868	98,129
552,951	3,003,237		42,245	1,389,554		2,905	110,023
553,875	3,199,417		42,411	1,393,930		2,918	119,100
554,469	4,092,965		42,478	1,681,772		2,917	153,866
554,839	4,848,653		42,543	1,860,210		2,919	152,084
555,104	5,345,244		42,591	2,008,173		2,923	184,236
555,179	5,402,963		42,586	2,126,833		2,923	182,144
554,857	4,037,303		42,386	1,694,699		2,915	147,572
554,358	3,366,781		42,233	1,456,647		2,902	121,880
554,204	3,368,083		42,112	1,490,948		2,886	136,106
554,119	3,210,713		41,986	1,345,889		2,891	98,057
554,205	2,802,064		42,022	1,164,478		2,895	112,372
554,412	2,918,138		42,107	1,275,837		2,942	116,052
555,062	2,907,080		42,357	1,310,985		2,983	102,752
554,962	2,985,153		42,458	1,269,752		2,993	119,301
555,371	3,778,224		42,555	1,550,605		2,996	154,169
555,632	4,146,147		42,594	1,882,547		3,000	156,494
555,760	4,259,853		42,634	1,794,851		3,006	148,647
555,860	4,234,001		42,592	1,850,862		3,006	159,011
555,786	3,520,593		42,408	1,550,203		2,991	143,406
555,199	2,897,750		42,135	1,379,781		2,953	114,479
554,905	3,085,398		42,050	1,332,696		2,932	108,219
554,878	3,087,521		42,001	1,260,658		2,933	101,451
555,037	2,637,983		41,967	1,170,432		2,932	93,193
555,110	2,891,124		42,042	1,279,627		2,954	105,814
555,753	2,985,741		42,203	1,298,113		3,137	108,184
556,453	3,092,127		42,360	1,320,679		3,118	120,605
556,809	4,146,099		42,452	1,593,237		3,123	146,088
557,080	5,801,736		42,494	1,961,053		3,122	187,377
557,327	5,710,411		42,512	2,132,842		3,124	196,046
557,761	5,326,576		42,481	2,068,140		3,124	179,606
557,350	3,920,188		42,356	1,769,474		3,106	148,729
556,728	2,955,698		42,088	1,316,697		3,044	105,279
556,464	3,081,216		41,992	1,366,969		3,020	111,485
556,355	3,055,798		41,949	1,266,502		3,018	101,872
556,340	2,646,187		41,936	1,156,729		3,017	99,080
556,472	2,893,000		42,001	1,310,366		3,039	117,693
556,921	2,731,226		42,197	1,264,520		3,075	103,378
557,591	3,040,030		42,389	1,328,192		3,083	103,728
558,070	4,255,194		42,457	1,623,547		3,100	142,747
558,395	5,010,402		42,527	1,891,570		3,119	161,618
558,558	5,403,885		42,568	2,036,544		3,128	185,546
558,271	4,085,965		42,472	1,809,949		3,139	146,897
557,850	3,195,558		42,285	1,428,714		3,141	124,675
557,259	2,818,282		42,055	1,303,372		3,122	101,368
556,952	2,911,574		41,964	1,294,786		3,099	101,345
556,825	3,010,776		41,859	1,264,543		3,125	100,517
556,805	2,667,917		41,858	1,187,487		3,127	93,032
557,097	2,754,685		41,998	1,241,236		3,147	94,965
557,897	2,911,623		42,277	1,266,229		3,170	104,982
558,543	3,369,721		42,463	1,430,461		3,185	126,575
559,016	4,074,971		42,534	1,617,924		3,189	138,375
559,226	5,202,642		42,567	1,831,706		3,195	157,891
559,548	4,837,003		42,584	1,924,102		3,212	169,250
559,333	4,274,144		42,525	1,793,021		3,215	135,882

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
58	2012	10	558789	3392360	0	42312	1520796	0	3194	123425	0	0	0	0
59	2012	11	549583	2977665	0	41703	1370254	0	3151	108261	0	0	0	0
60	2012	12	549151	2861531	0	41548	1193551	0	3139	99420	0	0	0	0
61	2013	1	549332	2872395	0	41546	1228110	0	3144	91820	0	0	0	0
62	2013	2	549493	2705074	0	41534	1188110	0	3141	94620	0	0	0	0
63	2013	3	550019	2593341	0	41571	1174673	0	3157	105569	0	0	0	0
64	2013	4	551240	2793677	0	41866	1249810	0	3178	91753	0	0	0	0
65	2013	5	552343	3116964	0	42058	1311091	0	3210	112644	0	0	0	0
66	2013	6	553317	3727922	0	42188	1511201	0	3218	128928	0	0	0	0
67	2013	7	554095	4085213	0	42231	1651816	0	3232	134389	0	0	0	0
68	2013	8	554706	4424642	0	42232	1794786	0	3291	147983	0	0	0	0
69	2013	9	555007	4060815	0	42219	1670016	0	3297	138115	0	0	0	0
70	2013	10	554692	3602900	0	42036	1494816	0	3293	137575	0	0	0	0
71	2013	11	554396	3137114	0	41799	1203658	0	3263	108388	0	0	0	0
72	2013	12	554162	2805026	0	41719	1199001	0	3204	99096	0	0	0	0
73	2014	1	553903	3108071	0	41663	1338091	0	3199	100905	0	0	0	0
74	2014	2	553891	2773730	0	41625	1416024	0	3200	111714	0	0	0	0
75	2014	3	553873	2614882	0	41653	1236529	0	3205	114793	0	0	0	0
76	2014	4	554269	2746721	0	41889	1252741	0	3238	106553	0	0	0	0
77	2014	5	554734	2870422	0	41916	1253624	0	3275	103254	0	0	0	0
78	2014	6	555076	3627021	0	41942	1439023	0	3287	129091	0	0	0	0
79	2014	7	554960	4579692	0	41962	1728479	0	3338	157643	0	0	0	0
80	2014	8	555211	4428652	0	41961	1815868	0	3339	151534	0	0	0	0
81	2014	9	555642	4357774	0	41929	1734610	0	3345	165095	0	0	0	0
82	2014	10	555200	3627111	0	41697	1627105	0	3348	151254	0	0	0	0
83	2014	11	554678	2828531	0	41415	1248094	0	3332	100180	15000	0	0	0
84	2014	12	554816	2682446	0	41333	1250729	0	3312	126190	-15000	0	0	0
85	2015	1	554835	2898153	0	41284	1277503	0	3314	98813	0	0	0	0
86	2015	2	554943	2650357	0	41265	1104147	0	3313	107871	0	0	0	0
87	2015	3	555352	2745284	0	41214	1199584	0	3421	74682	30000	0	0	0
88	2015	4	556066	2696723	0	41499	1252948	0	3463	92584	0	0	0	0
89	2015	5	556728	3167937	0	41635	1328180	0	3473	121749	0	0	0	0
90	2015	6	561554	4233123	0	42144	1579198	0	3542	155550	0	0	0	0
91	2015	7	561804	4364369	0	42189	1890144	0	3546	162060	0	0	0	0
92	2015	8	562150	4966705	0	42241	1787061	0	3553	164964	0	0	0	0
93	2015	9	562350	5020156	0	42399	1827341	0	3382	178462	0	0	0	0
94	2015	10	561838	4068843	0	42140	1967665	0	3371	189289	-30000	0	0	0
95	2015	11	561779	2939260	0	41879	1230294	0	3363	115281	0	0	0	0
96	2015	12	561736	2878709	0	41761	1324340	0	3350	193120	-80000	0	0	0
97	2016	1	561735	2835342	0	41723	1243272	0	3343	11340	80000	0	0	0
98	2016	2	561778	2500280	0	41721	1121570	0	3352	90413	0	0	0	0
99	2016	3	562190	2630792	0	41821	1243927	0	3379	100138	0	0	0	0
100	2016	4	562996	2746065	0	42094	1262815	0	3401	104257	0	0	0	0
101	2016	5	563839	2919518	0	42183	1274589	0	3488	108871	0	0	0	0
102	2016	6	564455	3971038	0	42296	1583114	0	3490	138726	0	0	0	0
103	2016	7	564771	5048004	0	42288	1852822	0	3500	168197	0	0	0	0
104	2016	8	565457	4638484	0	42348	1821688	0	3505	155006	0	0	0	0
105	2016	9	565674	5275260	0	42336	2069733	0	3513	183237	0	0	0	0
106	2016	10	565559	3946991	0	42170	1680611	0	3501	156646	0	0	0	0
107	2016	11	565148	2967959	0	41895	1328583	0	3471	113073	0	0	0	0
108	2016	12	565267	2835412	0	41902	1401301	0	3472	111527	0	0	0	0
109	2017	1	565323	2852928	0	41757	1173903	0	3468	99036	0	0	0	0
110	2017	2	565685	2522499	0	41761	1270383	0	3469	98218	0	0	0	0
111	2017	3	566170	2512745	0	41834	1127714	0	3482	100521	0	0	0	0
112	2017	4	577263	2748472	0	42836	1280883	0	3574	106568	0	0	0	0
113	2017	5	578383	2957766	0	43036	1304327	0	3582	117110	0	0	0	0
114	2017	6	579001	3841357	0	43095	1616700	0	3590	139401	0	0	0	0

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
558,789	3,392,360		42,312	1,520,796		3,194	123,425
549,583	2,977,665		41,703	1,370,254		3,151	108,261
549,151	2,861,531		41,548	1,193,551		3,139	99,420
549,332	2,872,395		41,546	1,228,110		3,144	91,820
549,493	2,705,074		41,534	1,188,110		3,141	94,620
550,019	2,593,341		41,571	1,174,673		3,157	105,569
551,240	2,793,677		41,866	1,249,810		3,178	91,753
552,343	3,116,964		42,058	1,311,091		3,210	112,644
553,317	3,727,922		42,188	1,511,201		3,218	128,928
554,095	4,085,213		42,231	1,651,816		3,232	134,389
554,706	4,424,642		42,232	1,794,786		3,291	147,983
555,007	4,060,815		42,219	1,670,016		3,297	138,115
554,692	3,602,900		42,036	1,494,816		3,293	137,575
554,396	3,137,114		41,799	1,203,658		3,263	108,388
554,162	2,805,026		41,719	1,199,001		3,204	99,096
553,903	3,108,071		41,663	1,338,091		3,199	100,905
553,891	2,773,730		41,625	1,416,024		3,200	111,714
553,873	2,614,882		41,653	1,236,529		3,205	114,793
554,269	2,746,721		41,889	1,252,741		3,238	106,553
554,734	2,870,422		41,916	1,253,624		3,275	103,254
555,076	3,627,021		41,942	1,439,023		3,287	129,091
554,960	4,579,692		41,962	1,728,479		3,338	157,643
555,211	4,428,652		41,961	1,815,868		3,339	151,534
555,642	4,357,774		41,929	1,734,610		3,345	165,095
555,200	3,627,111		41,697	1,627,105		3,348	151,254
554,678	2,828,531		41,415	1,248,094		3,332	100,180
554,816	2,682,446		41,333	1,250,729		3,312	126,190
554,835	2,898,153		41,284	1,277,503		3,314	98,813
554,943	2,650,357		41,265	1,104,147		3,313	107,871
555,352	2,745,284		41,214	1,199,584		3,421	74,682
556,066	2,696,723		41,499	1,252,948		3,463	92,584
556,728	3,167,937		41,635	1,328,180		3,473	121,749
561,554	4,233,123		42,144	1,579,198		3,542	155,550
561,804	4,364,369		42,189	1,890,144		3,546	162,060
562,150	4,966,705		42,241	1,787,061		3,553	164,964
562,350	5,020,156		42,399	1,827,341		3,382	178,462
561,838	4,068,843		42,140	1,967,665		3,371	189,289
561,779	2,939,260		41,879	1,230,294		3,363	115,281
561,736	2,878,709		41,761	1,324,340		3,350	193,120
561,735	2,835,342		41,723	1,243,272		3,343	11,340
561,778	2,500,280		41,721	1,121,570		3,352	90,413
562,190	2,630,792		41,821	1,243,927		3,379	100,138
562,996	2,746,065		42,094	1,262,815		3,401	104,257
563,839	2,919,518		42,183	1,274,589		3,488	108,871
564,455	3,971,038		42,296	1,583,114		3,490	138,726
564,771	5,048,004		42,288	1,852,822		3,500	168,197
565,457	4,638,484		42,348	1,821,688		3,505	155,006
565,674	5,275,260		42,336	2,069,733		3,513	183,237
565,559	3,946,991		42,170	1,680,611		3,501	156,646
565,148	2,967,959		41,895	1,328,583		3,471	113,073
565,267	2,835,412		41,902	1,401,301		3,472	111,527
565,323	2,852,928		41,757	1,173,903		3,468	99,036
565,685	2,522,499		41,761	1,270,383		3,469	98,218
566,170	2,512,745		41,834	1,127,714		3,482	100,521
577,263	2,748,472		42,836	1,280,883		3,574	106,568
578,383	2,957,766		43,036	1,304,327		3,582	117,110
579,001	3,841,357		43,095	1,616,700		3,590	139,401

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID	Res Cust	Res Sales	Com Cust	Com Sales	OPA Cust	OPA Sales
115	2017	7	579322	4767718	0	43167	1763534	0	3596	152357	0	0	0	0	579,322	4,767,718	43,167	1,763,534	3,596	152,357
116	2017	8	579756	4395083	0	43202	1823746	0	3601	154802	0	0	0	0	579,756	4,395,083	43,202	1,823,746	3,601	154,802
117	2017	9	579726	4229300	0	43131	1766522	0	3602	143568	0	0	0	0	579,726	4,229,300	43,131	1,766,522	3,602	143,568
118	2017	10	579823	3835852	0	42970	1598889	0	3588	153216	0	0	0	0	579,823	3,835,852	42,970	1,598,889	3,588	153,216
119	2017	11	579418	3092285	0	42635	1399059	0	3545	125898	0	0	0	0	579,418	3,092,285	42,635	1,399,059	3,545	125,898
120	2017	12	579547	2781773	0	42552	1223717	0	3537	97936	0	0	0	0	579,547	2,781,773	42,552	1,223,717	3,537	97,936
121	2018	1	579985	2957775	0	42541	1305809	0	3546	103544	0	0	0	0	579,985	2,957,775	42,541	1,305,809	3,546	103,544
122	2018	2	580307	2704735	0	42509	1226554	0	3547	102753	0	0	0	0	580,307	2,704,735	42,509	1,226,554	3,547	102,753
123	2018	3	580577	2569317	0	42521	1224553	0	3553	116708	0	0	0	0	580,577	2,569,317	42,521	1,224,553	3,553	116,708
124	2018	4	581443	2636467	0	42776	1244816	0	3584	95931	0	0	0	0	581,443	2,636,467	42,776	1,244,816	3,584	95,931
125	2018	5	582372	2918446	0	43003	1319671	0	3595	115755	0	0	0	0	582,372	2,918,446	43,003	1,319,671	3,595	115,755
126	2018	6	582920	3608755	0	43086	1514512	0	3620	133096	0	0	0	0	582,920	3,608,755	43,086	1,514,512	3,620	133,096
127	2018	7	583578	4847145	0	43142	1773026	0	3625	161883	0	0	0	0	583,578	4,847,145	43,142	1,773,026	3,625	161,883
128	2018	8	584107	4292935	0	43187	1813698	0	3631	154238	0	0	0	0	584,107	4,292,935	43,187	1,813,698	3,631	154,238
129	2018	9	584085	4427561	0	43171	1857143	0	3630	149629	0	0	0	0	584,085	4,427,561	43,171	1,857,143	3,630	149,629
130	2018	10	583982	3136081	0	42947	1519794	0	3617	134541	0	0	0	0	583,982	3,136,081	42,947	1,519,794	3,617	134,541
131	2018	11	583764	2942160	0	42698	1223740	0	3579	110526	0	0	0	0	583,764	2,942,160	42,698	1,223,740	3,579	110,526
132	2018	12	583840	2748058	0	42599	1279706	0	3576	94256	0	0	0	0	583,840	2,748,058	42,599	1,279,706	3,576	94,256
133	2019	1	587788	2863293	0	42829	1238232	0	3599	93622	0	0	0	0	587,788	2,863,293	42,829	1,238,232	3,599	93,622
134	2019	2	587973	2649411	0	42819	1225306	0	3615	115522	0	0	0	0	587,973	2,649,411	42,819	1,225,306	3,615	115,522
135	2019	3	588208	2591965	0	42802	1247140	0	3644	104536	0	0	0	0	588,208	2,591,965	42,802	1,247,140	3,644	104,536
136	2019	4	589148	2606271	0	43113	1396813	0	3659	109731	0	0	0	0	589,148	2,606,271	43,113	1,396,813	3,659	109,731
137	2019	5	590034	2925625	0	43350	1365842	0	3668	120021	0	0	0	0	590,034	2,925,625	43,350	1,365,842	3,668	120,021
138	2019	6	590367	3571230	0	43449	1465659	0	3678	125284	0	0	0	0	590,367	3,571,230	43,449	1,465,659	3,678	125,284
139	2019	7	590961	4153074	0	43488	1700531	0	3687	145092	0	0	0	0	590,961	4,153,074	43,488	1,700,531	3,687	145,092
140	2019	8	591385	4628183	0	43489	1883042	0	3688	173964	0	0	0	0	591,385	4,628,183	43,489	1,883,042	3,688	173,964
141	2019	9	591714	4419321	0	43539	1758895	0	3692	138002	20000	0	0	0	591,714	4,419,321	43,539	1,758,895	3,692	138,002
142	2019	10	591511	4045765	0	43342	1683816	0	3683	172285	-20000	0	0	0	591,511	4,045,765	43,342	1,683,816	3,683	172,285
143	2019	11	591140	3040862	0	43055	1376041	0	3649	119612	0	0	0	0	591,140	3,040,862	43,055	1,376,041	3,649	119,612
144	2019	12	591150	2763731	0	42952	1295142	0	3643	118657	0	0	0	0	591,150	2,763,731	42,952	1,295,142	3,643	118,657
145	2020	1	591439	2898699	0	42908	1288777	0	3646	102906	0	0	0	0	591,439	2,898,699	42,908	1,288,777	3,646	102,906
146	2020	2	591600	2599545	0	42922	1211509	0	3648	120993	0	0	0	0	591,600	2,599,545	42,922	1,211,509	3,648	120,993
147	2020	3	592161	2602489	0	43051	1209382	0	3671	104350	0	0	0	0	592,161	2,602,489	43,051	1,209,382	3,671	104,350
148	2020	4	592848	2997888	0	43219	1105307	0	3680	78035	0	1	1	1	592,848	2,997,888	43,219	1,105,307	3,680	78,035
149	2020	5	593896	3167028	0	43392	1044336	0	3696	74131	0	1	1	1	593,896	3,167,028	43,392	1,044,336	3,696	74,131
150	2020	6	594912	4011351	0	43547	1264318	0	3701	98872	0	1	1	1	594,912	4,011,351	43,547	1,264,318	3,701	98,872
151	2020	7	595524	5644741	0	43608	1746376	0	3704	150264	0	1	1	1	595,524	5,644,741	43,608	1,746,376	3,704	150,264
152	2020	8	596189	5126098	0	43657	1787505	0	3709	158572	0	1	1	1	596,189	5,126,098	43,657	1,787,505	3,709	158,572
153	2020	9	596580	4506675	0	43709	1706166	0	3709	139327	0	1	1	1	596,580	4,506,675	43,709	1,706,166	3,709	139,327
154	2020	10	596389	4001970	0	43554	1527859	0	3689	127303	0	1	1	1	596,389	4,001,970	43,554	1,527,859	3,689	127,303
155	2020	11	596175	3109619	0	43300	1272288	0	3659	85430	0	1	1	1	596,175	3,109,619	43,300	1,272,288	3,659	85,430
156	2020	12	596263	2997917	0	43204	1261600	0	3646	96077	0	1	1	1	596,263	2,997,917	43,204	1,261,600	3,646	96,077
157	2021	1	596399	3082497	0	43170	1211995	0	3644	90008	0	1	0.5	0.5	596,399	3,082,497	43,170	1,211,995	3,644	90,008
158	2021	2	596573	2626245	0	43166	1069439	0	3643	85099	0	1	0.5	0.5	596,573	2,626,245	43,166	1,069,439	3,643	85,099
159	2021	3	597114	2717102	0	43224	1127965	0	3656	83619	0	1	0.5	0.5	597,114	2,717,102	43,224	1,127,965	3,656	83,619
160	2021	4	597921	3051002	0	43461	1270772	0	3751	98663	0	1	0.5	0.5	597,921	3,051,002	43,461	1,270,772	3,751	98,663
161	2021	5	598680	3163634	0	43700	1204643	0	3721	92558	0	1	0.5	0.5	598,680	3,163,634	43,700	1,204,643	3,721	92,558
162	2021	6	599103	4270679	0	43799	1486357	0	3729	146914	0	1	0.5	0.5	599,103	4,270,679	43,799	1,486,357	3,729	146,914
163	2021	7	599261	5050168	0	43788	1879331	0	3730	168527	0	1	0.5	0.5	599,261	5,050,168	43,788	1,879,331	3,730	168,527
164	2021	8	599663	4576581	0	43813	1721703	0	3732	152334	0	1	0.5	0.5	599,663	4,576,581	43,813	1,721,703	3,732	152,334
165	2021	9	599761	4405606	0	43773	1726141	0	3732	151303	0	1	0.5	0.5	599,761	4,405,606	43,773	1,726,141	3,732	151,303
166	2021	10	599468	3721237	0	43634	1530843	0	3725	153408	0	1	0.5	0.5	599,468	3,721,237	43,634	1,530,843	3,725	153,408
167	2021	11	599160	2979192	0	43336	1272717	0	3702	121915	0	1	0.5	0.5	599,160	2,979,192	43,336	1,272,717	3,702	121,915
168	2021	12	598942	2859143	0	43227	1225920	0	3692	116981	0	1	0.5	0.5	598,942	2,859,143	43,227	1,225,920	3,692	116,981
169	2022	1	599200	2917187	0	43174	1250002	0	3678	112091	0	0	0.5	0	599,200	2,917,187	43,174	1,250,002	3,678	112,091
170	2022	2	599422	2679248	0	43158	1152418	0	3643	129163	0	0	0.5	0	599,422	2,679,248	43,158	1,152,418	3,643	129,163
171	2022	3	599799	2601948	0	43256	1183073	0	3664	117496	0	0	0.5	0	599,799	2,601,948	43,256	1,183,073	3,664	117,496

NEW JERSEY SALES-USAGE DATA

Obs	DU Year	Month	Res Cust	Res Sales	Res Adjust	Com Cust	Com Sales	Com Adjust	OPA Cust	OPA Sales	OPA Adjust	Res COVID	Com COVID	OPA COVID
172	2022	4	600391	2874150	0	43521	1280553	0	3690	129711	0	0	0.5	0
173	2022	5	600682	2839738	0	43616	1210505	0	3698	119654	0	0	0.5	0
174	2022	6	600971	3668397	0	43694	1443573	0	3697	140028	0	0	0.5	0
175	2022	7	601159	5264896	0	43756	1747045	0	3692	159332	0	0	0.5	0
176	2022	8	601776	5340516	0	43799	1970420	0	3704	204236	0	0	0.5	0
177	2022	9	602132	5362194	0	43834	1941773	0	3697	189663	0	0	0.5	0
178	2022	10	602121	3791467	0	43560	1631401	0	3690	171236	0	0	0.5	0
179	2022	11	601952	2974660	0	43269	1283103	0	3660	110960	0	0	0.5	0
180	2022	12	601947	2762745	0	43142	1254005	0	3650	128020	0	0	0.5	0
181	2023	1	602263	2895517	0	43114	1350713	0	3652	131477	0			
182	2023	2	602200	2635529	0	42895	1097637	0	4168	129680	0			
183	2023	3	602428	2507704	0	43054	1218321	0	4183	106536	0			
184	2023	4	602968	2842742	0	43382	1405282	0	4209	122539	0			
185	2023	5	603880	3158648	0	43562	1119200	0	4225	126012	0			
186	2023	6	604484	4798338	0	43692	1538714	0	4233	167098	0			
187	2023	7												
188	2023	8												
189	2023	9												
190	2023	10												
191	2023	11												
192	2023	12												

Res Cust	Res Sales		Com Cust	Com Sales		OPA Cust	OPA Sales
600,391	2,874,150		43,521	1,280,553		3,690	129,711
600,682	2,839,738		43,616	1,210,505		3,698	119,654
600,971	3,668,397		43,694	1,443,573		3,697	140,028
601,159	5,264,896		43,756	1,747,045		3,692	159,332
601,776	5,340,516		43,799	1,970,420		3,704	204,236
602,132	5,362,194		43,834	1,941,773		3,697	189,663
602,121	3,791,467		43,560	1,631,401		3,690	171,236
601,952	2,974,660		43,269	1,283,103		3,660	110,960
601,947	2,762,745		43,142	1,254,005		3,650	128,020
602,263	2,895,517		43,114	1,350,713		3,652	131,477
602,200	2,635,529		42,895	1,097,637		4,168	129,680
602,428	2,507,704		43,054	1,218,321		4,183	106,536
602,968	2,842,742		43,382	1,405,282		4,209	122,539
603,880	3,158,648		43,562	1,119,200		4,225	126,012
604,484	4,798,338		43,692	1,538,714		4,233	167,098

New Jersey-American Water Company, Inc.
Revenue Decoupling Mechanism Cost Component Calculations

Water Service

			Total	Total GMS	Residential	Non-Residential	Source
Source of Supply	Purchased Water	$	761,316				NJ Cost of Service Analysis
Source of Supply	Fuel and Power	$	9,828,116				NJ Cost of Service Analysis
Power and Pumping	Fuel and Power	$	5,375,380				NJ Cost of Service Analysis
Water Treatment	Fuel and Power	$	4,090,222				NJ Cost of Service Analysis
Water Treatment	Chemicals	$	24,486,924				NJ Cost of Service Analysis
Water Treatment	Waste Disposal	$	7,004,198				NJ Cost of Service Analysis
Total	Total	$	51,546,156				
Total Variable Cost		$	51,546,156				
Total Usage			861,074,385				NJ Cost of Service Analysis
Volumetric Charge (VC):		$	0.0599				
Revenue				$ 870,667,791	$ 603,922,815	$ 266,744,976	NJ Cost of Service Analysis / NJ Rate Design
Usage				627,741,518	412,390,924	215,350,594	NJ Cost of Service Analysis / NJ Rate Design
Customers				660,110	610,366	49,744	NJ Cost of Service Analysis / NJ Rate Design
Variable Revenues					$ 24,686,795	$ 12,891,448	
Fixed Revenue					$ 579,236,020	$ 253,853,528	
Fixed Charge per Month					$ 79.08	$ 425.26	

Resolution Endorsing Consideration of Alternative Regulation that Supports Capital Investment in the 21st Century for Water and Wastewater Utilities

WHEREAS, Through the *Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices"* (2005), the National Association of Regulatory Utility Commissioners (NARUC) has previously recognized the important role of innovative regulatory policies and mechanisms in facilitating the efforts of water and wastewater utilities to address their significant infrastructure investment challenges; *and*

WHEREAS, Traditional cost of service ratemaking, which has worked reasonably well in the past for water and wastewater utilities, no longer adequately addresses the challenges of today and tomorrow. Revenue, driven by declining use per customer, is flat to decreasing, while the nature of investment (rate base) has shifted largely from plant needed for serving new customers to non-revenue producing infrastructure replacement and compliance with new drinking water standards; *and*

WHEREAS, The traditional cost of service model is not well adapted to a no/low growth, high investment utility environment and is unlikely to encourage the necessary future investment in infrastructure replacement; *and*

WHEREAS, Compared to the water and wastewater industry, the electric and natural gas delivery industries have in place a larger number and a greater variety of alternative regulation policies, such as multiyear rate plans and rate stabilization programs, and those set forth in the 2005 Resolution; *and*

WHEREAS, The U.S. water industry is the most capital intensive sector of regulated utilities and faces critical investment needs that are expected to total $335 billion to $1 trillion over the next quarter century, as noted in the *American Society of Civil Engineers 2013 Report Card for America's Infrastructure*; *and*

WHEREAS, Tap water is physically ingested and the quality of the service must be maintained to protect the health and economic well-being of communities across our Nation and comply with current and future regulations covering the control of a number of contaminants from nitrosamines to chromium, at a cost estimated at $42 billion by the EPA as part of their April 2013 Report to Congress; *and*

WHEREAS, Alternative regulatory mechanisms can enhance the efficiency and effectiveness of water and wastewater utility regulation by reducing regulatory costs, increasing rates for customers, when necessary, on a more gradual basis; and providing the predictability and regulatory certainty that supports the attraction of debt and equity capital at reasonable costs and maintains that access at all times; *now, therefore be it*

RESOLVED, That the National Association of Regulatory Utility Commissioners, convened at its 125th Annual Meeting in Orlando, Florida, supports consideration of alternative regulation plans and mechanisms along with and in addition to the policies and mechanisms outlined in the

Resolution Supporting Consideration of Regulatory Policies Deemed as "Best Practices" adopted by the NARUC Board of Directors on July 27, 2005; *and be it further*

RESOLVED, That the Committee on Water stands ready to assist economic regulators with implementation of alternative regulatory approaches that support water companies' capital investment needs of the 21st century.

_____
Sponsored by the Committee on Water
Recommended by the NARUC Board of Directors November 19, 2013
Adopted by the NARUC Committee of the Whole November 20, 2013.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

ANN E. BULKLEY

On Behalf of
New Jersey-American Water Company, Inc.

January 19, 2024

Exhibit P-10

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Table of Contents

I. INTRODUCTION AND QUALIFICATIONS

1. Q. Please state your name, affiliation and business address.

A. My name is Ann E. Bulkley. I am a Principal at The Brattle Group ("Brattle"). My business address is One Beacon Street, Suite 2600, Boston, Massachusetts 02108.

2. Q. On whose behalf are you submitting this testimony?

A. I am submitting this testimony on behalf of New Jersey-American Water Company ("NJAWC" or the "Company"), a wholly-owned subsidiary of American Water Works Company Inc. ("AWK").

3. Q. Please describe your education and experience.

A. I hold a Bachelor's degree in Economics and Finance from Simmons College and a Master's degree in Economics from Boston University, with over 25 years of experience consulting to the regulated utility industry. I have advised numerous energy and utility clients on a wide range of financial and economic issues with primary concentrations in valuation and utility rate matters. Many of these assignments have included the determination of the cost of capital for valuation and ratemaking purposes. My resume and a summary of testimony that I have filed in other proceedings are presented in more detail in Appendix A.

II. PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

4. Q. Please describe the purpose of your Direct Testimony.

A. The purpose of my Direct Testimony is to present evidence and provide a recommendation regarding the appropriate return on equity ("ROE") for the

Company and to provide and assessment of the reasonableness of NJAWC's proposed capital structure for ratemaking purposes.

5. Q. Are you sponsoring any schedules in support of your Direct Testimony?

A. Yes. My analyses and recommendations are supported by the data presented in Schedules AEB-1 through AEB-11 which were prepared by me or under my direction.

6. Q. Please provide a brief overview of the analyses that led to your ROE recommendation.

A. As discussed in more detail below, it is important to consider the results of several analytical approaches in determining a reasonable recommendation for the Company's ROE. To develop my ROE recommendation, I first developed a proxy group of utility companies. I did not limit the proxy group to water utilities, but included a broader group of utilities that face risk similar to NJAWC because a proxy group composed only of water utilities would result in a small group of companies for which data is limited. To that proxy group, I applied the Constant Growth Form of the Discounted Cash Flow ("DCF") model, the Capital Asset Pricing Model ("CAPM"), the Empirical Capital Asset Pricing Model ("ECAPM"), and Bond Yield Risk Premium ("BYRP" or "Risk Premium"). My recommendation also takes into consideration the following factors:

1. NJAWC's capital expenditure program relative to the proxy group companies;
2. Flotation costs associated with AWK's recent equity issuance;
3. The risks related to environmental and water quality regulation;

4. The regulatory risk of NJAWC relative to the proxy group; and
5. NJAWC's proposed capital structure as compared to the capital structures of the proxy group companies.[1]

While I did not make specific adjustments to my recommended ROE for these factors, I did consider them in the aggregate when determining where my recommended ROE falls within the range of the analytical results.

7. Q. How is the remainder of your Direct Testimony organized?

A. The remainder of my Direct Testimony is organized as follows:

- Section III provides a summary of my analyses and conclusions.
- Section IV reviews the regulatory guidelines pertinent to the development of the cost of capital.
- Section V discusses current and projected capital market conditions and the effect of those conditions on NJAWC's cost of equity.
- Section VI explains my selection of the proxy group for NJAWC.
- Section VII describes my analyses and the analytical basis for my recommendation of the appropriate ROE for NJAWC.
- Section VIII provides a discussion of specific regulatory, business, and financial risks that have a direct bearing on the ROE to be authorized for NJAWC in this case.
- Section IX provides an assessment of the reasonableness of NJAWC's proposed capital structure relative to the proxy group.
- Section X presents my conclusions and recommendations.

[1] The selection and purpose of developing a group of comparable companies will be discussed in detail in Section VI of my Direct Testimony.

III. SUMMARY OF ANALYSIS AND CONCLUSIONS

8. Q. Please summarize the key factors considered in your analyses and upon which you base your recommended ROE.

A. The key factors that I considered in my cost of equity ("COE") analyses and recommended ROE for the Company in this proceeding are:

- The United States Supreme Court's *Hope* and *Bluefield* decisions[2] established the standards for determining a fair and reasonable authorized ROE for public utilities, including consistency of the allowed return with the returns of other businesses having similar risk, adequacy of the return to provide access to capital and support credit quality, and the requirement that the result lead to just and reasonable rates.
- The effect of current and prospective capital market conditions on the cost of equity estimation models and on investors' return requirements.
- The results of several analytical approaches that provide estimates of the Company's cost of equity. Because the Company's authorized ROE should be a forward-looking estimate over the period during which the rates will be in effect, these analyses rely on forward-looking inputs and assumptions (*e.g.*, projected analyst growth rates in the DCF model, forecasted risk-free rate and market risk premium in the CAPM analysis).
- Although the companies in my proxy group are generally comparable to NJAWC, each company is unique, and no two companies have the exact same business and financial risk profiles. Accordingly, I considered the Company's regulatory, business, and financial risks relative to the proxy group of comparable companies in determining where the Company's ROE should fall within the reasonable range of analytical results to appropriately account for any residual differences in risk.

[2] *Federal Power Commission v. Hope Natural Gas Co.*, 320 U.S. 591 (1944) ("Hope"); *Bluefield Waterworks & Improvement Co., v. Public Service Commission of West Virginia*, 262 U.S. 679 (1923) ("Bluefield").

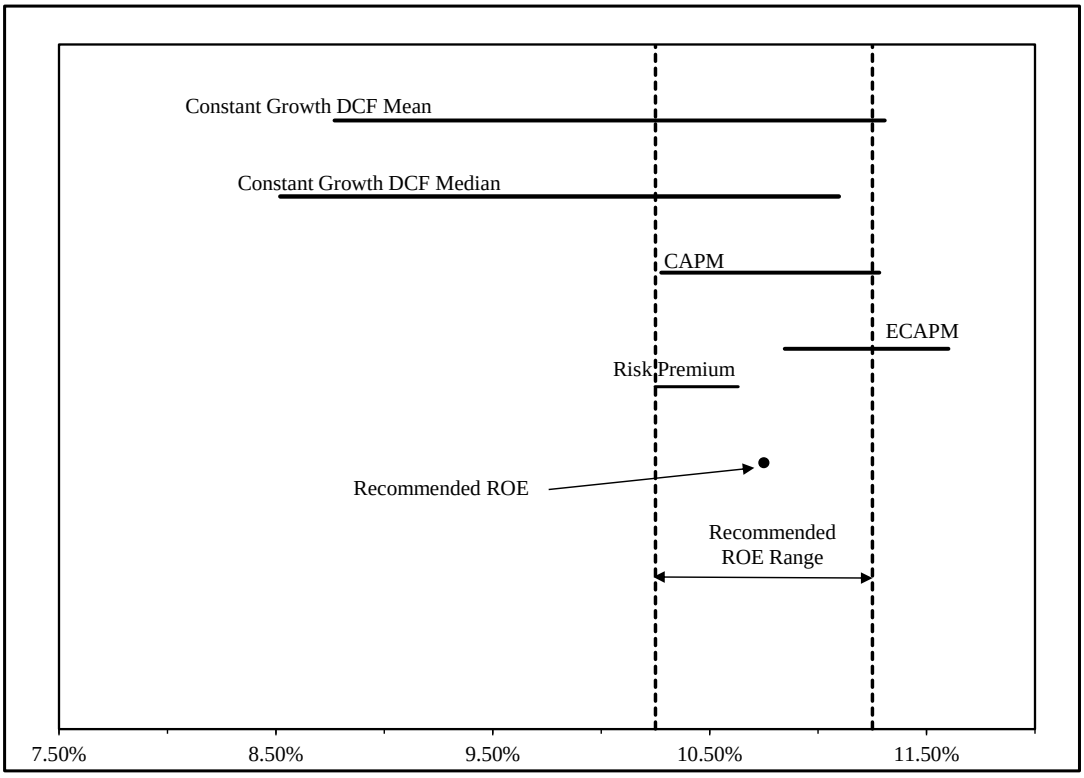
9. Q. Please explain how you considered those factors.

A. I relied on the range of results produced by the Constant Growth DCF model, the CAPM analysis, the ECAPM analysis, and the Bond Yield Plus Risk Premium analysis. As shown in Figure 1, these cost of equity estimation models produce a wide range of results. My conclusion as to the appropriate ROE for NJAWC within that range of results is based on Company's business and financial risk relative to the proxy group and my assessment of market conditions. As noted above, although the companies in my proxy group are generally comparable to NJAWC, each company is unique. Accordingly, I considered the Company's business, financial and regulatory risk in aggregate relative to that of the proxy group companies when determining where the Company's ROE should fall within the reasonable range of analytical results to appropriately account for any residual differences in risk.

10. Q. What are the results of the models that you have used to estimate the cost of equity for NJAWC?

A. Figure 1 (and Schedule AEB-1) summarizes the range of results produced by the Constant Growth DCF, CAPM, ECAPM, and Risk Premium analyses.

Figure 1: Summary of Cost of Equity Results[3]



As shown in Figure 1, the range of results produced by the models used to estimate the COE is wide. For example, the low end of the DCF results are below any ROE that has been authorized by a regulatory commission for a water utility, whereas the range set by the higher end of the DCF model overlap the results of the other risk premium-based methodologies. Further, the DCF results produce a much wider range than the rest of the COE models. While it is common to consider multiple models to estimate the COE, it is particularly important when the range of results varies considerably.

[3] DCF results exclude the results for Middlesex Water Company because they do not provide a reasonable equity risk premium over the current yield on the Moody's Baa rated utility bond index, which was 6.44 percent based on a 30-day average ending November 30, 2023.

11. Q. Are prospective capital market conditions expected to affect the results of the cost of equity for NJAWC during the period in which the rates established in this proceeding will be in effect?

A. Yes. Capital market conditions are expected to affect the results of the cost of equity estimation models. Specifically:

- Long-term interest rates have increased substantially in the past year and are expected to remain elevated at least over the next year.
- Since (i) utility dividend yields are less attractive than the risk-free rates of government bonds; (ii) interest rates are expected to remain elevated, and (iii) utility stock prices are inversely related to changes in interest rates; it is likely that utility share prices will continue to underperform.
- Rating agencies have responded to the risks of the utility sector, citing factors including elevated capital expenditures, interest rates, and inflation that create pressures for customer affordability and prompt rate recovery, and have noted the importance of regulatory support in their current outlooks.
- Similarly, equity analysts have noted the increased risk for the utility sector as a result of elevated interest rates and expect the sector to underperform over the near-term.
- Consequently, it is important to consider that if utility share prices decline, the results of the DCF model, which relies on current utility share prices, would understate the cost of equity during the period that the Company's rates will be in effect.

It is appropriate to consider all of these factors when estimating a reasonable range of the investor-required cost of equity and the recommended ROE for NJAWC.

12. Q. What is your conclusion regarding the appropriate authorized ROE for NJAWC in this proceeding?

A. Considering the analytical results presented in Figure 1, and discussed further throughout my testimony, and current and prospective capital market conditions, I

conclude that the range of reasonable ROEs for NJAWC is 10.25 to 11.25, and taking into consideration the Company's business, regulatory, and financial risk relative to the proxy group, I recommend an ROE of 10.75 percent.

13. Q. Is NJAWC's requested capital structure reasonable and appropriate?

A. Yes. The Company's proposed equity ratio of 56.30 percent is well within the range of equity ratios for the utility operating subsidiaries of the proxy group companies. Further, the Company's proposed equity ratio is reasonable considering the credit rating agencies' concerns regarding the negative effect on the cash flows and credit metrics associated with increasing interest rates, inflation and capital expenditures.

IV. REGULATORY GUIDELINES

14. Q. Please describe the guiding principles to be used in establishing the cost of capital for a regulated utility.

A. The U.S. Supreme Court's precedent-setting *Hope* and *Bluefield* cases established the standards for determining the fairness and reasonableness of a utility's authorized ROE. Among the standards established by the Court in those cases are: (1) consistency of the return with other businesses having similar or comparable risks; (2) adequacy of the return to support credit quality and access to capital; and (3) the principle that the specific means of arriving at a fair return are not important, only that the end result leads to just and reasonable rates.[4]

[4] *Bluefield*, 262 U.S. at 692-93; *Hope*, 320 U.S. at 603.

15. Q. Is fixing a proper rate of return just about protecting the utility's interests?

A. No. As the Court noted in *Bluefield*, a proper rate of return not only assures "confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit [but also] enable[s the utility] to raise the money necessary for the proper discharge of its public duties."[5] As the Court went on to explain in *Hope*, "[t]the rate-making process … involves balancing of the investor and consumer interests."[6]

16. Q. Has the State of New Jersey or the New Jersey Board of Public Utilities ("Board" or "BPU") provided similar guidance in establishing the appropriate return on common equity?

A. Yes. Section 48:2-21.25 of the 2022 New Jersey Revised Statutes states that a "Base rate case" is defined as a means of "determining the level of revenues necessary to afford the public utility an opportunity to earn a fair and reasonable rate of return on prudently incurred capital investment in the public utility's rate base."[7] In its decision in Docket No. ER12111052 for Jersey Central Power and Light Company ("JCP&L"), the Board noted the following:

> Nevertheless, it is incumbent upon this Board to define a fair rate of return for JCP&L commensurate with risks faced by similar companies, sufficient to attract capital and maintain the financial integrity of the enterprise. As the New Jersey Supreme Court has recognized, a privately owned public utility is a complex mechanism that exists to serve a public need but to do so it must have investor appeal. It must be allowed a reasonable return on its investment so that it may have

[5] *Bluefield*, 262 U.S. at 693.
[6] *Hope*, 320 U.S. at 603.
[7] 2022 New Jersey Revised Statutes, Section 48:2-21.25.

borrowing power at normal business rates to finance its day-to-day operations. [8]

This guidance is in accordance with the *Hope* and *Bluefield* decisions and the principles that I employed to estimate the ROE for the Company, including the principle that an allowed rate of return must be sufficient to enable regulated companies such as NJAWC to attract capital on reasonable terms.

17. Q. Why is it important for a utility to be allowed the opportunity to earn a return that is adequate to attract capital at reasonable terms?

A. A return that is adequate to attract capital at reasonable terms enables NJAWC to continue to provide safe, reliable water service efficiently while maintaining its financial integrity. That return should be commensurate with returns expected elsewhere in the market for investments of equivalent risk. If it is not, debt and equity investors will seek alternative investment opportunities for which the expected return reflects the perceived risks, thereby inhibiting NJAWC's ability to attract capital at reasonable cost. When the Company is afforded a reasonable opportunity to earn its market-based cost of capital, a fair and reasonable balance will be achieved between customers' and shareholders' interests.

[8] BPU Docket No. ER12111052, OAL Docket No. PUC16310-12, Order Adopting Initial Decision with Modifications and Clarifications, March 18, 2015, at 71; *citing* . *Daaleman v. Elizabethtown Gas Co.*, 77 N.J. 267, 272 (1978).

18. Q. Is a utility's ability to attract capital also affected by the ROEs authorized for other utilities?

A. Yes. Utilities compete directly for capital with other investments of similar risk, which include other water, natural gas, and electric utilities. Therefore, the ROE authorized for a utility sends an important signal to investors regarding whether there is regulatory support for financial integrity, dividends, growth, and fair compensation for business and financial risk. The cost of capital represents an opportunity cost to investors. If higher returns are available elsewhere for other investments of comparable risk over the same time-period, investors have an incentive to direct their capital to those alternative investments. Thus, an authorized ROE significantly below authorized ROEs for other water, natural gas, and electric utilities can inhibit the utility's ability to attract capital for investment.

19. Q. Is the regulatory framework and the authorized ROE and equity ratio important to the financial community?

A. Yes. The regulatory framework is one of the most important factors in debt and equity investors' assessments of risk. Specifically regarding debt investors, credit rating agencies consider the authorized ROE and equity ratio for regulated utilities to be very important for two reasons: (1) they help determine the cash flows and credit metrics of the regulated utility; and (2) they provide an indication of the degree of regulatory support for credit quality in the jurisdiction. To the extent that the authorized returns in a jurisdiction are lower than the returns that have been authorized more broadly, credit rating agencies will consider this in the overall risk

assessment of the regulatory jurisdiction in which the company operates. Not only do credit ratings affect the overall cost of borrowing, they also act as a signal to equity investors about the risk of investing in the equity of a company.

20. Q. What are your conclusions regarding regulatory guidelines?

A. The ratemaking process is premised on the principle that, in order for investors and companies to commit the capital needed to provide safe and reliable utility services, a utility must have a reasonable opportunity to recover the return of, and the market-required return on, its invested capital. Accordingly, the Board's order in this proceeding should establish rates that provide the Company with a reasonable opportunity to earn a ROE that is: (1) adequate to attract capital at reasonable terms; (2) sufficient to ensure its financial integrity; and (3) commensurate with returns on investments in enterprises with similar risk. It is important for the ROE authorized in this proceeding to take into consideration current and projected capital market conditions, as well as investors' expectations and requirements for both risks and returns. Because utility operations are capital-intensive, regulatory decisions should enable the utility to attract capital at reasonable terms under a variety of economic and financial market conditions. Providing the opportunity to earn a market-based cost of capital supports the financial integrity of the Company, which is in the interest of both customers and shareholders.

V. CAPITAL MARKET CONDITIONS

21. Q. Why is it important to analyze capital market conditions?

A. The models used to estimate the cost of equity rely on market data that are either specific to the proxy group, in the case of the DCF model, or to the expectations of market risk, in the case of the CAPM and ECAPM. The results of the cost of equity estimation models can be affected by prevailing market conditions at the time the analysis is performed. While the ROE established in a rate proceeding is intended to be forward-looking, the analyst uses current and projected market data, specifically stock prices, dividends, growth rates and interest rates, in the cost of equity estimation models in order to estimate the investor-required return for the subject company.

Regulatory commissions and analysts and recognize that current market conditions affect the results of the cost of equity estimation models. As a result, it is important to consider the effect of the market conditions on these models when determining an appropriate range for the ROE and the recommended ROE for ratemaking purposes for a future period. If investors do not expect current market conditions to be sustained in the future, it is possible that the cost of equity estimation models will not provide an accurate estimate of investors' required return during that rate period. Therefore, it is very important to consider projected market data to estimate the return for that forward-looking period.

22. Q. What factors affect the cost of equity for regulated utilities in the current and prospective capital markets?

A. The cost of equity for regulated utility companies is affected by several factors in the current and prospective capital markets, including: (1) changes in monetary policy; (2) relatively high inflation; and (3) increased interest rates that also are expected to remain relatively high over the next few years. These factors affect the assumptions used in the cost of equity estimation models.

V.A. Inflationary Expectations in Current and Projected Capital Market Conditions

23. Q. What has the level of inflation been over the past few years?

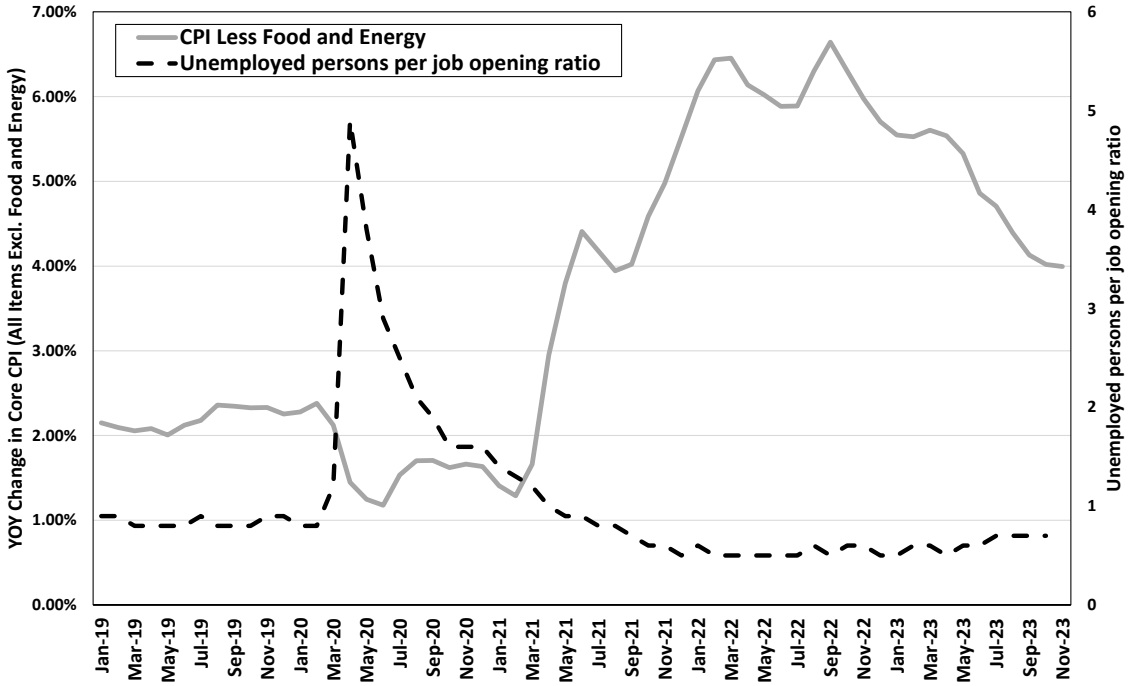
A. As shown in Figure 2**,** core inflation increased steadily beginning in early 2021, rising from 1.41 percent in January 2021 to a high of 6.64 percent in September 2022, which was the largest 12-month increase since 1982.[9] Since that time, while core inflation has declined in response to the Federal Reserve's monetary policy, it continues to remain above the Federal Reserve's target level of 2.0 percent.

In addition, as shown in Figure 2, I also considered the ratio of unemployed persons per job opening, which is currently 0.7 and has been consistently below 1.0 since 2021, despite the Federal Reserve's accelerated policy normalization. This metric

[9] Figure 2 presents the year-over-year ("YOY") change in core inflation, as measured by the Consumer Price Index ("CPI") excluding food and energy prices as published by the Bureau of Labor Statistics. I considered core inflation because it is the preferred inflation indicator of the Federal Reserve for determining the direction of monetary policy. Core inflation is preferred by the Federal Reserve because it removes the effect of food and energy prices, which can be highly volatile.

indicates sustained strength in the labor market. Given the Federal Reserve's dual mandate of maximum employment and price stability, the continued increased levels of core inflation coupled with the strength in the labor market has resulted in the Federal Reserve's sustained focus on the priority of reducing inflation.

Figure 2: Core Inflation and Unemployed Persons-to-Job Openings, January 2019 to November 2023[10]



24. Q. What are the expectations for inflation over the near-term?

A. The Federal Reserve has indicated that it expects inflation will remain elevated above its target level until 2026 and that the extent to which it maintains the restrictive monetary policy will depend on market indicators going forward. For example, Federal Reserve Chair Powell at the Federal Open Market Committee

[10] Bureau of Labor Statistics

("FOMC") meeting on December 13, 2023 observed that while inflation is off of its recent highs, it remains too high and noted that further policy firming is possible based on the data:

> Today, we decided to leave our policy interest rate unchanged and to continue to reduce our securities holdings. Given how far we have come, along with the uncertainties and risks that we face, the Committee is proceeding carefully. We will make decisions about the extent of any additional policy firming and how long policy will remain restrictive based on the totality of the incoming data, the evolving outlook, and the balance of risks.[11]

Chair Powell reiterated that the FOMC was committed to bringing inflation down to the 2 percent target level, and that while the easing of inflation has been good news, it is currently projected to take until 2026 to reach the Federal Reserve's target of 2.0 percent:

> Inflation has eased over the past year but remains above our longer-run goal of 2 percent. Based on the Consumer Price Index and other data, we estimate that total PCE prices rose 2.6 percent over the 12 months ending in November; and that, excluding the volatile food and energy categories, core PCE prices rose 3.1 percent. The lower inflation readings over the past several months are welcome, but we will need to see further evidence to build confidence that inflation is moving down sustainably toward our goal. Longer-term inflation expectations appear to remain well anchored, as reflected in a broad range of surveys of households, businesses, and forecasters, as well as measures from financial markets. As is evident from the SEP [Summary of Economic Projections], we anticipate that the process of getting inflation all the way to 2 percent will take some time. The median projection in the SEP is 2.8 percent this year, falls to 2.4 percent next year, and reaches 2 percent in 2026.[12]

[11] Federal Reserve, Transcript of Chair Powell's Press Conference, December 13, 2023, at 1.
[12] *Id.,* at 2-3.

Chair Powell noted that the FOMC members project a gradual decline in the federal funds rates over time, although remain cautious and leave open the possibility of further monetary policy tightening as required:

> While we believe that our policy rate is likely at or near its peak for this tightening cycle, the economy has surprised forecasters in many ways since the pandemic, and ongoing progress toward our 2 percent inflation objective is not assured. We are prepared to tighten policy further if appropriate. We are committed to achieving a stance of monetary policy that is sufficiently restrictive to bring inflation sustainably down to 2 percent over time, and to keeping policy restrictive until we are confident that inflation is on a path to that objective.
>
> In our SEP [Summary of Economic Projections], FOMC participants wrote down their individual assessments of an appropriate path for the federal funds rate based on what each participant judges to be the most likely scenario going forward. While participants do not view it as likely to be appropriate to raise interest rates further, neither do they want to take the possibility off the table. If the economy evolves as projected, the median participant projects that the appropriate level of the federal funds rate will be 4.6 percent at the end of 2024, 3.6 percent at the end of 2025, and 2.9 percent at the end of 2026, still above the median longer-term rate. These projections are not a Committee decision or plan; if the economy does not evolve as projected, the path for policy will adjust as appropriate to foster our maximum employment and price stability goals.[13]

V.B. The Use of Monetary Policy to Address Inflation

25. Q. What policy actions has the Federal Reserve enacted to respond to increased inflation?

A. The dramatic increase in inflation has prompted the Federal Reserve to pursue an aggressive normalization of monetary policy, removing the accommodative policy programs used to mitigate the economic effects of COVID-19. Beginning in March

[13] *Id.*, at 3-4; clarification added.

2022 and through September 2023, the Federal Reserve increased the target federal funds rate through a series of increases from a range of 0.00 – 0.25 percent to a range of 5.25 percent to 5.50 percent.[14] While inflation has declined from its peak, it still is above the Federal Reserve's target of 2 percent, and therefore, as just noted, the Federal Reserve anticipates maintaining short-term interest rates higher for longer in order to achieve its goal of 2 percent inflation over the long-run.

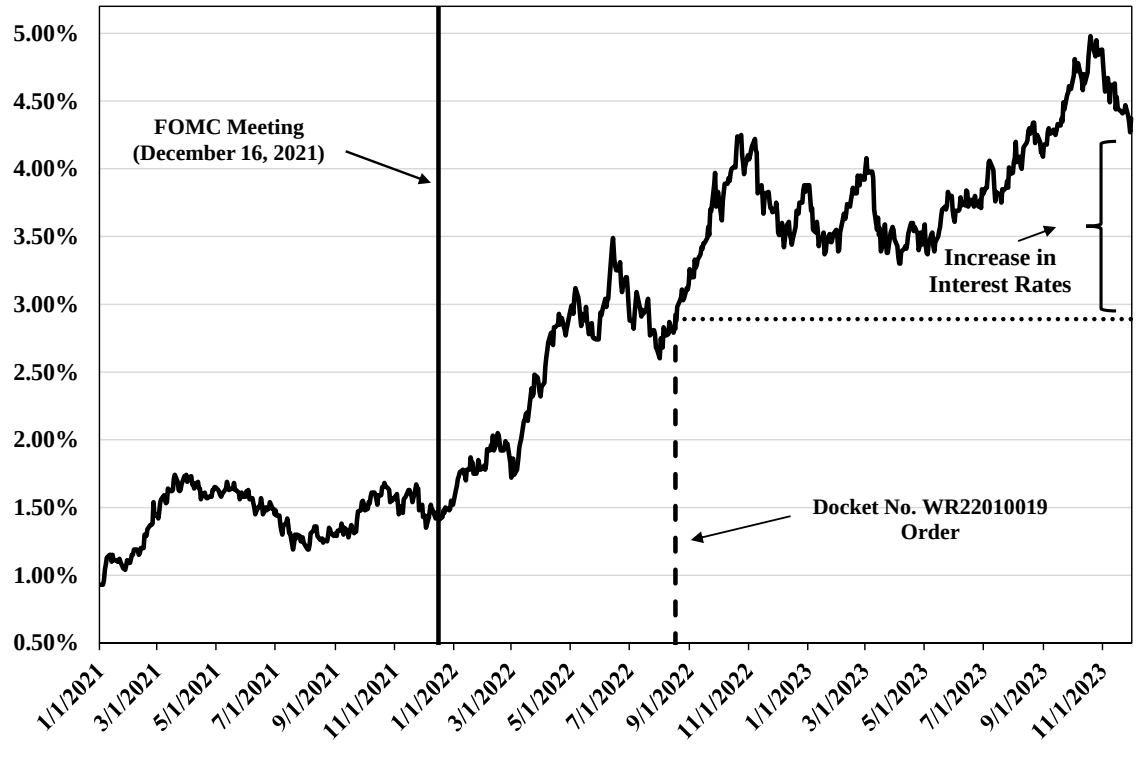
V.C. The Effect of Inflation and Monetary Policy on Interest Rates and the Investor-Required Return

26. Q. Have the yields on long-term government bonds responded to inflation and the Federal Reserve's normalization of monetary policy?

A. Yes. As the Federal Reserve has substantially increased the federal funds rate in response to increased levels of inflation that have persisted for longer than originally projected, longer term interest rate have also increased. As shown in Figure 3, since the Federal Reserve's December 2021 meeting, the yield on 10-year Treasury bonds has approximately tripled, increasing from 1.47 percent on December 15, 2021 to 4.37 percent at the end of November 2023. Similarly, the yield on the 10-year Treasury bond has increased nearly 150 basis points since the Board's decision in the Company's last rate proceeding.

[14] https://www.federalreserve.gov/monetarypolicy/openmarket.htm.

Figure 3: 10-Year Treasury Bond Yield – January 2021 through November 2023[15]



27. Q. How have interest rates and inflation changed since the Company's last rate case?

A. As shown in Figure 4, at the time the Board approved the Company's settlement in its last rate proceeding, the federal funds rate was 2.33 percent, the 30-day average yield on the 30-year Treasury bond was 3.08 percent and core inflation was 6.30 percent. Since the Company's last rate proceeding, long-term interest rates have increased approximately 134 basis points as the Federal Reserve has increased the federal funds rate to combat inflation.

[15] S&P Capital IQ Pro.

Figure 4: Change in Market Conditions Since Company's Last Rate Case[16]

Docket	Date	Federal Funds Rate	30-Day Avg 30 Year Treasury Bond Yield	Core Inflation Rate	Auth'd ROE
WR22010019	8/17/2022	2.33%	3.08%	6.30%	9.60%
Current	11/30/2023	5.33%	4.76%	4.02%	

28. Q. What have equity analysts said about long-term government bond yields?

A. Leading equity analysts have noted that they expect the yields on long-term government bonds to remain elevated. For example, according to the most recent *Blue Chip Financial Forecasts* report, the consensus estimate of the average yields on the 10-year and 30-year Treasury bonds are 4.22 percent and 4.48 percent, respectively, through the first quarter of 2025.[17] Therefore, investors expect interest rates to remain elevated for at least the next 18 months. As a result, it is reasonable to expect that if government bond yields remain elevated, the cost of equity will be increasing above the levels experienced in the 2020 and 2021 lower interest rate environment.

V.D. Expected Performance of Utility Stocks and the Investor-Required Return on Utility Investments

[16] St. Louis Federal Reserve Bank; Bureau of Labor Statistics.
[17] *Blue Chip Financial Forecasts*, Vol. 42, No. 12, December 1, 2023, p. 2.

29. Q. Are utility share prices correlated to changes in the yields on long-term government bonds?

A. Yes. Interest rates and utility share prices are inversely correlated, which means that increases in interest rates result in declines in the share prices of utilities and vice versa. For example, Goldman Sachs and Deutsche Bank examined the sensitivity of share prices of different industries to changes in interest rates over the past five years. Both Goldman Sachs and Deutsche Bank found that utilities had one of the strongest negative relationships with bond yields (*i.e.*, increases in bond yields resulted in the decline of utility share prices).[18]

30. Q. How do equity analysts expect the utilities sector to perform in 2024?

A. Equity analysts have recently projected the continued underperformance of the utility sector, and have not changed their views on the sector. For example, Fidelity Investments classifies the utility sector as underweight,[19] and Bank of America recently noted that they are "not so constructive on [u]tilities" given that the dividend yields for utilities are below both the yields available on long- and short-term treasury bonds.[20] Moreover, the professional investors surveyed by *Barron's* in its most recent Big Money poll selected the utility sector as one of the four equity

[18] Lee, Justina. "Wall Street Is Rethinking the Treasury Threat to Big Tech Stocks." Bloomberg.com, 11 Mar. 2021, www.bloomberg.com/news/articles/2021-03-11/wall-street-is-rethinking-the-treasury-threat-to-big-tech-stocks.

[19] Fidelity Investments. "Fourth Quarter 2023 Investment Research Update." October 19, 2023.

[20] Dumoulin-Smith, Julien, *et. al*. "US Electric Utilities & IPPs: As the leaves fall, preparing for Autumn utility outlook. Macro still has potholes." BofA Securities, September 6, 2023.

sectors that they liked the least over the next twelve months, indicating they are projecting that utilities will underperform the broader market in 2024.[21]

31. Q. Why do equity analysts expect the utility sector to underperform over the near-term?

A. Equity analysts expect the utility sector to continue to underperform given that, on average, the yields for the utility sector remain lower than the yields on long-term government bonds. To illustrate this point, I examined the difference between the dividend yields of utility stocks and the yields on long-term government bonds from January 2010 through November 2023 ("yield spread"). I relied on the dividend yield for the proxy group and the yield on the 10-year Treasury bond as the estimate of the yield on long-term government bonds.

As shown in Figure 5, the recent significant increase in long-term government bonds yields has resulted in the yield on long-term government bonds significantly exceeding the dividend yield of the proxy group. The yield spread as of November 30, 2023 was negative 0.71 percent. However, the long-term average yield spread from January 2014 to November 2023 is 0.51 percent. Therefore, the current yield spread is well below the long-term average. Because of the fact that the yield spread is currently well below the long-term average, and the expectation that interest rates will remain relatively high through at least the next year, it is reasonable to conclude that the utility sector will most likely underperform over the near-term. This is

[21] Jasinski, Nicholas. "Big Money Pros Are Split on the Outlook for Stocks. But They Are Fans of Bonds." *Barron's*. October 27, 2023.

because investors that purchased utility stocks as an alternative to the lower yields on long-term government bonds would otherwise be inclined to rotate back into government bonds, particularly as the yields on long-term government bonds remain elevated, thus resulting in a decrease in the share prices of utilities.

Figure 5: Spread between the Proxy Group Dividend Yield and the 10-year Treasury Bond Yield, January 2014 – November 2023[22]

32. Q. What is the significance of the inverse relationship between interest rates and utility share prices in the current market?

A. If interest rates remain relatively high as expected, then the share prices of utilities would be expected to decline. If the prices of utility stocks decline, then the DCF

[22] S&P Capital IQ Pro.

model, which relies on historical averages of share prices to calculate the dividend yield, is likely to understate the dividend yield and thus the cost of equity.

33. Q. Have regulatory commissions acknowledged that the DCF model might understate the cost of equity given the current capital market conditions of relatively high inflation and elevated interest rates?

A. Yes. For example, in its May 2022 decision establishing the cost of equity for Aqua Pennsylvania, Inc., the Pennsylvania Public Utility Commission ("PPUC") concluded that the current capital market conditions of high inflation and increased interest rates has resulted in the DCF model understating the utility cost of equity, and that weight should be placed on risk premium models, such as the CAPM, in the determination of the ROE:

> To help control rising inflation, the Federal Open Market Committee has signaled that it is ending its policies designed to maintain low interest rates. Aqua Exc. at 9. Because the DCF model does not directly account for interest rates, consequently, it is slow to respond to interest rate changes. However, I&E's CAPM model uses forecasted yields on ten-year Treasury bonds, and accordingly, its methodology captures forward looking changes in interest rates.
>
> Therefore, our methodology for determining Aqua's ROE shall utilize both I&E's DCF and CAPM methodologies. As noted above, the Commission recognizes the importance of informed judgment and information provided by other ROE models. In the 2012 PPL Order, the Commission considered PPL's CAPM and RP methods, tempered by informed judgment, instead of DCF-only results. We conclude that methodologies other than the DCF can be used as a check upon the reasonableness of the DCF derived ROE calculation. Historically, we have relied primarily upon the DCF methodology in arriving at ROE determinations and have utilized the results of the CAPM as a check upon the reasonableness of the DCF derived equity return. As such, where evidence based on other methods suggests that the DCF-only results may understate the utility's ROE, we will consider those other

> methods, to some degree, in determining the appropriate range of reasonableness for our equity return determination. In light of the above, we shall determine an appropriate ROE for Aqua using informed judgement based on I&E's DCF and CAPM methodologies.[23]
>
> …..
>
> We have previously determined, above, that we shall utilize I&E's DCF and CAPM methodologies. I&E's DCF and CAPM produce a range of reasonableness for the ROE in this proceeding from 8.90% [DCF] to 9.89% [CAPM]. Based upon our informed judgment, which includes consideration of a variety of factors, including increasing inflation leading to increases in interest rates and capital costs since the rate filing, we determine that a base ROE of 9.75% is reasonable and appropriate for Aqua.[24]

More recently, the Massachusetts Department of Public Utilities ("MDPU") also came to a similar conclusion:

> The Department recently considered the relationship between low interest rates and utility stock prices over the last several years and whether a projected increase in long-term interest rates caused the DCF analysis to understate the cost of equity. D.P.U. 20-120, at 416-419. The Department found that, although utility stocks had increased above historic levels in conjunction with low interest rates, the evidence in that proceeding that long-term interest rates would change was speculative. D.P.U. 20-120, at 417-419. In this proceeding, the record is clear that long-term interest rates have increased compared to the period of time from which the parties derived the dividend yields used in the DCF analyses (Exh. ES-VVR-Rebutal-1, at 23-26; Tr. 14, at 1463). We also have considered the Attorney General's evidence of investors forecasting that utility stocks will retain their high valuations in the near term (Tr. 14, at 1449-1452; RR-DPU-48). ***Based on the foregoing evidence, the Department finds that there is greater certainty that the DCF results understate the Company's cost of equity.***[25]

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[23] Pennsylvania Public Utility Commission, Docket Nos. R-2021-3027385 and R-2021-3027386, Opinion and Order, May 12, 2022, pp. 154–155.

[24] *Id*., pp. 177–178.

[25] The Commonwealth of Massachusetts Department of Public Utilities, D.P.U. 22-22, Petition of NSTAR Electric Company, doing business as Eversource Energy, pursuant to G.L. c. 164, § 94 and 220 CMR 5.00, for Approval of a General Increase in Base Distribution Rates for Electric Service and a Performance Based Ratemaking Plan, November 30, 2022, p. 385-386; emphasis added.

V.E. Conclusion

34. Q. What are your conclusions regarding the effect of current market conditions on the cost of equity for the Company?

A. Due to their impact on the cost of equity, it is important that current and projected market conditions be considered in setting the forward-looking ROE in this proceeding. The combination of persistently high inflation and the Federal Reserve's changes in monetary policy that have increased interest rates are indicative of an increasing cost of equity since (i) there is a strong historical inverse correlation between interest rates (*i.e.*, yields on long-term government bonds) and the share prices of utility stocks (*i.e.*, as interest rates increase, utility share prices decline, and thus utility dividend yields increase); and (ii) the yields on long-term government bonds currently exceed the dividend yields of utilities, when historically long-term government bond yields have been lower than the dividend yields of utilities. Because the cost of equity in this proceeding is being estimated for the future period that the Company's rates will be in effect, and because the cost of equity is expected to increase over the near term for utilities, cost of equity estimates based in whole or in part on historical or current market conditions, as opposed to projected market conditions, will likely understate the cost of equity during the future period that the Company's rates will be in effect. Therefore, these current and expected market conditions support consideration of the higher end of the range of cost of equity results produced by the DCF models, and warrant

consideration of forward-looking cost of equity estimation models such as the CAPM and ECAPM, which better reflect expected market conditions.

VI. PROXY GROUP SELECTION

35. Q. Why have you used a group of proxy companies to estimate the cost of equity for NJAWC?

A. In this proceeding, I am estimating the cost of equity for NJAWC. Because the ROE is a market-based concept, and given the fact that NJAWC is not a publicly-traded entity, it is necessary to establish a group of companies that is both publicly-traded and comparable to the Company in certain fundamental business and financial respects to serve as its "proxy" for purposes of the ROE estimation process. The proxy companies used in my analyses all possess a set of operating and financial risk characteristics that are substantially comparable to NJAWC, and, therefore, provide a reasonable basis for deriving the appropriate ROE.

36. Q. Please provide a brief profile of NJAWC.

A. NJAWC, a wholly-owned subsidiary of AWK, provides water service to approximately 668,000 water and fire service customers and wastewater service to approximately 64,200 customers in 18 counties throughout the State of New Jersey.[26] In 2022, the Company had total operating revenues of $909 million which for NJAWC's parent company, AWK, represented 25.90 percent of total regulated operating revenues.[27] The Company can access debt markets through American

[26] Direct Testimony of Thomas Shroba, at 2.
[27] American Water Works Company, Inc., 2022 SEC Form 10-K, at 4.

Water Capital Corp. ("AWCC") or independently. The current credit ratings for NJAWC are as follows: (1) S&P - A (Outlook: Stable); and (2) Moody's – A3 (Outlook: Stable).[28] Additionally, the current credit ratings for AWCC and AWK are as follows: (1) S&P - A (Outlook: Stable)[29]; and (2) Moody's - Baa1 (Outlook: Stable).[30]

37. Q. How did you select the companies in your proxy group?

A. I began with the group of U.S. utilities that *Value Line Investment Survey* ("*Value Line*") classifies as "Water Utilities" and "Natural Gas Distribution Companies". That combined group includes 16 domestic U.S. utilities. I simultaneously applied the following screening criteria to select companies that:

- pay consistent quarterly cash dividends because companies that do not cannot be analyzed using the Constant Growth DCF model;
- have investment grade long-term issuer ratings from S&P and/or Moody's;
- are covered by at least two utility industry analysts;
- have positive long-term earnings growth forecasts from at least two utility industry equity analysts;
- derive more than 70.00 percent of their total operating income from regulated operations; and
- were not parties to a merger or transformative transaction during the analytical periods relied on.

[28] S&P Capital IQ and Moody's Investor Services, Credit Opinion, New Jersey-American Water Company Inc., January 25, 2023.
[29] S&P Global Ratings, American Water Works Co. Inc., February 6, 2023.
[30] Moody's Investors Service, accessed September 30, 2023. Moody's last rating change for American Water Works Company, Inc. was as of April 1, 2019. (https://www.moodys.com/research/Moodys-downgrades-American-Water-and-American-Water-Capital-Corp-to--PR_397640)

38. Q. Did you consider any additional companies for inclusion in your proxy group?

A. Yes. I also considered the group of 36 companies that *Value Line* classifies as "Electric Utilities". In determining which electric utilities would qualify for inclusion in my proxy group, I started by relying on the criteria used to screen the water and natural gas utilities. I then applied two additional screening criteria to only include electric utilities that would be considered risk comparable to NJAWC:

- have owned generation comprising less than 10 percent of the Company's MWh sales to ultimate customers to ensure that the electric utilities included did not own a substantial amount of generation and therefore had operations that were primarily transmission and distribution; and
- own water operations.

39. Q. Did you include AWK in your proxy group?

A. No. Consistent with my general practice of excluding the subject company, or its parent holding company, from the proxy group, I have excluded AWK from my proxy group for NJAWC.

40. Q. What is the composition of your proxy group?

A. The screening criteria discussed above resulted in a proxy group consisting of the companies in Figure 6 (see also Schedule AEB-2).

Figure 6: Proxy Group

Company	Ticker
Atmos Energy Corporation	ATO
NiSource Inc.	NI
Northwest Natural Gas Company	NWN
ONE Gas, Inc.	OGS
Spire, Inc.	SR
Eversource Energy	ES
American States Water Company	AWR
California Water Service Group	CWT
Middlesex Water Company	MSEX
SJW Group	SJW
Essential Utilities, Inc.	WTRG

41. Q. Why did you include electric utilities and natural gas distribution companies in the proxy group?

A. *Value Line* currently classifies only seven companies as water utilities. Therefore, the universe of water utilities is already small before a set of screening criteria are applied. Additionally, there has been a recent trend towards consolidation in the utility industry, which reduces the number of available proxy companies.[31] Because there are a small number of companies that are available for inclusion in the proxy group, I also consider electric utilities and natural gas distribution companies that meet the screening criteria, such as Eversource Energy, which has electric distribution, natural gas distribution and water utility operations.

[31] Chediak, Mark, *et al*. "Utility M&A Is So Hot Not Even Berkshire's Billions Won a Bid." Bloomberg.com, Bloomberg, 3 Jan. 2018, www.bloomberg.com/news/articles/2018-01-03/utility-m-a-is-so-hot-not-even-berkshire-s-billions-won-a-bid.

42. Q. Are electric and natural gas distribution companies reasonably comparable to water utilities to be included in a proxy group used to estimate the cost of equity for a water utility?

A. Yes, I believe that it is reasonable to rely on a combined proxy group. As noted above, due to consolidation in the water utility industry, there is only a small group of water companies that can be included in the proxy group. In addition, the screening criteria relied on for my proxy group require that a company derive more than 70 percent of their operating income from regulated operations. Therefore, the electric and natural gas distribution companies included in my proxy group generate a large portion of their operating income from regulated operations similar to NJAWC and the water utilities that will be included in the proxy group. As a result, I believe that it is appropriate to include electric utilities and natural gas distribution companies in my proxy group.

43. Q. Have other regulators also considered the inclusion of other utility industry segments in the proxy group used to estimate the cost of equity for a water utility?

A. Yes. The MDPU, the Florida Public Service Commission ("FPUC"), and the Illinois Commerce Commission ("ICC") have considered the results of a proxy group that includes natural gas companies when determining the authorized ROE for water and wastewater utilities. In Docket No. 17-90, the MDPU determined that the use of a natural gas utility proxy group was appropriate for the purpose of demonstrating

the comparability of the investment risk of the proxy group to Aquarion Water Company.[32]

In Docket No. 20180006-WS, the FPUC modified the methodology used to estimate the ROE for water and wastewater utilities in Florida to include a combined proxy group of natural gas and water utilities.[33] The FPUC has previously relied on a natural gas only proxy group to estimate the ROE for water and wastewater utilities[34]; however, to increase the size of the proxy group, the FPUC decided to rely on a combined proxy group. Specifically, the FPUC noted:

> The leverage formula methodology shall be modified to include a combined proxy group of natural gas and WAW utilities as proxy companies in calculating the leverage formula. We find that the selected natural gas utilities and WAW utilities that derive at least 50 percent of their revenue from regulated rates. These utilities have market power and are influenced significantly by economic regulation. In Attachment 1, the returns calculated using the proxy group are adjusted to reflect the risks faced by Florida WAW utilities. The updated index consists of five natural gas companies and seven WAW companies that derive at least 50 percent of their total revenue from regulated operations. These companies have a median Standard and Poor's bond rating of "A"[35]

[32] Massachusetts Department of Public Utilities, Docket No. 17-90, Petition of Aquarion Water Company of Massachusetts, Inc., pursuant to G.L. c. 164, § 94, and G.L. c. 165, § 2, for Approval of a General Rate Increase as set forth in M.D.P.U. No. 3., October 31, 2018, p. 286-287.

[33] Docket No. 20180006-WS, In re. Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f),F.S., Order No. PSC-2018-0327-PAA-WS, at 7.

[34] Docket No. 170006-WS, In re. Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f),F.S., Order No. PSC-17-0249-PAA-WS, at 2.

[35] Docket No. 20180006-WS, In re. Water and wastewater industry annual reestablishment of authorized range of return on common equity for water and wastewater utilities pursuant to Section 367.081(4)(f),F.S., Order No. PSC-2018-0327-PAA-WS, at 8.

In Case No. 22-0210, for Illinois-American Water Company, the ICC agreed that a proxy group of water and public utility companies was a reasonable sample upon which to apply the various COE estimation models.[36]

VII. COST OF EQUITY ESTIMATION

44. Q. Please briefly discuss the ROE in the context of the regulated rate of return.

A. The ROE is the cost of common equity capital in the utility's capital structure for ratemaking purposes. The overall rate of return for a regulated utility is the weighted average cost of capital, in which the cost rates of the individual sources of capital are weighted by their respective book values. While the costs of debt and preferred stock can be directly observed, the cost of equity is market-based and, therefore, must be estimated based on observable market data.

45. Q. How is the required cost of equity determined?

A. The required cost of equity is estimated by using analytical techniques that rely on market-based data to quantify investor expectations regarding equity returns, adjusted for certain incremental costs and risks. Informed judgment is then applied to determine where the given company's cost of equity falls within the range of results produced by multiple analytical techniques. The key consideration in determining the cost of equity is to ensure that the methodologies employed

[36] Illinois Commerce Commission, Illinois-American Water Company Proposed Rate increases for Water and Sewer Service (tariffs filed February 10, 2022), Docket No. 22-0210, Order, December 15, 2022, at 102.

reasonably reflect investors' views of the financial markets in general, as well as the subject company (in the context of the proxy group), in particular.

46. Q. What methods did you use to estimate NJAWC's cost of equity?

A. I considered the results of the Constant Growth DCF model, the CAPM, the ECAPM and Bond Yield Plus Risk Premium analysis. As discussed in more detail below, a reasonable ROE estimate considers alternative methodologies, observable market data, and the reasonableness of their individual and collective results.

VII.A. Importance of Multiple Analytical Approaches

47. Q. Is it important to use more than one analytical approach?

A. Yes. Because the cost of equity is not directly observable, it must be estimated based on both quantitative and qualitative information. When faced with the task of estimating the cost of equity, analysts and investors are inclined to gather and evaluate as much relevant data as reasonably can be analyzed. Several models have been developed to estimate the cost of equity, and I use multiple approaches to estimate the cost of equity. As a practical matter, however, all of the models available for estimating the cost of equity are subject to limiting assumptions or other methodological constraints. Consequently, many well-regarded finance texts recommend using multiple approaches when estimating the cost of equity. For example, Copeland, Koller, and Murrin[37] suggest using the CAPM and Arbitrage

[37] Tom Copeland, Tim Koller and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, 3rd Ed. (New York: McKinsey & Company, Inc., 2000), at 214.

Pricing Theory model, while Brigham and Gapenski[38] recommend the CAPM, DCF, and Bond Yield Plus Risk Premium approaches.

48. Q. Do current market conditions increase the importance of using more than one analytical approach?

A. Yes. As discussed previously, interest rates have increased substantially over the past year and are expected to remain elevated over at least the next year from the lows seen during the COVID-19 pandemic. While the share prices of utilities have declined, the negative yield spread noted above is an indication that the share prices have not declined sufficiently to account for the recent rise in interest rates. As a result, equity analysts expect the utility sector to continue to underperform over the next year. Given the expected underperformance, it is reasonable to conclude that the DCF model is likely understating the forward-looking cost of equity because the model relies on historical share prices. The CAPM, ECAPM, and Bond Yield Plus Risk Premium analyses offer some balance through the use of interest rates as a direct input into the models and therefore may better reflect the market conditions expected when the Company's rates are in effect. These recent changes in market conditions highlight the benefit of using multiple models since each model relies on different assumptions, certain of which may better reflect current and projected market conditions at different times. It is important to use multiple analytical

[38] Eugene Brigham, Louis Gapenski, *Financial Management: Theory and Practice*, 7th Ed. (Orlando: Dryden Press, 1994), at 341.

approaches to ensure that the cost of equity results reflect market conditions that are expected during the period that the Company's rates will be in effect.

49. Q. Has the Board made similar findings regarding the reliance on multiple models?

A. Yes. It is my understanding that in its order in Docket No. ER12111052 for Jersey Central Power and Light Company, the Board noted that rate of return experts use a number of models including the DCF, CAPM, Risk Premium and Comparable Earnings to estimate the return required by investors. Specifically, the Board noted:

> In determining the cost of equity capital for a regulated utility, rate of return experts typically use a variety of financial models to simulate the returns assertedly required by investors. These include Discounted Cash Flow (DCF) models, Risk Premium models, Capital Asset Pricing Models (CAPM), Comparable Earnings models and variations thereof. However, it is widely acknowledged that these economic models constitute estimates, which, although probative, are not necessarily precise. The imprecision in the estimates provided by these models is more pronounced as a result of the current economic environment still recovering from the Great Recession, characterized by some as the worst economy since the Great Depression.[39]

In the order, the Board accepted an ROE of 9.75 percent for JCP&L, which was supported by the ALJ and ultimately recommended by Staff based on a review of each of the model results presented by the witnesses in the case and recently authorized ROEs in other jurisdictions.[40] In supporting the recommendation of Staff, the ALJ concluded that the results of each model are affected by multiple

[39] BPU Docket No. ER12111052, OAL Docket No. PUC16310-12, Order Adopting Initial Decision with Modifications and Clarifications, March 18, 2015, at 71.
[40] *Id.*, at 10.

factors including current market conditions. Thus, the Board, an ALJ, and Board Staff have all recognized the importance of considering the results of each model presented in the rate case because market conditions can have an effect on the results produced by each of the COE estimation models.

VII.B. Constant Growth DCF Model

50. Q. Please describe the DCF approach.

A. The DCF approach is based on the theory that a stock's current price represents the present value of all expected future cash flows. In its most general form, the DCF model is expressed as follows:

$$P_0 = \frac{D_1}{(1+k)} + \frac{D_2}{(1+k)^2} + \cdots + \frac{D_\infty}{(1+k)^\infty} \qquad [1]$$

Where P_0 represents the current stock price, D1…D∞ are all expected future dividends, and k is the discount rate, or required ROE. Equation [1] is a standard present value calculation that can be simplified and rearranged into the following form:

$$k = \frac{D_0(1+g)}{P_0} + g \qquad [2]$$

Equation [2] is often referred to as the Constant Growth DCF model in which the first term is the expected dividend yield and the second term is the expected long-term growth rate.

51. Q. What assumptions are required for the Constant Growth DCF model?

A. The Constant Growth DCF model requires the following four assumptions: (1) a constant growth rate for earnings and dividends; (2) a stable dividend payout ratio; (3) a constant price-to-earnings ratio; and (4) a discount rate greater than the expected growth rate. To the extent that any of these assumptions are not objectively valid, considered judgment and/or specific adjustments should be applied to the results.

52. Q. What market data do you use to calculate the dividend yield in your Constant Growth DCF model?

A. The dividend yield in my Constant Growth DCF model is based on the proxy group companies' current annualized dividend and average closing stock prices over the 30-, 90-, and 180-trading days ended November 30, 2023.

53. Q. Why do you use 30-, 90-, and 180-day averaging periods?

A. I use an average of recent trading days to calculate the term P_0 in the DCF model to reflect current market data while also ensuring that the result of the model is not skewed by anomalous events that may affect stock prices on any given trading day.

54. Q. Did you make any adjustments to the dividend yield to account for periodic growth in dividends?

A. Yes, I did. Because utility companies tend to increase their quarterly dividends at different times throughout the year, it is reasonable to assume that dividend increases will be evenly distributed over calendar quarters. Given that assumption,

it is reasonable to apply one-half of the expected annual dividend growth rate for purposes of calculating the expected dividend yield component of the DCF model. This adjustment ensures that the expected first-year dividend yield is, on average, representative of the coming twelve-month period, and does not overstate the aggregated dividends to be paid during that time.

55. Q. Why is it important to select appropriate measures of long-term growth in applying the DCF model?

A. In its Constant Growth form, the DCF model (*i.e.*, Equation [2]) assumes a single growth estimate in perpetuity. To reduce the long-term growth rate to a single measure, one must assume that the payout ratio remains constant and that earnings per share, dividends per share and book value per share all grow at the same constant rate. Over the long run, however, dividend growth can only be sustained by earnings growth. Therefore, it is important to consider a variety of sources in arriving at a singular long-term earnings growth rate for the Constant Growth DCF model.

56. Q. Which sources of long-term earnings growth rates did you use?

A. My Constant Growth DCF model incorporates three sources of long-term earnings growth rates: (1) Zacks Investment Research; (2) Yahoo! Finance; and (3) *Value Line*.

57. Q. Why do you rely on earnings growth rates rather than dividend growth rates in the Constant Growth DCF analyses?

A. I have relied on EPS growth rates because dividend growth ultimately depends on earnings growth. Dividend growth can fluctuate from year-to-year as a utility company responds to changes in the economic environment and the capital needs of its business. Over time, however, earnings growth rates and dividend growth rates should be approximately the same.

58. Q. How did you calculate the range of results for the Constant Growth DCF Model?

A. I calculated a low end result for my DCF model using the minimum growth rate of the three sources (*i.e.*, the lowest of the Zacks, Yahoo Finance, and *Value Line* projected earnings growth rates) for each of the proxy group companies. I used a similar approach to calculate a high end result, using the maximum growth rate of the three sources for each proxy group company. The mean results were calculated using the average growth rate from all three sources for each proxy group company.

59. Q. What were the results of your DCF analyses?

A. Figure 7 summarizes the results of my DCF analyses. As shown in Figure 7, the mean and median DCF results using the average growth rates range from 9.28 percent to 10.16 percent, and the mean and median results using the maximum growth rates range from 10.64 percent to 11.31 percent. While I also summarize the DCF results using the minimum growth rates, given the market response to

authorized ROEs in the range identified by the low end of the DCF results, it is clear that these returns do not reflect the investor-required return.

60. Q. Are you aware of any utilities that have experienced a credit rating downgrade and/or negative market response related to the financial effects of a rate case decisions?

A. Yes. The most recent example is the decision by the Illinois Commerce Commission ("ICC") in mid-December 2023 that rejected the multiyear grid plan proposals of Ameren Illinois Co. ("Ameren IL") and Commonwealth Edison Co. ("ComEd") and authorized lower-than-expected ROEs for both utilities. Specifically, the ICC authorized an ROE for Ameren IL of 8.72 percent and 8.905 percent for ComEd, which was a significant reduction from the Administrative Law Judge's recommendations of 9.24 percent and 9.28 percent, respectively.[41] After the ICC's decision, while the S&P 500 Index was increasing, the share prices of the parent companies of both Ameren IL and ComEd (*i.e.*, Ameren Corp. and Exelon Corp., respectively) each dropped more than 7 percent on December 14, 2023, and declined again by more than 4.4 percent and 6.4 percent the following day, respectively.[42]

In addition, the reactions of equity analysts were universally negative, and questioned whether the parents of both Ameren IL and ComEd (*i.e.*, Ameren Corp.

[41] Allison Good, "Ameren, Exelon shares fall after Illinois regulators reject grid plans," *Platts*, December 15, 2023.
[42] Yahoo! Finance.

and Exelon Corp., respectively) will shift their capital spending out of the jurisdiction as a result of the uncertainty associated with the multi-year grid plan and low authorized ROEs. Specifically, equity analysts characterized the ICC's decisions as "onerous"[43] and "punitive,"[44] and that the ROE authorizations were "draconian."[45] Likewise, after the ICC's decisions, Regulatory Research Associates ("RRA") lowered its rating of the Illinois regulatory jurisdiction from Average/2 to Average/3 due to the "concerning pattern of restrictive" rate actions in the state.

Additionally, ALLETE, Inc.,[46] CenterPoint Energy Houston Electric,[47] and Pinnacle West Capital Corporation ("PNW")[48] each received credit rating downgrades following a rate case decision for reasons that included a below average authorized ROE. In the case of PNW, the market had a strong negative response to the rate case decision for its operating subsidiary, Arizona Public Service Company ("APS"), which included an authorized ROE of 8.70 percent.[49]

[43] Wells Fargo, "The ICC Delivers a Lump of Coal for AEE & EXC," December 14, 2023.
[44] BofA Securities, Ameren Corporation, "Illinois delivers downside surprise," December 15, 2023.
[45] Barclays, "AEE/EXC: Coal Stocking-Stuffer in Illinois," December 14, 2023.
[46] Moody's Investors Service. "Credit Opinion: ALLETE, Inc. Update following downgrade." April 3, 2019, at 3.
[47] FitchRatings. "Fitch Downgrades CenterPoint Energy Houston Electric to BBB+; Affirms CNP; Outlooks Negative." February 19, 2020.
[48] S&P Capital IQ Pro; FitchRatings. "Fitch Downgrades Pinnacle West Capital & Arizona Public Service to 'BBB+'; Outlooks Remain Negative." October 12, 2021; and Moody's Investors Service. "Rating Actions: Moody's downgrades Pinnacle West to Baa1 and Arizona Public Service to A3; outlook negative." November 17, 2021.
[49] S&P Global Market Intelligence. "Pinnacle West shares tumble after regulators slash returns in rate case." October 7, 2021.

Figure 7: Summary of Constant Growth DCF Results[50]

	Low Growth Rate	Average Growth Rate	High Growth Rate
Constant Growth DCF			
Mean Results:			
30-Day Average	9.12%	10.16%	11.31%
90-Day Average	8.97%	10.01%	11.16%
180-Day Average	8.77%	9.81%	10.96%
Average	8.95%	9.99%	11.14%
Median Results:			
30-Day Average	8.90%	9.92%	11.10%
90-Day Average	8.69%	9.61%	10.84%
180-Day Average	8.52%	9.28%	10.64%
Average	8.70%	9.60%	10.86%

61. Q. What are your conclusions about the results of the DCF models?

A. As discussed previously, one primary assumption of the DCF models is a constant price-to-earnings ratio. That assumption is heavily influenced by the market price of utility stocks. Because utility stocks are expected to underperform the broader market over the near-term as interest rates remain elevated and yields on long-term government bonds exceed utility dividend yields, it is important to consider the results of the DCF models with caution. Therefore, although I have given weight to the results of the Constant Growth DCF model, my recommendation also gives weight to the results of other cost of equity estimation models that take into greater consideration current and expected market conditions.

[50] DCF results exclude the result for Middlesex Water Company because these results do not provide a reasonable equity risk premium over the current yield on the Moody's Baa rated utility bond index, which was 6.44 percent on a 30-day average basis ending November 30, 2023.

VII.C. CAPM Analysis

62. Q. Please briefly describe the CAPM.

A. The CAPM is a risk premium approach that estimates the cost of equity for a given security as a function of a risk-free return plus a risk premium to compensate investors for the non-diversifiable or "systematic" risk of that security. Systematic risk is the risk inherent in the entire market or market segment—which cannot be diversified away using a portfolio of assets. Unsystematic risk is the risk of a specific company that can, theoretically, be mitigated through portfolio diversification.

The CAPM is defined by four components, each of which must theoretically be a forward-looking estimate:

$$K_e = r_f + \beta(r_m - r_f) \quad [3]$$

Where:

Ke = the required market COE;

β = beta coefficient of an individual security;

r_f = the risk-free rate of return; and

r_m = the required return on the market.

In this specification, the term ($r_m - r_f$) represents the market risk premium. According to the theory underlying the CAPM, because unsystematic risk can be diversified away, investors should only be concerned with systematic or non-diversifiable risk. Non-diversifiable risk is measured by beta, which is defined as:

$$\beta = \frac{Covariance(r_e, r_m)}{Variance(r_m)} \quad [4]$$

The variance of the market return (*i.e.*, Variance (r_m)) is a measure of the uncertainty of the general market, and the Covariance between the return on a specific security and the general market (*i.e.*, Covariance (r_e, r_m)) reflects the extent to which the return on that security will respond to a given change in the general market return. Thus, beta represents the risk of the security relative to the general market.

63. Q. What risk-free rate did you use in your CAPM analysis?

A. I relied on three sources for my estimate of the risk-free rate: (1) the current 30-day average yield on 30-year U.S. Treasury bonds, which is 4.77 percent;[51] (2) the average projected 30-year Treasury bond yield for the first quarter of 2024 through the first quarter of 2025, which is 4.48 percent;[52] and (3) the average projected 30-year Treasury bond yield for 2025 through 2029, which is 4.10 percent.[53]

64. Q. What Beta coefficients did you use in your CAPM analyses?

A. As shown in Schedule AEB-4, I used the average Beta coefficients for the proxy group companies as reported by Bloomberg and *Value Line*. The beta coefficients reported by Bloomberg are calculated using ten years of weekly returns relative to the S&P 500 Index. *Value Line*'s calculation of the beta coefficients is based on five years of weekly returns relative to the New York Stock Exchange Composite Index

[51] Bloomberg Professional as of November 30, 2023.
[52] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2.
[53] Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14.

("NYSE"). Additionally, as shown on Schedule AEB-4 and Schedule AEB-5, I also considered an additional CAPM analysis that relies on the long-term average utility beta coefficient for the companies in my proxy group, which is calculated as an average of the *Value Line* beta coefficients for the companies in my proxy group from 2013 through 2022.

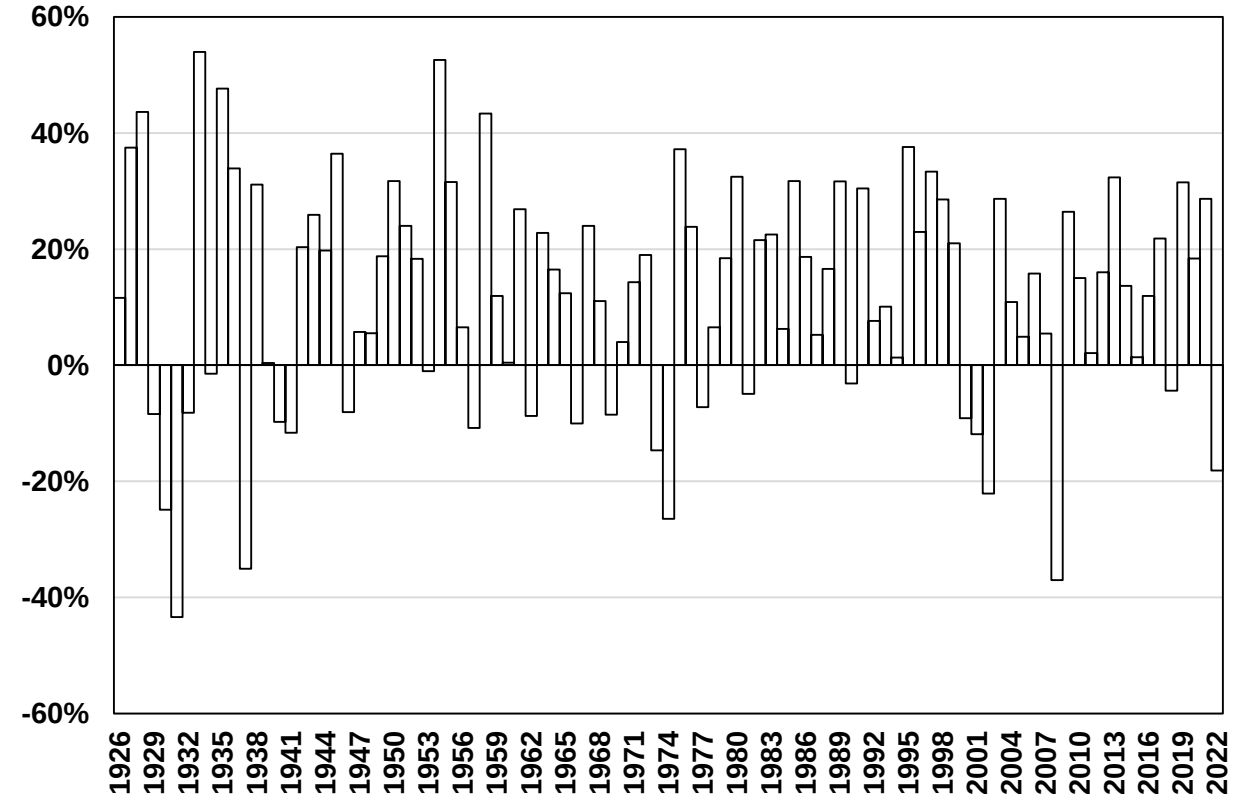
65. Q. How did you estimate the Market Risk Premium in the CAPM?

A. I estimated the market risk premium as the difference between the implied expected equity market return and the risk-free rate. As shown in Schedule AEB-6, the expected market return is calculated using the Constant Growth DCF model discussed earlier in my testimony for the companies in the S&P 500 Index. Based on an estimated market capitalization-weighted dividend yield of 1.69 percent and a weighted long-term earnings growth rate of 10.78 percent, the estimated required market return for the S&P 500 Index as of November 30, 2023 is 12.56 percent. Based on the three risk-free rates considered, the implied market risk premia ranges from 7.78 percent to 8.46 percent.

66. Q. How does the current expected market return compare to observed historical market returns?

A. As shown in Figure 8, given the range of annual equity returns that have been observed over the past century, a current expected market return of 12.56 percent is not unreasonable. As shown, in 50 out of the past 97 years (or roughly 52 percent of observations), the realized equity market return was at least 12.56 percent or greater.

Figure 8: Realized U.S. Equity Market Returns (1926-2022)[54]



67. Q. Did you consider another form of the CAPM in your analysis?

A. Yes. I have also considered the results of an ECAPM in estimating the cost of equity for NJAWC.[55] The ECAPM calculates the product of the adjusted beta coefficient and the market risk premium and applies a weight of 75.00 percent to that result. The model then applies a 25.00 percent weight to the market risk premium without any effect from the beta coefficient. The results of the two calculations are summed, along with the risk-free rate, to produce the ECAPM result, as noted in Equation [5] below:

[54] Depicts total annual returns on large company stocks, as reported in the 2023 Kroll SBBI Yearbook.
[55] See, e.g., Roger A. Morin, New Regulatory Finance, Public Utilities Reports, Inc., 2006, at 189.

$$k_e = r_f + 0.75\beta(r_m - r_f) + 0.25(r_m - r_f) \quad [5]$$

Where:

k_e = the required market ROE

β = Adjusted Beta coefficient of an individual security

r_f = the risk-free rate of return

r_m = the required return on the market as a whole

In essence, the empirical form of the CAPM addresses the tendency of the "traditional" CAPM to underestimate the cost of equity for companies with low beta coefficients such as regulated utilities. In that regard, the ECAPM is not redundant to the use of adjusted betas in the traditional CAPM; rather, it recognizes the results of academic research indicating that the risk-return relationship is different (in essence, flatter) than estimated by the CAPM, and that the CAPM underestimates the "alpha," or the constant return term.[56]

As with the CAPM, my application of the ECAPM uses the forward-looking market risk premium estimates, the three yields on 30-year Treasury securities noted earlier as the risk-free rate, and the current Bloomberg and *Value Line* and long-term *Value Line* beta coefficients.

[56] Id., at 191.

68. Q. What are the results of your CAPM analyses?

A. As shown in Figure 9 (*see* also Schedule AEB-4), my traditional CAPM analyses produce a range of returns from 10.28 percent to 11.28 percent. The ECAPM analysis results range from 10.85 percent to 11.60 percent.

Figure 9: CAPM Results

	Current 30-day Average 30-Year Treasury Bond Yield	Near-Term Forecast 30-Year Treasury Yield	Longer-Term Forecast 30-Year Treasury Yield
CAPM:			
Current Value Line Beta	11.28%	11.23%	11.17%
Current Bloomberg Beta	10.72%	10.65%	10.56%
Long-term Avg. Beta	10.46%	10.38%	10.28%
ECAPM:			
Current Value Line Beta	11.60%	11.56%	11.52%
Current Bloomberg Beta	11.18%	11.13%	11.06%
Long-term Avg. Beta	10.98%	10.92%	10.85%

VII.D. Bond Yield Plus Risk Premium Analysis

69. Q. Please describe the Bond Yield Plus Risk Premium approach.

A. In general terms, this approach is based on the fundamental principle that equity investors bear the residual risk associated with equity ownership and therefore require a premium over the return they would have earned as a bondholder. That is, because returns to equity holders have greater risk than returns to bondholders, equity investors must be compensated to bear that risk. Risk premium approaches, therefore, estimate the cost of equity as the sum of the equity risk premium and the

yield on a particular class of bonds. In my analysis, I used actual authorized returns for natural gas utilities as the historical measure of the cost of equity to determine the risk premium.

70. Q. Why did you conduct this analysis based on the natural gas utility authorized ROEs?

A. The data set that is available for the water utilities begins in 2010, which is not a sufficient time period for a time series study such as the Bond Yield Risk Premium analysis. Therefore, I determined that data for natural gas companies is a reasonable proxy since both natural gas distribution companies and water utilities provide a similar service and may be perceived by investors to have a similar risk profile. Furthermore, as I discussed above, I have relied on a combination proxy group that includes natural gas utilities to develop the results of my Constant Growth DCF, CAPM, and ECAPM under the premise that the risks of natural gas utilities and water utilities are sufficiently similar that the results of the ROE estimation methodologies including natural gas utilities could be used for a water utility. Therefore, I believe it is reasonable and appropriate to rely on this time series analysis of the natural gas utility industry segment.

71. Q. What is the fundamental relationship between the equity risk premium and interest rates?

A. It is important to recognize both academic literature and market evidence indicating that the equity risk premium (as used in this approach) is inversely related to the level of interest rates (i.e., as interest rates increase, the equity risk premium

decreases, and vice versa). Consequently, it is important to develop an analysis that: (1) reflects the inverse relationship between interest rates and the equity risk premium; and (2) relies on recent and expected market conditions. The analysis provided in Schedule AEB-7 establishes that relationship using a regression of the risk premium as a function of Treasury bond yields. When the authorized ROEs serve as the measure of required equity returns and the yield on the long-term Treasury bond is defined as the relevant measure of interest rates, the risk premium is the difference between those two points.[57]

72. Q. Is the Bond Yield Plus Risk Premium analysis relevant to investors?

A. Yes, it is. Investors are aware of ROE awards in other jurisdictions, and they consider those awards as a benchmark for a reasonable level of equity returns for utilities of comparable risk operating in other jurisdictions. Because my Bond Yield Plus Risk Premium analysis is based on authorized ROEs for utility companies relative to corresponding Treasury yields, it provides relevant information to assess the return expectations of investors in the current interest rate environment.

[57] *See* S. Keith Berry, Interest Rate Risk and Utility Risk Premia during 1982-93, Managerial and Decision Economics, Vol. 19, No. 2 (March, 1998), in which the author used a methodology similar to the regression approach described below, including using allowed ROEs as the relevant data source, and came to similar conclusions regarding the inverse relationship between risk premia and interest rates. *See also* Robert S. Harris, Using Analysts' Growth Forecasts to Estimate Shareholders Required Rates of Return at 66, Financial Management (Spring 1986).

73. Q. What did your Bond Yield Plus Risk Premium analysis reveal?

A. As shown in Figure 10 below, from 1980 through November 2023, there was a strong negative relationship between risk premia and interest rates. To estimate that relationship, I conducted a regression analysis using the following equation:

$$RP = a + b(T) \text{ [6]}$$

Where:

RP = Risk Premium (difference between allowed ROEs and the yield on 30-year U.S. Treasury bonds)

a = intercept term

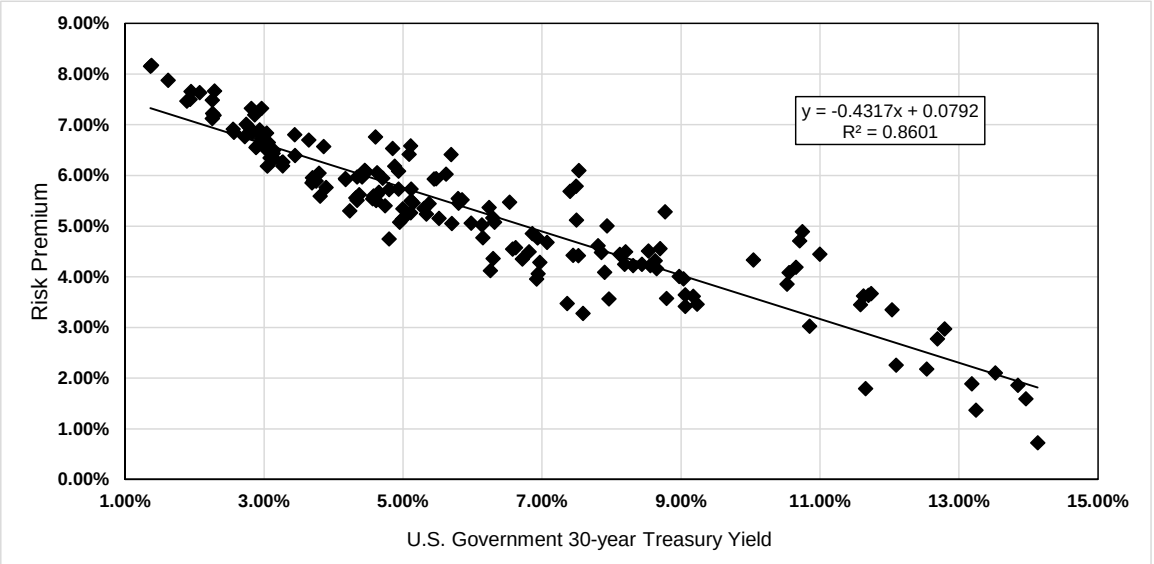
b = slope term

T = 30-year U.S. Treasury bond yield

Data regarding allowed ROEs were derived from all of natural gas utility rate cases from 1980 through November 2023 as reported by Regulatory Research Associates ("RRA").[58] This equation's coefficients were statistically significant at the 99.00 percent level.

[58] This analysis was screened to eliminate limited issue rider cases, transmission cases and cases that were silent with respect to the authorized ROE.

Figure 10: Risk Premium Regression Analysis



74. Q. What are the results of your Bond Yield Plus Risk Premium analysis?

A. Figure 11presents the results of my Bond Yield Plus Risk Premium analysis, which are also presented in more detail in Schedule AEB-7.

Figure 11: Risk Premium Results

	30-Year Treasury Bond Yield		
	Current 30-Day Avg	Near-Term Projected	Longer-Term Projected
Bond Yield Risk Premium	10.63%	10.46%	10.25%

75. Q. How did the results of the Bond Yield Risk Premium inform your recommended ROE for the Company?

A. I have considered the results of the Bond Yield Risk Premium analysis in setting my recommended ROE for NJAWC. As noted above, investors consider the ROE award of a company when assessing the risk of that company as compared to utilities of comparable risk operating in other jurisdictions.

VIII. REGULATORY AND BUSINESS RISKS

76. Q. Taken alone, do the results from the cost of equity estimation models for the proxy group provide an appropriate estimate of the cost of equity for the Company?

A. No. These results provide only a range for the appropriate estimate of the Company's cost of equity. There are several additional factors that must be taken into consideration when determining where the Company's cost of equity falls within the range of results. These factors, which are discussed below, should be considered with respect to their overall effect on the Company's risk profile.

VIII.A. Flotation Costs

77. Q. What are flotation costs?

A. Flotation costs are the costs associated with the sale of new issues of common stock. These costs include out-of-pocket expenditures for preparation, filing, underwriting, and other issuance costs.

78. Q. Why is it important to consider flotation costs in the allowed ROE?

A. A regulated utility must have the opportunity to earn an ROE that is both competitive and compensatory to attract and retain new investors. To the extent that a company is denied the opportunity to recover prudently incurred flotation costs, actual returns will fall short of expected (or required) returns, thereby diluting equity share value.

79. Q. Are flotation costs part of the utility's invested costs or part of the utility's expenses?

A. Flotation costs are part of the invested costs of the utility, which are properly reflected on the balance sheet under "paid in capital." They are not current expenses, and, therefore, are not reflected on the income statement. Rather, like investments in rate base or the issuance costs of long-term debt, flotation costs are incurred over time. As a result, the great majority of a utility's flotation cost is incurred prior to the test year but remains part of the cost structure that exists during the test year and beyond, and as such, should be recognized for ratemaking purposes. Therefore, it is irrelevant whether an issuance occurs during the test year or is planned for the test year because failure to allow recovery of past flotation costs may deny NJAWC the opportunity to earn its required rate of return in the future.

80. Q. Please provide an example of why a flotation cost adjustment is necessary to compensate investors for the capital they have invested?

A. As shown in Schedule AEB-8 in AWK's most recent stock issuance, the offering price was $135.5 per share of common stock. After paying flotation costs associated with the equity issuance, which include fees paid to underwriters and attorneys, among others, AWK's net proceeds are only $133.41 per share invested. AWK invests that $133.41 per share in plant used to serve its customers, which becomes part of the invested capital of the company. Absent a flotation cost adjustment, the investor will thereafter earn a return on only the $133.41 per share

of invested capital, even though the contribution was $135.50. Making a small flotation cost adjustment gives the investor a reasonable opportunity to earn the authorized return, rather than the lower return that results when the authorized return is applied to an amount less than what the investor contributed.

81. Q. Is the need to consider flotation costs eliminated because NJAWC is a wholly-owned subsidiary of AWK?

A. No. Although NJAWC is a wholly-owned subsidiary of AWK, it is appropriate to consider flotation costs because wholly-owned subsidiaries receive equity capital from their parent and provide returns on the capital that roll up to the parent, which is designated to attract and raise capital based upon the returns of those subsidiaries. To deny recovery of issuance costs associated with the capital that is invested in the subsidiaries ultimately penalizes the investors that fund the utility operations and could inhibit the utility's ability to obtain new equity capital at a reasonable cost. This is important for NJAWC because, as I will discuss in more detail below, the Company is planning significant capital expenditures in the near term.

82. Q. Is the need to consider flotation costs recognized by the academic and financial communities?

A. Yes. The need to reimburse shareholders for the lost returns associated with equity issuance costs is recognized by the academic and financial communities in the same spirit that investors are reimbursed for the costs of issuing debt. This treatment is consistent with the philosophy of a fair rate of return. According to Dr. Shannon Pratt:

> Flotation costs occur when new issues of stock or debt are sold to the public. The firm usually incurs several kinds of flotation or transaction costs, which reduce the actual proceeds received by the firm. Some of these are direct out-of-pocket outlays, such as fees paid to underwriters, legal expenses, and prospectus preparation costs. Because of this reduction in proceeds, the firm's required returns on these proceeds equate to a higher return to compensate for the additional costs. Flotation costs can be accounted for either by amortizing the cost, thus reducing the cash flow to discount, or by incorporating the cost into the cost of capital. Because flotation costs are not typically applied to operating cash flow, one must incorporate them into the cost of capital.[59]

83. Q. How did you calculate the flotation costs for NJAWC?

A. My flotation cost calculation is based on the costs incurred by AWK in that company's most recent equity offering as of February 28, 2023. That flotation cost percentage is then applied to the DCF analysis to estimate impact on ROE. As shown in Schedule AEB-8, based on the flotation costs incurred in the most recent AWK issuance, the impact on the proxy group's cost of equity amounts to 7 basis points (i.e., 0.07 percent) based on the median and 6 basis points (i.e., 0.06 percent) based on the mean.

84. Q. Do your final results include an adjustment for flotation cost recovery?

A. No. While the final ROE results do not incorporate an explicit adjustment for flotation costs, I considered the estimated effect of flotation cost on ROE in identifying a recommended ROE within the range of ROE estimates from the various models.

[59] Shannon P. Pratt, Cost of Capital Estimation and Applications, Second Edition, at 220-221.

VIII.B. Risks Associated with Capital Expenditure Program

85. Q. Please summarize the Company's capital expenditure program.

A. NJAWC projects that the Company will spend approximately $2.7 billion on capital investments for the period from 2024-2028, including significant investment to replace aging infrastructure necessary to continue to meet the needs of its customers and to comply with various regulations.

86. Q. Do credit rating agencies recognize the risks associated with elevated capital expenditures?

A. Yes. From a credit perspective, the additional pressure on cash flows associated with high levels of capital expenditures exerts corresponding pressure on credit metrics and, therefore, credit ratings. An S&P report explains:

> [T]here is little doubt that the U.S. electric industry needs to make record capital expenditures to comply with the proposed carbon pollution rules over the next several years, while maintaining safety standards and grid stability. We believe the higher capital spending and subsequent rise in debt levels could strain these companies' financial measures, resulting in an almost consistent negative discretionary cash flow throughout this higher construction period. To meet the higher capital spending requirements, companies will require ongoing and steady access to the capital markets, necessitating that the industry maintains its high credit quality. We expect that utilities will continue to effectively manage their regulatory risk by using various creative means to recover their costs and to finance their necessary higher spending.[60]

[60] S&P, Ratings Direct, "U.S. Regulated Electric Utilities' Annual Capital Spending is Poised to Eclipse $100 Billion," July 2014.

Although this S&P report refers to electric utilities, the same applies to water utilities. In an August 2016 report, S&P explained the importance of regulatory support for large capital projects:

> When applicable, a jurisdiction's willingness to support large capital projects with cash during construction is an important aspect of our analysis. This is especially true when the project represents a major addition to rate base and entails long lead times and technological risks that make it susceptible to construction delays. Broad support for all capital spending is the most credit-sustaining. Support for only specific types of capital spending, such as specific environmental projects or system integrity plans, is less so, but still favorable for creditors. Allowance of a cash return on construction work-in-progress or similar ratemaking methods historically were extraordinary measures for use in unusual circumstances, but when construction costs are rising, cash flow support could be crucial to maintain credit quality through the spending program. Even more favorable are those jurisdictions that present an opportunity for a higher return on capital projects as an incentive to investors.[61]

87. Q. Does NJAWC have a capital tracking mechanism to recover some of the costs associated with its capital expenditures plan between rate cases?

A. Yes. NJAWC has a Distribution System Improvement Charge ("DSIC") which allows NJAWC to recover the costs associated with critical projects, including replacing and rehabilitating aging water mains, fire hydrants, valves and service lines, a Wastewater System Improvement Charge ("WSIC"), which allows NJAWC to recover the costs associated with critical projects for wastewater collection systems, including replacing and rehabilitating aging collection mains, manholes, laterals and services, and a Lead Service Line Replacement Charge ("LSLRC"),

[61] S&P Global Ratings, "Assessing U.S. Investor-Owned Utility Regulatory Environments," August 10, 2016, at 7.

which allows NJAWC to recover the costs associated with the replacement of customer-side lead service lines.[62] The presence of these clauses is certainly a positive aspect of New Jersey regulation however, they have become quite commonplace in utility regulation.

88. Q. Do the proxy group companies also have the ability to recover capital investments through a capital tracking mechanism?

A. Yes. As shown in Schedule AEB-10 approximately 79 percent of the companies in the proxy group have implemented infrastructure replacement recovery mechanisms. Consequently, the presence of the DSIC, WSIC and LSLRC while positive regulatory mechanisms, do not reduce the Company's risk vis-à-vis that of the proxy group.

89. Q. What are your conclusions regarding the effect of NJAWC's capital spending program on its risk profile and cost of capital?

A. The Company's capital expenditure requirements as a percentage of net utility plant are significant and will continue over the next few years. Additionally, similar to a number of the operating subsidiaries of the proxy group, NJAWC does have capital tracking mechanisms to recover some of the Company's projected capital expenditures. However, it is important to recognize that the sheer size of the Company's proposed capital additions imposes financial strains and risks on the Company.

[62] Company-side lead service lines are recovered under the DSIC.

VIII.C. Risks Associated with Environmental and Water Quality Regulation

90. Q. Please provide an overview of the risks associated with water quantity, water quality and other environmental regulations applicable to NJAWC's water supply facilities and operations.

A. Water supply utilities are subject to a complex array of regulations at the federal, state and river basin commission levels with respect to water quantity, water quality and other environmental aspects of their facilities and operations.

In addition to the requirement to make significant investments to extend facilities to accommodate applicants for service, there are multiple levels of authorization and regulation that apply to a public water system that wants to add a new source of supply or increase its withdrawals from existing sources. These factors add to the costs and lead-time for obtaining new, or increasing existing, water sources to meet new demands that may arise in portions of the Company's system. These are additional risk factors that can directly affect NJAWC's ability to continue to furnish safe, adequate and reliable service, and increase the costs NJAWC incurs to provide that service.

As discussed in the Direct Testimony of Company witness Mr. Donald Shields, there are significant regulations that require the monitoring and treatment of water supplies to help ensure the safety of and reliability of drinking water service. Further, there is increased research and awareness of contaminants on an ongoing

basis that, once identified, require investment to meet more stringent regulatory standards related to new contaminants.

While the Company intends to comply with all state and federal regulatory standards for safe and reliable drinking water service, the upstream releases of chemicals that are then found in the Company's water supplies that must be remediated present an ongoing business risk. For example, as discussed in the Direct Testimony of Company witness Shields, in January 2024, the United Stated Environmental Protection Agency ("USEPA") is expected to finalize its rule regarding the level allowed in drinking water of per- and polyfluoroalkyl substances ("PFAS"), which is expected to require over $500 million in investments by the Company.

91. Q. Provide an overview of the risks associated with environmental regulation with respect to NJAWC's wastewater system operations.

A. As is the case with regard to drinking water system operations, the operation of wastewater collection and treatment systems face a range of environmental regulatory risks, which are subject to state and federal oversight. As discussed in the Direct Testimony of Company witness Shields, at the federal level, wastewater systems are regulated pursuant to the Clean Water Act and numerous regulations adopted by the USEPA under that law, which are administered by the New Jersey Department of Eniornmental Protection ("NJDEP"). Similar to water regulation meeting regulatory compliance requirements, including evolving permitting requirements, and more stringent limits can be challenging and can result in

significant increases in operating costs. Furthermore wastewater systems face significant regulatory and environmental liability risks enforceable by governmental agencies through penalties and through citizen lawsuits.

Finally, as also discussed in the Direct Testimony of Company witness Shields, sewer systems present further risks due to the potential liability risk associated with backups, overflows and releases from the sewer system onto private property or into the environment.

92. Q. What is your conclusion with respect to the effect of the risk associated with environmental regulations and water quality regulations on NJAWC's cost of equity?

A. NJAWC has significant risk and uncertainty associated with environmental and water quality regulations, and the recovery of costs to comply with those regulations. It is clear that the financial community recognizes the additional risks to credit quality associated with the capital investment required to meet environmental and water quality regulations.

VIII.D. Risks Associated with the Regulatory Environment

93. Q. How does the regulatory environment affect investors' risk assessments?

A. The ratemaking process is premised on the principle that, for investors and companies to commit the capital needed to provide safe and reliable utility service, the subject utility must have the opportunity to recover the return of, and the market-required return on, invested capital. Regulatory authorities recognize that because

utility operations are capital intensive, regulatory decisions should enable the utility to attract capital at reasonable terms, and doing so balances the long-term interests of investors and customers. To achieve this balance, the Company must be able to finance its operations assuming a reasonable opportunity to earn an appropriate return on invested capital to maintain an acceptable financial profile. In that respect, the regulatory environment is one of the most important factors considered in both debt and equity investors' risk assessments.

From the perspective of debt investors, the authorized return should enable the utility to generate the cash flow needed to meet its near-term financial obligations, make the capital investments needed to maintain and expand its systems, and maintain the necessary levels of liquidity to fund unexpected events. This financial liquidity must be derived not only from internally-generated funds, but also by efficient access to capital markets. Moreover, because fixed income investors have many investment alternatives, even within a given market sector, the utility's financial profile must be adequate on a relative basis to ensure its ability to attract capital under a variety of economic and financial market conditions.

In addition, equity investors require that the authorized return be adequate to provide a risk-comparable return on the equity portion of the utility's capital investments. Because equity investors are the residual claimants on the utility's cash flows (which is to say that the equity return is subordinate to interest payments), they are particularly concerned with the strength of regulatory support and its effect on future cash flows.

94. Q. Please explain how credit rating agencies consider regulatory risk in establishing a company's credit rating.

A. Both S&P and Moody's consider the overall regulatory framework in establishing credit ratings. Moody's establishes credit ratings based on four key factors: (1) business profile; (2) financial policy; (3) leverage and coverage; and (4) uplift for structural considerations. Within the business profile criteria, stability and predictability of regulatory environment and cost and investment recovery (sufficiency and timeliness) are each given a broad rating factor of 15.0 percent, while revenue risk is given a rating factor of 5.0 percent. Therefore, Moody's assigns regulatory risk a 35.0 percent weighting in the overall assessment of business and financial risk for regulated utilities.[63]

95. Q. How does the regulatory environment in which a utility operates affect its access to and cost of capital?

A. The regulatory environment can significantly affect both the access to, and cost of capital in several ways. First, the proportion and cost of debt capital available to utility companies are influenced by the rating agencies' assessment of the regulatory environment. As noted by Moody's, "the characteristics and transparency of the concession(s) and regulations under which the utility operates, the track record of the regulatory regime in setting tariffs and applying regulations consistently are key elements in assessing the overall stability of a water utility's business profile."[64]

[63] Moody's Investors Service, Rating Methodology: Regulated Water Utilities, June 8, 2018, at 4.
[64] Moody's Investors Service, Rating Methodology: Regulated Water Utilities, June 8, 2018, at 7.

96. Q. Have you conducted any analysis of the risk associated with the regulatory framework in a relative to the jurisdictions in which the utility operating subsidiaries of the companies in your proxy group operate?

A. Yes. I have evaluated the regulatory framework in New Jersey on three factors that are important in terms of providing a regulated utility a reasonable opportunity to earn its authorized ROE: (1) test year convention (i.e., forecast vs. historical); (2) use of revenue decoupling mechanisms or other clauses that provide revenue stabilization; and (3) the prevalence of capital cost recovery between rate cases. The results of this regulatory risk assessment are shown in Schedule AEB-10 and are summarized as follows:

1. Test year convention: NJAWC uses a partially-forecasted test year in New Jersey that provides for the ability to recover the costs that are projected during the rate case, however, the Board typically sets rates based on what is ultimately a historical test period, incorporating the rate case period. Approximately 51.79 percent of the operating companies held by the proxy group provide service in jurisdictions that use a fully or partially forecast test year. Forecasted test years have been relied on for several years and produce cost estimates that are more reflective of future costs which results in more accurate recovery of incurred costs and mitigates the regulatory lag associated with historical test years.

2. Volumetric Risk: Water revenues are highly weather-dependent as well as at risk to declining use per customer. As discussed in the Direct Testimony of Company witness Mr. Charles Rea, the Company's current rate design recovers approximately 67 percent of water and wastewater service revenues under volumetric rates whereas approximately 95 percent of the Company's costs are fixed costs, which do not vary with usage. While NJAWC does not

currently have protection against volumetric risk in New Jersey, the Company is proposing a revenue decoupling mechanism ("RDM") to mitigate volumetric risk. Approximately 58.93 percent of the operating companies held by the proxy group have some form of protection against volumetric risk.

3. Capital Cost Recovery: As discussed above, NJAWC has capital tracking mechanisms (i.e., DSIC, WSIC and LSLRC) to recover a portion of the Company's capital investment costs. This is consistent with the proxy group where 78.57 percent of the operating companies held by the proxy group have some form of capital cost recovery mechanism in place.

97. Q. What are your conclusions regarding the perceived risks related to the New Jersey regulatory environment?

A. As discussed throughout this section of my testimony, both Moody's and S&P have identified the supportiveness of the regulatory environment as an important consideration in developing their overall credit ratings for regulated utilities. Considering the regulatory adjustment mechanisms, many of the companies in the proxy group have timely cost recovery (through forecasted test years, cost recovery trackers and revenue stabilization mechanisms) that are similar to those either implemented by NJAWC or proposed by the Company in this rate proceeding (i.e., RDM). As a result, I conclude that the Company has regulatory risk that is comparable to the proxy group.

Finally, while my analysis assumes that the Company's proposed RDM will be approved, the volumetric risk of NJAWC would increase if the Commission does not approve the Company's proposal. Thus, if the RDM is not approved then

NJAWC would have greater than average regulatory risk when compared to the proxy group.

IX. CAPITAL STRUCTURE

98. Q. Is the capital structure of the Company an important consideration in the determination of the appropriate ROE?

A. Yes, it is. The equity ratio is the primary indicator of financial risk for a regulated utility such as NJAWC. Assuming other factors equal, a higher debt ratio increases the risk to equity investors. For debt holders, higher debt ratios result in a greater portion of the available cash flow being required to meet debt service, thereby increasing the risk associated with the payments on debt. The result of increased risk is a higher interest rate. The incremental risk of a higher debt ratio is more significant for common equity shareholders, whose claim on the cash flow of the Company is secondary to debt holders. Therefore, the greater the debt service requirement, the less cash flow is available for common equity holders.

99. Q. What is the NJAWC's proposed capital structure?

A. NJAWC is proposing a rate-making capital structure composed of 56.30 percent common equity, and 43.70 percent long-term debt.

100. Q. Have you conducted any analysis to determine whether NJAWC's proposed equity ratio is reasonable?

A. Yes, I reviewed the capital structures of the proxy companies.

101. Q. Why is it appropriate to consider the equity ratio for the proxy companies?

A. The determination of the ROE is based on the expected return for a proxy group of companies that are comparable in risk to NJAWC. The equity ratio is a measure of the financial risk of the company, and the authorized ROE is the return to compensate investors for that risk. If the Board is going to rely on the ROE estimates for the proxy companies to establish the authorized ROE for NJAWC, it is important that the financial risk of NJAWC be similar to the financial risk of the proxy group.

102. Q. How did you conduct your analysis of the proxy group capital structures?

A. Specifically, I calculated the mean proportions of common equity, and long-term debt over the past three years for each of the companies in the proxy group at the operating subsidiary level. Schedule AEB-11 summarizes the actual capital structures of the operating subsidiaries. As shown, the average equity ratios for the operating subsidiaries of the proxy group range from 49.41 percent to 59.88 percent, with a mean of 55.88 percent. NJAWC's proposed 56.30 percent equity ratio is well within the equity ratio range established by the utility operating subsidiaries of the proxy group.

103. Q. Are there other factors to be considered in evaluating the Company's capital structure?

A. Yes, there are other factors that should be considered in setting the Company's capital structure, namely the challenges that the credit rating agencies have highlighted as placing pressure on the credit metrics for utilities.

For example, while Moody's recently revised its outlook for the utility sector from "negative" to "stable", Moody's continues to note that high interest rates and increased capital spending will place pressure on credit metrics. Thus, Moody's highlights constructive regulatory outcomes that promote timely cost recovery as a key factor in supporting utility credit quality.[65]

FitchRatings' sector outlook for North American Utilities for 2024 is "deteriorating". This outlook is based on "continuing macroeconomic headwinds and elevated capex that are putting pressure on credit metrics in the high-cost funding environment".[66] Further Fitch expects that based on the "historic spread between median authorized ROEs and 10-year Treasury rates of 600 bps-700bps)".[67] Fitch expects authorized ROEs to start trending up with the increase in interest rates.

Likewise, while S&P also recently revised its outlook for the industry from negative to stable, S&P continues to see significant risks over the near-term for the industry as a result of inflation and increased levels of capital spending. Specifically, S&P noted:

> Despite the improvement in economic data, we expect inflation, rising interest rates, higher capital spending, and the strategic decision by many companies to operate with only minimal financial cushion from their downgrade thresholds to continue to pressure the industry's credit quality. Throughout 2022 and so far in 2023, the Federal Reserve has

[65] Moody's Investors Service, Outlook. "Outlook turns stable on low prices and credit-supportive regulation." September 7, 2023.
[66] FitchRatings, North American Utilities, Power & Gas Outlook 2024, December 6, 2023, p. 1.
[67] *Id.,* at 4.

> consistently raised interest rates to reduce the pace of inflation. While these actions appear to have had a positive effect on slowing inflation, there's still been a modest weakening in the industry's financial measures because of inflation and rising interest rates. An environment of continuously rising costs tends to weaken the industry's financial measures because of the timing difference between when the higher costs are incurred and when they are ultimately recovered from ratepayers.[68]

S&P has also recently concluded:

> The confluence of higher operating costs due to rising inflation, higher interest rates, storm restoration costs, increasing capital spending, and the recovery of previously deferred higher commodity costs, has resulted in growing rate case filings and increased rate rider recovery requests from state regulators. We expect to closely monitor the industry's ability to not just recover these rising costs but to do so in such a manner that minimizes the regulatory lag. However, given the impact of these higher costs to the customer bill, the industry's ability to effectively manage regulatory risk could become increasingly challenging, possibly pressuring its credit quality.[69]

The credit ratings agencies' continued concerns over the negative effects of inflation, higher interest rates, and increased capital expenditures underscore the importance of supportive regulation with respect to financing costs.

104. Q. What is your conclusion with regard to NJAWC's proposed capital structure?

A. Considering the actual capital structures of the proxy group operating companies, I believe that NJAWC's proposed common equity ratio of 56.30 percent is reasonable. The proposed equity ratio is well within the range established by the capital structures of the utility operating subsidiaries of the proxy companies.

[68] S&P Global Ratings. "The Outlook for North American Regulated Utilities Turns Stable," May 18, 2023, at 8.

[69] S&P Global Ratings. "Regulatory Friction Is Constraining Cost Recovery For North American Investor-Owned Utilities." November 6, 2023, at 8.

X. CONCLUSION AND RECOMMENDATIONS

105. Q. What is your conclusion regarding a fair ROE for NJAWC?

A. Based on the various quantitative analyses summarized in Figure 12 and the qualitative analyses presented in my Direct Testimony, a reasonable range of ROE results for NJAWC is from 10.25 percent to 11.25 percent. Within that range, I believe that an ROE of 10.75 percent is reasonable and appropriate. The recommended ROE takes into consideration the current conditions in capital markets including the high interest rates, and elevated inflationary pressures, both of which increase the cost of capital as well as the need to recover flotation costs and the relative business and financial risk of NJAWC as compared to the proxy group. This ROE would enable the company to attract capital at reasonable terms under a variety of economic and financial market conditions, while continuing to provide safe, reliable and affordable water service to customers in New Jersey.

Figure 12: Summary of Cost of Equity Model Results[70]

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Constant Growth DCF			
Mean Results:			
30-Day Average	9.12%	10.16%	11.31%
90-Day Average	8.97%	10.01%	11.16%
180-Day Average	8.77%	9.81%	10.96%
Average	8.95%	9.99%	11.14%
Median Results:			
30-Day Average	8.90%	9.92%	11.10%
90-Day Average	8.69%	9.61%	10.84%
180-Day Average	8.52%	9.28%	10.64%
Average	8.70%	9.60%	10.86%

	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
CAPM:			
Current Value Line Beta	11.28%	11.23%	11.17%
Current Bloomberg Beta	10.72%	10.65%	10.56%
Long-term Avg. Beta	10.46%	10.38%	10.28%
ECAPM:			
Current Value Line Beta	11.60%	11.56%	11.52%
Current Bloomberg Beta	11.18%	11.13%	11.06%
Long-term Avg. Beta	10.98%	10.92%	10.85%
Risk Premium Results	10.63%	10.46%	10.25%

106. Q. What is your conclusion regarding NJAWC's proposed capital structure?

A. My conclusion is that NJAWC's proposed rate-making capital structure consisting of 56.30 percent common equity, and 43.70 percent long-term debt is reasonable as

[70] DCF results exclude the result for Middlesex Water Company because these results do not provide a reasonable equity risk premium over the current yield on the Moody's Baa rated utility bond index, which was 6.44 percent on a 30-day average basis ending November 30, 2023.

compared to the proxy group companies and should be used for setting rates in this case.

107. Q. Does this conclude you Direct Testimony?

A. Yes, it does.

Ann E. Bulkley

PRINCIPAL

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With more than 25 years of experience in the energy industry, Ms. Bulkley specializes in regulatory economics for the electric and natural gas and water utility sectors, including valuation of regulated and unregulated utility assets, cost of capital, and capital structure issues.

Ms. Bulkley has extensive state and federal regulatory experience, and she has provided expert testimony on the cost of capital in nearly 100 regulatory proceedings before 32 state regulatory commissions and the Federal Energy Regulatory Commission (FERC).

In addition to her regulatory experience, Ms. Bulkley has provided valuation and appraisal services for a variety of purposes, including the sale or acquisition of utility assets, regulated ratemaking, ad valorem tax disputes, and other litigation purposes. In addition, she has experience in the areas of contract and business unit valuation, strategic alliances, market restructuring, and regulatory and litigation support.

Ms. Bulkley is a Certified General Appraiser licensed in the Commonwealth of Massachusetts and the State of New Hampshire.

Prior to joining Brattle, Ms. Bulkley was a Senior Vice President at an economic consultancy and held senior positions at several other consulting firms.

AREAS OF EXPERTISE

- Regulatory Economics, Finance & Rates
- Regulatory Investigations & Enforcement
- Tax Controversy & Transfer Pricing
- Electricity Litigation & Regulatory Disputes
- M&A Litigation

EDUCATION

- **Boston University**
  MA in Economics
- **Simmons College**
  BA in Economics and Finance

PROFESSIONAL EXPERIENCE

- **The Brattle Group (2022–Present)**
  Principal
- **Concentric Energy Advisors, Inc. (2002–2021)**
  Senior Vice President
  Vice President
  Assistant Vice President
  Project Manager
- **Navigant Consulting, Inc. (1997–2002)**
  Project Manager
- **Reed Consulting Group (1995-1997)**
  Consultant- Project Manager
- **Cahners Publishing Company (1995)**
  Economist

SELECTED CONSULTING EXPERIENCE & EXPERT TESTIMONY

REGULATORY ANALYSIS AND RATEMAKING

Have provided a range of advisory services relating to regulatory policy analysis and many aspects of utility ratemaking, with specific services including:

- Cost of capital and return on equity testimony, cost of service and rate design analysis and testimony, development of ratemaking strategies
- Development of merchant function exit strategies

- Analysis and program development to address residual energy supply and/or provider of last resort obligations
- Stranded costs assessment and recovery
  Performance-based ratemaking analysis and design
- Many aspects of traditional utility ratemaking (e.g., rate design, rate base valuation)

COST OF CAPITAL

Have provided expert testimony on the cost of capital and capital structure in nearly 100 regulatory proceedings before state and federal regulatory commissions in the United States.

RATEMAKING

Have assisted several clients with analysis to support investor-owned and municipal utility clients in the preparation of rate cases. Sample engagements include:

- Assisted several investor-owned and municipal clients on cost allocation and rate design issues including the development of expert testimony supporting recommended rate alternatives.
- Worked with Canadian regulatory staff to establish filing requirements for a rate review of a newly regulated electric utility. Along with analyzing and evaluating rate application, attended hearings and conducted investigation of rate application for regulatory staff and prepared, supported, and defended recommendations for revenue requirements and rates for the company. Additionally, developed rates for gas utility for transportation program and ancillary services.

VALUATION

Have provided valuation services to utility clients, unregulated generators, and private equity clients for a variety of purposes, including ratemaking, fair value, ad valorem tax, litigation and damages, and acquisition. Appraisal practices are consistent with the national standards established by the Uniform Standards of Professional Appraisal Practice.

Representative projects/clients have included:

- Prepared appraisals of electric utility transmission and distribution assets for ad valorem tax purposes.
- Prepared appraisals of hydroelectric generating facilities for ad valorem tax purposes.
- Conducted appraisals of fossil fuel generating facilities for ad valorem tax purposes.
- Conducted appraisals of generating assets for the purposes of unwinding sale-leaseback agreements.
- For a confidential utility client, prepared valuation of fossil and nuclear generation assets for financing purposes for regulated utility client.

- Conducted a strategic review of the acquisition of nuclear generation assets. Review included the evaluation of the operating costs of the facilities and the long-term liabilities associated with the assets including the decommissioning of the assets.
- Prepared a valuation of a portfolio of generation assets for a large energy utility to be used for strategic planning purposes. Valuation approach included an income approach, a real options analysis, and a risk analysis.
- Assisted clients in the restructuring of NUG contracts through the valuation of the underlying assets. Performed analysis to determine the option value of a plant in a competitively priced electricity market following the settlement of the NUG contract.
- Prepared market valuations of several purchase power contracts for large electric utilities in the sale of purchase power contracts. Assignment included an assessment of the regional power market, analysis of the underlying purchase power contracts, and a traditional discounted cash flow valuation approach, as well as a risk analysis. Analyzed bids from potential acquirers using income and risk analysis approached. Prepared an assessment of the credit issues and value at risk for the selling utility.
- Prepared appraisal of a portfolio of generating facilities for a large electric utility to be used for financing purposes.
- Conducted a valuation of regulated utility assets for the fair value rate base estimate used in electric rate proceedings in Indiana.
- Prepared an appraisal of a fleet of fossil generating assets for a large electric utility to establish the value of assets transferred from utility property.
- Conducted due diligence on an electric transmission and distribution system as part of a buy-side due diligence team.
- Provided analytical support and prepared testimony regarding the valuation of electric distribution system assets in five communities in a condemnation proceeding.
- Prepared feasibility reports analyzing the expected net benefits resulting from municipal ownership of investor-owned utility operations.
- Prepared independent analyses of proposal for the proposed government condemnation of the investor-owned utilities in Maine and the formation of a public power district.
- Valued purchase power agreements in the transfer of assets to a deregulated electric market.

STRATEGIC AND FINANCIAL ADVISORY SERVICES

Have assisted several clients across North America with analytically-based strategic planning, due diligence, and financial advisory services.

Representative projects include:

- Preparation of feasibility studies for bond issuances for municipal and district steam clients.
- Assisted in the development of a generation strategy for an electric utility. Analyzed various NERC regions to identify potential market entry points. Evaluated potential competitors and alliance partners. Assisted in the development of gas and electric price forecasts. Developed a framework for the implementation of a risk management program.
- Assisted clients in identifying potential joint venture opportunities and alliance partners. Contacted interviewed and evaluated potential alliance candidates based on company-established criteria for several LDCs and marketing companies. Worked with several LDCs and unregulated marketing companies to establish alliances to enter into the retail energy market. Prepared testimony in support of several merger cases and participated in the regulatory process to obtain approval for these mergers.
- Assisted clients in several buy-side due diligence efforts, providing regulatory insight and developing valuation recommendations for acquisitions of both electric and gas properties.

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BULKLEY TESTIMONY LISTING

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Arizona Corporation Commission				
UNS Electric	11/22	UNS Electric	Docket No. E-04204A-15-0251	Return on Equity
Tucson Electric Power Company	6/22	Tucson Electric Power Company	Docket No. G-01933A-22-0107	Return on Equity
Southwest Gas Corporation	12/21	Southwest Gas Corporation	Docket No. G-01551A-21-0368	Return on Equity
Arizona Public Service Company	10/19	Arizona Public Service Company	Docket No. E-01345A-19-0236	Return on Equity
Tucson Electric Power Company	04/19	Tucson Electric Power Company	Docket No. E-01933A-19-0028	Return on Equity
Tucson Electric Power Company	11/15	Tucson Electric Power Company	Docket No. E-01933A-15-0322	Return on Equity
UNS Electric	05/15	UNS Electric	Docket No. E-04204A-15-0142	Return on Equity
UNS Electric	12/12	UNS Electric	Docket No. E-04204A-12-0504	Return on Equity
Arkansas Public Service Commission				
Oklahoma Gas and Electric Co	10/21	Oklahoma Gas and Electric Co	Docket No. D-18-046-FR	Return on Equity
Arkansas Oklahoma Gas Corporation	10/13	Arkansas Oklahoma Gas Corporation	Docket No. 13-078-U	Return on Equity
California Public Utilities Commission				
PacifiCorp, d/b/a Pacific Power	5/22	PacifiCorp, d/b/a Pacific Power	Docket No. A-22-05-006	Return on Equity
San Jose Water Company	05/21	San Jose Water Company	A2105004	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Colorado Public Utilities Commission				
Public Service Company of Colorado	11/22	Public Service Company of Colorado	Docket No. 22AL-0530E	Return on Equity
Public Service Company of Colorado	01/22	Public Service Company of Colorado	Docket No. 22AL-0046G	Return on Equity
Public Service Company of Colorado	07/21	Public Service Company of Colorado	21AL-0317E	Return on Equity
Public Service Company of Colorado	02/20	Public Service Company of Colorado	20AL-0049G	Return on Equity
Public Service Company of Colorado	05/19	Public Service Company of Colorado	19AL-0268E	Return on Equity
Public Service Company of Colorado	01/19	Public Service Company of Colorado	19AL-0063ST	Return on Equity
Atmos Energy Corporation	05/15	Atmos Energy Corporation	Docket No. 15AL-0299G	Return on Equity
Atmos Energy Corporation	04/14	Atmos Energy Corporation	Docket No. 14AL-0300G	Return on Equity
Atmos Energy Corporation	05/13	Atmos Energy Corporation	Docket No. 13AL-0496G	Return on Equity
Connecticut Public Utilities Regulatory Authority				
The Southern Connecticut Gas Company	11/23	The Southern Connecticut Gas Company	Docket No. 23-11-02	Return on Equity
Connecticut Natural Gas Corporation	11/23	Connecticut Natural Gas Corporation	Docket No. 23-11-02	Return on Equity
Connecticut Water Company	10/23	Connecticut Water Company	Docket No. 23-08-32	Return on Equity
United Illuminating	09/22	United Illuminating	Docket No. 22-08-08	Return on Equity
United Illuminating	05/21	United Illuminating	Docket No. 17-12-03RE11	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Connecticut Water Company	01/21	Connecticut Water Company	Docket No. 20-12-30	Return on Equity
Connecticut Natural Gas Corporation	06/18	Connecticut Natural Gas Corporation	Docket No. 18-05-16	Return on Equity
Yankee Gas Services Co. d/b/a Eversource Energy	06/18	Yankee Gas Services Co. d/b/a Eversource Energy	Docket No. 18-05-10	Return on Equity
The Southern Connecticut Gas Company	06/17	The Southern Connecticut Gas Company	Docket No. 17-05-42	Return on Equity
The United Illuminating Company	07/16	The United Illuminating Company	Docket No. 16-06-04	Return on Equity
Federal Energy Regulatory Commission				
Sea Robin Pipeline	12/22	Sea Robin Pipeline	Docket No. RP22-___	Return on Equity
Northern Natural Gas Company	07/22	Northern Natural Gas Company	Docket No. RP22-___	Return on Equity
Transwestern Pipeline Company, LLC	07/22	Transwestern Pipeline Company, LLC	Docket No. RP22-___	Return on Equity
Florida Gas Transmission	02/21	Florida Gas Transmission	Docket No. RP21-441	Return on Equity
TransCanyon	01/21	TransCanyon	Docket No. ER21-1065	Return on Equity
Duke Energy	12/20	Duke Energy	Docket No. EL21-9-000	Return on Equity
Wisconsin Electric Power Company	08/20	Wisconsin Electric Power Company	Docket No. EL20-57-000	Return on Equity
Panhandle Eastern Pipe Line Company, LP	10/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-78-000 RP19-78-001	Return on Equity
Panhandle Eastern Pipe Line Company, LP	08/19	Panhandle Eastern Pipe Line Company, LP	Docket Nos. RP19-1523	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Sea Robin Pipeline Company LLC	11/18	Sea Robin Pipeline Company LLC	Docket# RP19-352-000	Return on Equity
Tallgrass Interstate Gas Transmission	10/15	Tallgrass Interstate Gas Transmission	RP16-137	Return on Equity
Idaho Public Utilities Commission				
Intermountain Gas Co	12/22	Intermountain Gas Co	C-INT-G-22-07	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	05/21	PacifiCorp d/b/a Rocky Mountain Power	Case No. PAC-E-21-07	Return on Equity
Illinois Commerce Commission				
Peoples Gas Light & Coke Company	01/23	Peoples Gas Light & Coke Company	D-23-0069	Return on Equity
North Shore Gas Company	01/23	North Shore Gas Company	D-23-0068	Return on Equity
Illinois American Water	02/22	Illinois American Water	Docket No. 22-0210	Return on Equity
North Shore Gas Company	02/21	North Shore Gas Company	No. 20-0810	Return on Equity
Indiana Utility Regulatory Commission				
Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South	12/23	Southern Indiana Gas and Electric Company d/b/a CenterPoint Energy Indiana South	IURC Cause No. 45990	Return on Equity
Indiana Michigan Power Co.	08/23	Indiana Michigan Power Co.	IURC Cause No. 45933	Return on Equity
Indiana American Water Company	03/23	Indiana and Michigan American Water Company	IURC Cause No. 45870	Return on Equity
Indiana Michigan Power Co.	07/21	Indiana Michigan Power Co.	IURC Cause No. 45576	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Indiana Gas Company Inc.	12/20	Indiana Gas Company Inc.	IURC Cause No. 45468	Return on Equity
Southern Indiana Gas and Electric Company	10/20	Southern Indiana Gas and Electric Company	IURC Cause No. 45447	Return on Equity
Indiana and Michigan American Water Company	09/18	Indiana and Michigan American Water Company	IURC Cause No. 45142	Return on Equity
Indianapolis Power and Light Company	12/17	Indianapolis Power and Light Company	Cause No. 45029	Fair Value
Northern Indiana Public Service Company	09/17	Northern Indiana Public Service Company	Cause No. 44988	Fair Value
Indianapolis Power and Light Company	12/16	Indianapolis Power and Light Company	Cause No.44893	Fair Value
Northern Indiana Public Service Company	10/15	Northern Indiana Public Service Company	Cause No. 44688	Fair Value
Indianapolis Power and Light Company	09/15	Indianapolis Power and Light Company	Cause No. 44576 Cause No. 44602	Fair Value
Kokomo Gas and Fuel Company	09/10	Kokomo Gas and Fuel Company	Cause No. 43942	Fair Value
Northern Indiana Fuel and Light Company, Inc.	09/10	Northern Indiana Fuel and Light Company, Inc.	Cause No. 43943	Fair Value
Iowa Department of Commerce Utilities Board				
MidAmerican Energy Company	06/23	MidAmerican Energy Company	Docket No. RPU-2023-___	Return on Equity
MidAmerican Energy Company	01/22	MidAmerican Energy Company	Docket No. RPU-2022-0001	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Iowa-American Water Company	08/20	Iowa-American Water Company	Docket No. RPU-2020-0001	Return on Equity
Kansas Corporation Commission				
Evergy Kansas	04/23	Evergy Kansas	**Docket No. 23-_____-_____-RTS**	Return on Equity
Atmos Energy Corporation	08/15	Atmos Energy Corporation	Docket No. 16-ATMG-079-RTS	Return on Equity
Kentucky Public Service Commission				
Kentucky American Water Company	06/23	Kentucky American Water Company	Docket No. 2023-____	Return on Equity
Kentucky American Water Company	11/18	Kentucky American Water Company	Docket No. 2018-00358	Return on Equity
Maine Public Utilities Commission				
Central Maine Power	08/22	Central Maine Power	Docket No. 2022-00152	Return on Equity
Central Maine Power	10/18	Central Maine Power	Docket No. 2018-194	Return on Equity
Maryland Public Service Commission				
Maryland American Water Company	06/18	Maryland American Water Company	Case No. 9487	Return on Equity
Massachusetts Appellate Tax Board				
Hopkinton LNG Corporation	03/20	Hopkinton LNG Corporation	Docket No.	Valuation of LNG Facility
FirstLight Hydro Generating Company	06/17	FirstLight Hydro Generating Company	Docket No. F-325471 Docket No. F-325472 Docket No. F-325473 Docket No. F-325474	Valuation of Electric Generation Assets
Massachusetts Department of Public Utilities				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid	11/23	Massachusetts Electric Company Nantucket Electric Company d/b/a National Grid	DPU 23-150	Return on Equity
National Grid USA	11/20	Boston Gas Company	DPU 20-120	Return on Equity
Berkshire Gas Company	05/18	Berkshire Gas Company	DPU 18-40	Return on Equity
Unitil Corporation	01/04	Fitchburg Gas and Electric	DTE 03-52	Integrated Resource Plan; Gas Demand Forecast
Michigan Public Service Commission				
Indiana Michigan Power Co.	09/23	Indiana Michigan Power Co.	Case No. U-21461	Return on Equity
Michigan Gas Utilities Corporation	03/23	Michigan Gas Utilities Corporation	Case No. U-21366	Return on Equity
Michigan Gas Utilities Corporation	03/21	Michigan Gas Utilities Corporation	Case No. U-20718	Return on Equity
Wisconsin Electric Power Company	12/11	Wisconsin Electric Power Company	Case No. U-16830	Return on Equity
Michigan Tax Tribunal				
New Covert Generating Co., LLC.	03/18	The Township of New Covert Michigan	MTT Docket No. 000248TT and 16-001888-TT	Valuation of Electric Generation Assets
Covert Township	07/14	New Covert Generating Co., LLC.	Docket No. 399578	Valuation of Electric Generation Assets
Minnesota Public Utilities Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
ALLETE, Inc. d/b/a Minnesota Power	11/23	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-23-155	Return on Equity
CenterPoint Energy Resources	11/23	CenterPoint Energy Resources	D-G-008/GR-23-173	Return on Equity
Minnesota Energy Resources Corporation	11/22	Minnesota Energy Resources Corporation	Docket No. G011/GR-22-504	Return on Equity
CenterPoint Energy Resources	11/21	CenterPoint Energy Resources	D-G-008/GR-21-435	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/21	Allete, Inc. d/b/a Minnesota Power	D-E-015/GR-21-630	Return on Equity
Otter Tail Power Company	11/20	Otter Tail Power Company	E017/GR-20-719	Return on Equity
ALLETE, Inc. d/b/a Minnesota Power	11/19	Allete, Inc. d/b/a Minnesota Power	E015/GR-19-442	Return on Equity
CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	10/19	CenterPoint Energy Resources Corporation d/b/a CenterPoint Energy Minnesota Gas	G-008/GR-19-524	Return on Equity
Great Plains Natural Gas Co.	09/19	Great Plains Natural Gas Co.	Docket No. G004/GR-19-511	Return on Equity
Minnesota Energy Resources Corporation	10/17	Minnesota Energy Resources Corporation	Docket No. G011/GR-17-563	Return on Equity
Missouri Public Service Commission				
Ameren Missouri	08/22	Ameren Missouri	File No. ER-2022-0337	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Missouri American Water Company	07/22	Missouri American Water Company	Case No. WR-2022-0303 Case No. SR-2022-0304	Return on Equity
Evergy Missouri West	1/22	Evergy Missouri West	File No. ER-2022-0130	Return on Equity
Evergy Missouri Metro	1/22	Evergy Missouri Metro	File No. ER-2022-0129	Return on Equity
Ameren Missouri	03/21	Ameren Missouri	Docket No. ER-2021-0240 Docket No. GR-2021-0241	Return on Equity
Missouri American Water Company	06/20	Missouri American Water Company	Case No. WR-2020-0344 Case No. SR-2020-0345	Return on Equity
Missouri American Water Company	06/17	Missouri American Water Company	Case No. WR-17-0285 Case No. SR-17-0286	Return on Equity
Montana Public Service Commission				
Montana-Dakota Utilities Co.	11/22	Montana-Dakota Utilities Co.	D2022.11.099	Return on Equity
Montana-Dakota Utilities Co.	06/20	Montana-Dakota Utilities Co.	D2020.06.076	Return on Equity
Montana-Dakota Utilities Co.	09/18	Montana-Dakota Utilities Co.	D2018.9.60	Return on Equity
New Hampshire - Board of Tax and Land Appeals				
Liberty Utilities (EnergyNorth Natural Gas)	07/23	Liberty Utilities (EnergyNorth Natural Gas)	Docket No. DG 23-067	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Liberty Utilities (Granite State Electric)	05/23	Liberty Utilities (Granite State Electric)	Docket No. DE 23-039	Return on Equity
Public Service Company of New Hampshire d/b/a Eversource Energy	11/19 12/19	Public Service Company of New Hampshire d/b/a Eversource Energy	Master Docket No. 28873-14-15-16-17PT	Valuation of Utility Property and Generating Assets
New Hampshire Public Utilities Commission				
Public Service Company of New Hampshire	05/19	Public Service Company of New Hampshire	DE-19-057	Return on Equity
New Hampshire-Merrimack County Superior Court				
Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	04/18	Northern New England Telephone Operations, LLC d/b/a FairPoint Communications, NNE	220-2012-CV-1100	Valuation of Utility Property
New Hampshire-Rockingham Superior Court				
Eversource Energy	05/18	Public Service Commission of New Hampshire	218-2016-CV-00899 218-2017-CV-00917	Valuation of Utility Property
New Jersey Board of Public Utilities				
Public Service Electric and Gas Company	11/23	Public Service Electric and Gas Company	ER23120924 GR23120925	Return on Equity
New Jersey American Water Company, Inc.	01/22	New Jersey American Water Company, Inc.	WR22010019	Return on Equity
Public Service Electric and Gas Company	10/20	Public Service Electric and Gas Company	EO18101115	Return on Equity
New Jersey American Water Company, Inc.	12/19	New Jersey American Water Company, Inc.	WR19121516	Return on Equity
Public Service Electric and Gas Company	04/19	Public Service Electric and Gas Company	EO18060629 GO18060630	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Public Service Electric and Gas Company	02/18	Public Service Electric and Gas Company	GR17070776	Return on Equity
Public Service Electric and Gas Company	01/18	Public Service Electric and Gas Company	ER18010029 GR18010030	Return on Equity
New Mexico Public Regulation Commission				
Southwestern Public Service Company	07/19	Southwestern Public Service Company	19-00170-UT	Return on Equity
Southwestern Public Service Company	10/17	Southwestern Public Service Company	Case No. 17-00255-UT	Return on Equity
Southwestern Public Service Company	12/16	Southwestern Public Service Company	Case No. 16-00269-UT	Return on Equity
Southwestern Public Service Company	10/15	Southwestern Public Service Company	Case No. 15-00296-UT	Return on Equity
Southwestern Public Service Company	06/15	Southwestern Public Service Company	Case No. 15-00139-UT	Return on Equity
New York State Department of Public Service				
Liberty Utilities (New York Water)	5/23	Liberty Utilities (New York Water)	Case 23-W-0235	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/22	New York State Electric and Gas Company Rochester Gas and Electric	22-E-0317 22-G-0318 22-E-0319 22-G-0320	Return on Equity
Corning Natural Gas Corporation	07/21	Corning Natural Gas Corporation	Case No. 21-G-0394	Return on Equity
Central Hudson Gas and Electric Corporation	08/20	Central Hudson Gas and Electric Corporation	Electric 20-E-0428 Gas 20-G-0429	Return on Equity
Niagara Mohawk Power Corporation	07/20	National Grid USA	Case No. 20-E-0380 20-G-0381	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Corning Natural Gas Corporation	02/20	Corning Natural Gas Corporation	Case No. 20-G-0101	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/19	New York State Electric and Gas Company Rochester Gas and Electric	19-E-0378 19-G-0379 19-E-0380 19-G-0381	Return on Equity
Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	04/19	Brooklyn Union Gas Company d/b/a National Grid NY KeySpan Gas East Corporation d/b/a National Grid	19-G-0309 19-G-0310	Return on Equity
Central Hudson Gas and Electric Corporation	07/17	Central Hudson Gas and Electric Corporation	Electric 17-E-0459 Gas 17-G-0460	Return on Equity
Niagara Mohawk Power Corporation	04/17	National Grid USA	Case No. 17-E-0238 17-G-0239	Return on Equity
Corning Natural Gas Corporation	06/16	Corning Natural Gas Corporation	Case No. 16-G-0369	Return on Equity
National Fuel Gas Company	04/16	National Fuel Gas Company	Case No. 16-G-0257	Return on Equity
KeySpan Energy Delivery	01/16	KeySpan Energy Delivery	Case No. 15-G-0058 Case No. 15-G-0059	Return on Equity
New York State Electric and Gas Company Rochester Gas and Electric	05/15	New York State Electric and Gas Company Rochester Gas and Electric	Case No. 15-E-0283 Case No. 15-G-0284 Case No. 15-E-0285 Case No. 15-G-0286	Return on Equity
North Dakota Public Service Commission				
Otter Tail Power Company	11/23	Otter Tail Power Company	Case No. PU-23-___	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Montana-Dakota Utilities Co.	11/23	Montana-Dakota Utilities Co.	Case No. PU-23-___	Return on Equity
Montana-Dakota Utilities Co.	05/22	Montana-Dakota Utilities Co.	C-PU-22-194	Return on Equity
Montana-Dakota Utilities Co.	08/20	Montana-Dakota Utilities Co.	C-PU-20-379	Return on Equity
Northern States Power Company	12/12	Northern States Power Company	C-PU-12-813	Return on Equity
Northern States Power Company	12/10	Northern States Power Company	C-PU-10-657	Return on Equity
Oklahoma Corporation Commission				
Oklahoma Gas & Electric	12/23	Oklahoma Gas & Electric	Cause No. PUD2023-000087	Return on Equity
Oklahoma Gas & Electric	12/21	Oklahoma Gas & Electric	Cause No. PUD 202100164	Return on Equity
Arkansas Oklahoma Gas Corporation	01/13	Arkansas Oklahoma Gas Corporation	Cause No. PUD 201200236	Return on Equity
Oregon Public Service Commission				
PacifiCorp d/b/a Pacific Power & Light	03/22	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-399	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	02/20	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-374	Return on Equity
Pennsylvania Public Utility Commission				
American Water Works Company Inc.	11/23	Pennsylvania-American Water Company	Docket No. R-2023-3043189 (water) Docket No. R-2023-3043190 (wastewater)	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
American Water Works Company Inc.	04/22	Pennsylvania-American Water Company	Docket No. R-2020-3031672 (water) Docket No. R-2020-3031673 (wastewater)	Return on Equity
American Water Works Company Inc.	04/20	Pennsylvania-American Water Company	Docket No. R-2020-3019369 (water) Docket No. R-2020-3019371 (wastewater)	Return on Equity
American Water Works Company Inc.	04/17	Pennsylvania-American Water Company	Docket No. R-2017-2595853	Return on Equity
South Dakota Public Utilities Commission				
MidAmerican Energy Company	05/22	MidAmerican Energy Company	D-NG22-005	Return on Equity
Northern States Power Company	06/14	Northern States Power Company	Docket No. EL14-058	Return on Equity
Texas Public Utility Commission				
Entergy Texas, Inc.	07/22	Entergy Texas, Inc.	D-53719	Return on Equity
Southwestern Public Service Commission	08/19	Southwestern Public Service Commission	Docket No. D-49831	Return on Equity
Southwestern Public Service Company	01/14	Southwestern Public Service Company	Docket No. 42004	Return on Equity
Texas Railroad Commission				
CenterPoint Energy Entex and CenterPoint Energy Texas Gas	10/23	CenterPoint Energy Entex and CenterPoint Energy Texas Gas	2023 Texas Division Rate Case Case No. OS-23-00015513	Return on Equity
Utah Public Service Commission				

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
PacifiCorp d/b/a Rocky Mountain Power	05/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20-035-04	Return on Equity
Virginia State Corporation Commission				
Virginia American Water Company, Inc.	11/23	Virginia American Water Company, Inc.	Docket No. PUR-2023-00194	Return on Equity
Virginia American Water Company, Inc.	11/21	Virginia American Water Company, Inc.	Docket No. PUR-2021-00255	Return on Equity
Virginia American Water Company, Inc.	11/18	Virginia American Water Company, Inc.	Docket No. PUR-2018-00175	Return on Equity
Washington Utilities Transportation Commission				
PacifiCorp d/b/a Pacific Power & Light	03/23	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-230172	Return on Equity
Cascade Natural Gas Corporation	06/20	Cascade Natural Gas Corporation	Docket No. UG-200568	Return on Equity
PacifiCorp d/b/a Pacific Power & Light	12/19	PacifiCorp d/b/a Pacific Power & Light	Docket No. UE-191024	Return on Equity
Cascade Natural Gas Corporation	04/19	Cascade Natural Gas Corporation	Docket No. UG-190210	Return on Equity
West Virginia Public Service Commission				
West Virginia American Water Company	05/23	West Virginia American Water Company	Case No. 23-0383-W-42T	Return on Equity
West Virginia American Water Company	04/21	West Virginia American Water Company	Case No. 21-02369-W-42T	Return on Equity
West Virginia American Water Company	04/18	West Virginia American Water Company	Case No. 18-0573-W-42T Case No. 18-0576-S-42T	Return on Equity
Wisconsin Public Service Commission				
Wisconsin Power and Light	05/23	Wisconsin Power and Light	Docket No. 6680-UR-124	Return on Equity

SPONSOR	DATE	CASE/APPLICANT	DOCKET /CASE NO.	SUBJECT
Wisconsin Electric Power Company and Wisconsin Gas LLC	04/22	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-110	Return on Equity
Wisconsin Public Service Corp.	04/22	Wisconsin Public Service Corp.	6690-UR-127	Return on Equity
Alliant Energy		Alliant Energy		Return on Equity
Wisconsin Electric Power Company and Wisconsin Gas LLC	03/19	Wisconsin Electric Power Company and Wisconsin Gas LLC	Docket No. 05-UR-109	Return on Equity
Wisconsin Public Service Corp.	03/19	Wisconsin Public Service Corp.	6690-UR-126	Return on Equity
Wyoming Public Service Commission				
PacifiCorp d/b/a Rocky Mountain Power	02/23	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-633-ER-23	Return on Equity
PacifiCorp d/b/a Rocky Mountain Power	03/20	PacifiCorp d/b/a Rocky Mountain Power	Docket No. 20000-578-ER-20	Return on Equity
Montana-Dakota Utilities Co.	05/19	Montana-Dakota Utilities Co.	30013-351-GR-19	Return on Equity

CERTIFICATIONS/ACCREDITATIONS

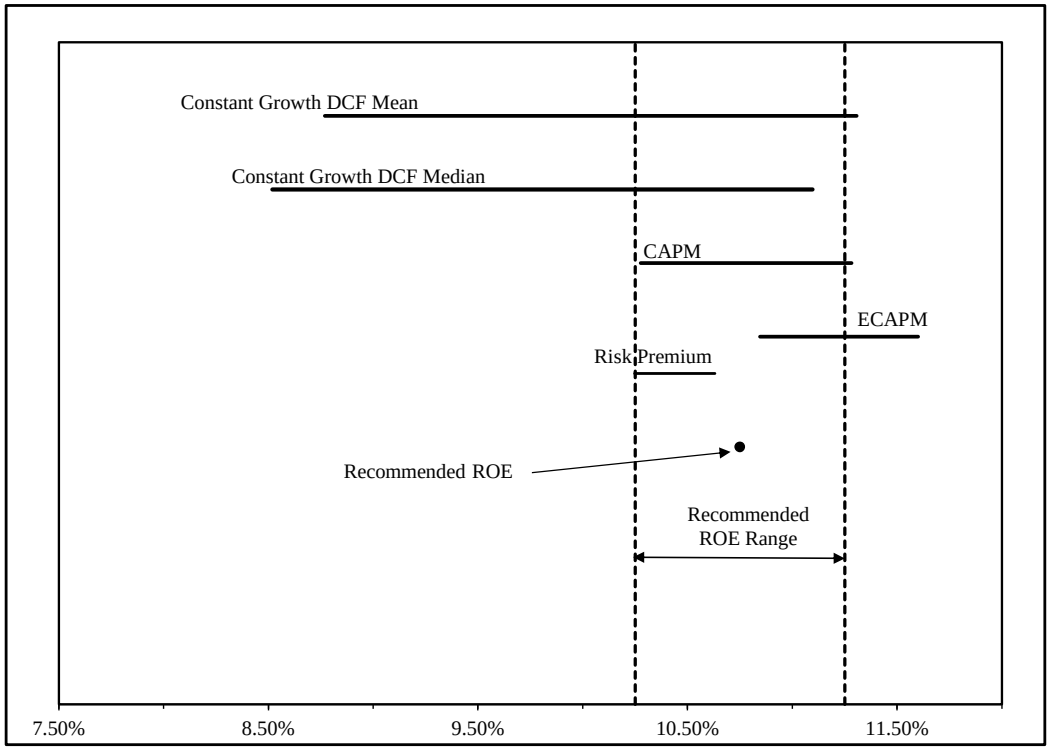
Certified General Appraiser, licensed in the Commonwealth of Massachusetts

SUMMARY OF COE ANALYSES RESULTS

	Minimum Growth Rate	Average Growth Rate	Maximum Growth Rate
Constant Growth DCF			
Mean Results:			
30-Day Average	9.12%	10.16%	11.31%
90-Day Average	8.97%	10.01%	11.16%
180-Day Average	8.77%	9.81%	10.96%
Average	8.95%	9.99%	11.14%
Median Results:			
30-Day Average	8.90%	9.92%	11.10%
90-Day Average	8.69%	9.61%	10.84%
180-Day Average	8.52%	9.28%	10.64%
Average	8.70%	9.60%	10.86%

	Current 30-day Average Treasury Bond Yield	Near-Term Blue Chip Forecast Yield	Long-Term Blue Chip Forecast Yield
CAPM:			
Current Value Line Beta	11.28%	11.23%	11.17%
Current Bloomberg Beta	10.72%	10.65%	10.56%
Long-term Avg. Beta	10.46%	10.38%	10.28%
ECAPM:			
Current Value Line Beta	11.60%	11.56%	11.52%
Current Bloomberg Beta	11.18%	11.13%	11.06%
Long-term Avg. Beta	10.98%	10.92%	10.85%
Risk Premium Results	10.63%	10.46%	10.25%

	X	Y
Constant Growth DCF Mean	8.77%	8.0
	11.31%	8.0
Constant Growth DCF Median	8.52%	7.0
	11.10%	7.0
CAPM	10.28%	6.0
	11.28%	6.0
ECAPM	10.85%	5.0
	11.60%	5.0
Risk Premium	10.25%	4.5
	10.63%	4.5
Lower End ROE Recommendation	10.25%	0.0
	10.25%	9.0
Higher End ROE Recommendation	11.25%	0.0
	11.25%	9.0
Recommendation	10.75%	3.5



PROXY GROUP SCREENING DATA AND RESULTS

Company	Ticker	[1] Dividends	[2] S&P Credit Rating Between BBB- and AAA	[3] Covered by More Than 1 Analyst	[4] Positive Growth Rates from at least two sources (Value Line, Yahoo! First Call, and Zacks)	[5] % Regulated Operating Income > 70%	[6] Announced Merger	[7] Electric Companies with < 10% Generation	[8] Electric Companies with Water Operations
Atmos Energy Corporation	ATO	Yes	A-	Yes	Yes	100%	No	n/a	n/a
NiSource Inc.	NI	Yes	BBB+	Yes	Yes	100%	No	n/a	n/a
Northwest Natural Gas Company	NWN	Yes	A+	Yes	Yes	100%	No	n/a	n/a
ONE Gas, Inc.	OGS	Yes	A-	Yes	Yes	100%	No	n/a	n/a
Spire, Inc.	SR	Yes	A-	Yes	Yes	87%	No	n/a	n/a
Eversource Energy	ES	Yes	A-	Yes	Yes	92%	No	0.06%	Yes
American States Water Company	AWR	Yes	A	Yes	Yes	83%	No	n/a	n/a
California Water Service Group	CWT	Yes	A+	Yes	Yes	98%	No	n/a	n/a
Middlesex Water Company	MSEX	Yes	A	Yes	Yes	91%	No	n/a	n/a
SJW Group	SJW	Yes	A-	Yes	Yes	99%	No	n/a	n/a
Essential Utilities, Inc.	WTRG	Yes	A	Yes	Yes	99%	No	n/a	n/a

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional
[3] Source: Yahoo! Finance, and Zacks
[4] Source: Yahoo! Finance, Value Line Investment Survey, and Zacks
[5] Source: Form 10-K's for 2022, 2021, and 2020
[6] Source: SNL Financial News Releases
[7] Source: S&P Capital IQ Pro
[8] Source: S&P Capital IQ Pro

30-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
Atmos Energy Corporation	ATO	$3.22	$110.15	2.92%	3.03%	7.00%	7.50%	7.30%	7.27%	10.03%	10.30%	10.53%
NiSource Inc.	NI	$1.00	$25.47	3.93%	4.09%	9.50%	8.30%	7.20%	8.33%	11.27%	12.42%	13.61%
Northwest Natural Gas Company	NWN	$1.95	$37.13	5.25%	5.36%	6.50%	2.80%	3.70%	4.33%	8.12%	9.70%	11.92%
ONE Gas, Inc.	OGS	$2.60	$60.91	4.27%	4.39%	6.50%	5.00%	5.00%	5.50%	9.38%	9.89%	10.91%
Spire, Inc.	SR	$2.88	$58.30	4.94%	5.11%	8.00%	n/a	5.60%	6.80%	10.68%	11.91%	13.14%
Eversource Energy	ES	$2.70	$55.95	4.83%	4.95%	6.00%	4.00%	5.00%	5.00%	8.92%	9.95%	10.97%
American States Water Company	AWR	$1.72	$79.00	2.18%	2.24%	6.50%	4.40%	6.30%	5.73%	6.63%	7.97%	8.75%
California Water Service Group	CWT	$1.04	$49.63	2.10%	2.19%	6.50%	10.80%	n/a	8.65%	8.66%	10.84%	13.01%
Middlesex Water Company	MSEX	$1.30	$64.21	2.02%	2.06%	5.00%	2.70%	n/a	3.85%	4.75%	5.91%	7.08%
SJW Group	SJW	$1.52	$62.51	2.43%	2.51%	6.50%	6.10%	n/a	6.30%	8.61%	8.81%	9.01%
Essential Utilities, Inc.	WTRG	$1.23	$34.25	3.59%	3.70%	7.50%	5.20%	5.60%	6.10%	8.88%	9.80%	11.22%
All Companies												
Mean				3.50%	3.60%	6.86%	5.68%	5.71%	6.17%	8.72%	9.77%	10.92%
Median				3.59%	3.70%	6.50%	5.10%	5.60%	6.10%	8.88%	9.89%	10.97%
Excluding Middlesex Water Company												
Mean										9.12%	10.16%	11.31%
Median										8.90%	9.92%	11.10%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of November 30, 2023
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

90-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
Atmos Energy Corporation	ATO	$3.22	$112.18	2.87%	2.97%	7.00%	7.50%	7.30%	7.27%	9.97%	10.24%	10.48%
NiSource Inc.	NI	$1.00	$25.91	3.86%	4.02%	9.50%	8.30%	7.20%	8.33%	11.20%	12.35%	13.54%
Northwest Natural Gas Company	NWN	$1.95	$38.73	5.04%	5.14%	6.50%	2.80%	3.70%	4.33%	7.91%	9.48%	11.70%
ONE Gas, Inc.	OGS	$2.60	$68.57	3.79%	3.90%	6.50%	5.00%	5.00%	5.50%	8.89%	9.40%	10.42%
Spire, Inc.	SR	$2.88	$58.60	4.91%	5.08%	8.00%	n/a	5.60%	6.80%	10.65%	11.88%	13.11%
Eversource Energy	ES	$2.70	$60.26	4.48%	4.59%	6.00%	4.00%	5.00%	5.00%	8.57%	9.59%	10.61%
American States Water Company	AWR	$1.72	$81.51	2.11%	2.17%	6.50%	4.40%	6.30%	5.73%	6.56%	7.90%	8.68%
California Water Service Group	CWT	$1.04	$49.60	2.10%	2.19%	6.50%	10.80%	n/a	8.65%	8.66%	10.84%	13.01%
Middlesex Water Company	MSEX	$1.30	$70.15	1.85%	1.89%	5.00%	2.70%	n/a	3.85%	4.58%	5.74%	6.90%
SJW Group	SJW	$1.52	$63.65	2.39%	2.46%	6.50%	6.10%	n/a	6.30%	8.56%	8.76%	8.97%
Essential Utilities, Inc.	WTRG	$1.23	$35.83	3.43%	3.53%	7.50%	5.20%	5.60%	6.10%	8.72%	9.63%	11.06%
All Companies												
Mean				3.35%	3.45%	6.86%	5.68%	5.71%	6.17%	8.57%	9.62%	10.77%
Median				3.43%	3.53%	6.50%	5.10%	5.60%	6.10%	8.66%	9.59%	10.61%
Excluding Middlesex Water Company												
Mean										8.97%	10.01%	11.16%
Median										8.69%	9.61%	10.84%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of November 30, 2023
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

180-DAY CONSTANT GROWTH DCF

Company	Ticker	[1] Annualized Dividend	[2] Stock Price	[3] Dividend Yield	[4] Expected Dividend Yield	[5] Value Line Earnings Growth	[6] Yahoo! Finance Earnings Growth	[7] Zacks Earnings Growth	[8] Average Growth Rate	[9] Low ROE	[10] Mean ROE	[11] High ROE
Atmos Energy Corporation	ATO	$3.22	$113.07	2.85%	2.95%	7.00%	7.50%	7.30%	7.27%	9.95%	10.22%	10.45%
NiSource Inc.	NI	$1.00	$26.50	3.77%	3.93%	9.50%	8.30%	7.20%	8.33%	11.11%	12.26%	13.45%
Northwest Natural Gas Company	NWN	$1.95	$41.27	4.73%	4.83%	6.50%	2.80%	3.70%	4.33%	7.59%	9.16%	11.38%
ONE Gas, Inc.	OGS	$2.60	$72.99	3.56%	3.66%	6.50%	5.00%	5.00%	5.50%	8.65%	9.16%	10.18%
Spire, Inc.	SR	$2.88	$62.07	4.64%	4.80%	8.00%	n/a	5.60%	6.80%	10.37%	11.60%	12.83%
Eversource Energy	ES	$2.70	$66.71	4.05%	4.15%	6.00%	4.00%	5.00%	5.00%	8.13%	9.15%	10.17%
American States Water Company	AWR	$1.72	$84.55	2.03%	2.09%	6.50%	4.40%	6.30%	5.73%	6.48%	7.83%	8.60%
California Water Service Group	CWT	$1.04	$52.15	1.99%	2.08%	6.50%	10.80%	n/a	8.65%	8.56%	10.73%	12.90%
Middlesex Water Company	MSEX	$1.30	$73.90	1.76%	1.79%	5.00%	2.70%	n/a	3.85%	4.48%	5.64%	6.80%
SJW Group	SJW	$1.52	$68.60	2.22%	2.29%	6.50%	6.10%	n/a	6.30%	8.38%	8.59%	8.79%
Essential Utilities, Inc.	WTRG	$1.23	$38.42	3.20%	3.29%	7.50%	5.20%	5.60%	6.10%	8.48%	9.39%	10.82%
All Companies												
Mean				3.16%	3.26%	6.86%	5.68%	5.71%	6.17%	8.38%	9.43%	10.58%
Median				3.20%	3.29%	6.50%	5.10%	5.60%	6.10%	8.48%	9.16%	10.45%
Excluding Middlesex Water Company												
Mean										8.77%	9.81%	10.96%
Median										8.52%	9.28%	10.64%

Notes:
[1] Source: Bloomberg Professional
[2] Source: Bloomberg Professional, equals 30-day average as of November 30, 2023
[3] Equals [1] / [2]
[4] Equals [3] x (1 + 0.50 x [8])
[5] Source: Value Line
[6] Source: Yahoo! Finance
[7] Source: Zacks
[8] Equals Average ([5], [6], [7])
[9] Equals [3] x (1 + 0.50 x Minimum ([5], [6], [7]) + Minimum ([5], [6], [7])
[10] Equals [4] + [8]
[11] Equals [3] x (1 + 0.50 x Maximum ([5], [6], [7]) + Maximum ([5], [6], [7])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VL BETA

$$K = Rf + \beta\ (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
NiSource Inc.	NI	4.77%	0.90	12.56%	7.78%	11.78%	11.97%
Northwest Natural Gas Company	NWN	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
ONE Gas, Inc.	OGS	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
Spire, Inc.	SR	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
Eversource Energy	ES	4.77%	0.90	12.56%	7.78%	11.78%	11.97%
American States Water Company	AWR	4.77%	0.70	12.56%	7.78%	10.22%	10.81%
California Water Service Group	CWT	4.77%	0.70	12.56%	7.78%	10.22%	10.81%
Middlesex Water Company	MSEX	4.77%	0.75	12.56%	7.78%	10.61%	11.10%
SJW Group	SJW	4.77%	0.85	12.56%	7.78%	11.39%	11.68%
Essential Utilities, Inc.	WTRG	4.77%	1.00	12.56%	7.78%	12.56%	12.56%
Mean			0.84			11.28%	11.60%

Notes:
[1] Source: Bloomberg Professional, 30-day average as of November 30, 2023
[2] Source: Value Line Reports, Novmember 24, 2023, and October 6, 2023
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & VL BETA

$$K = Rf + \beta\ (Rm - Rf)$$
$$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q1 2024 - Q1 2025)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
NiSource Inc.	NI	4.48%	0.90	12.56%	8.08%	11.75%	11.95%
Northwest Natural Gas Company	NWN	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
ONE Gas, Inc.	OGS	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
Spire, Inc.	SR	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
Eversource Energy	ES	4.48%	0.90	12.56%	8.08%	11.75%	11.95%
American States Water Company	AWR	4.48%	0.70	12.56%	8.08%	10.13%	10.74%
California Water Service Group	CWT	4.48%	0.70	12.56%	8.08%	10.13%	10.74%
Middlesex Water Company	MSEX	4.48%	0.75	12.56%	8.08%	10.54%	11.04%
SJW Group	SJW	4.48%	0.85	12.56%	8.08%	11.34%	11.65%
Essential Utilities, Inc.	WTRG	4.48%	1.00	12.56%	8.08%	12.56%	12.56%
Mean			0.84			11.23%	11.56%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2
[2] Source: Value Line Reports, Novmember 24, 2023, and October 6, 2023
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & VL BETA

$$K = Rf + \beta\ (Rm - Rf)$$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2025-2029)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
NiSource Inc.	NI	4.10%	0.90	12.56%	8.46%	11.71%	11.92%
Northwest Natural Gas Company	NWN	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
ONE Gas, Inc.	OGS	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
Spire, Inc.	SR	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
Eversource Energy	ES	4.10%	0.90	12.56%	8.46%	11.71%	11.92%
American States Water Company	AWR	4.10%	0.70	12.56%	8.46%	10.02%	10.65%
California Water Service Group	CWT	4.10%	0.70	12.56%	8.46%	10.02%	10.65%
Middlesex Water Company	MSEX	4.10%	0.75	12.56%	8.46%	10.44%	10.97%
SJW Group	SJW	4.10%	0.85	12.56%	8.46%	11.29%	11.60%
Essential Utilities, Inc.	WTRG	4.10%	1.00	12.56%	8.46%	12.56%	12.56%
Mean			0.84			11.17%	11.52%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14
[2] Source: Value Line Reports, Novmember 24, 2023, and October 6, 2023
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & BLOOMBERG BETA

$K = Rf + \beta (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.77%	0.75	12.56%	7.78%	10.61%	11.10%
NiSource Inc.	NI	4.77%	0.81	12.56%	7.78%	11.09%	11.46%
Northwest Natural Gas Company	NWN	4.77%	0.71	12.56%	7.78%	10.26%	10.83%
ONE Gas, Inc.	OGS	4.77%	0.78	12.56%	7.78%	10.86%	11.28%
Spire, Inc.	SR	4.77%	0.77	12.56%	7.78%	10.78%	11.23%
Eversource Energy	ES	4.77%	0.81	12.56%	7.78%	11.05%	11.43%
American States Water Company	AWR	4.77%	0.65	12.56%	7.78%	9.87%	10.54%
California Water Service Group	CWT	4.77%	0.69	12.56%	7.78%	10.17%	10.76%
Middlesex Water Company	MSEX	4.77%	0.77	12.56%	7.78%	10.80%	11.24%
SJW Group	SJW	4.77%	0.81	12.56%	7.78%	11.05%	11.42%
Essential Utilities, Inc.	WTRG	4.77%	0.85	12.56%	7.78%	11.41%	11.69%
Mean			0.76			10.72%	11.18%

Notes:
[1] Source: Bloomberg Professional, 30-day average as of November 30, 2023
[2] Source: Bloomberg Professional, as of November 30, 2023
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- NEAR-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$K = Rf + \beta (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q1 2024 - Q1 2025)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.48%	0.75	12.56%	8.08%	10.54%	11.04%
NiSource Inc.	NI	4.48%	0.81	12.56%	8.08%	11.04%	11.42%
Northwest Natural Gas Company	NWN	4.48%	0.71	12.56%	8.08%	10.17%	10.77%
ONE Gas, Inc.	OGS	4.48%	0.78	12.56%	8.08%	10.80%	11.24%
Spire, Inc.	SR	4.48%	0.77	12.56%	8.08%	10.71%	11.17%
Eversource Energy	ES	4.48%	0.81	12.56%	8.08%	10.99%	11.38%
American States Water Company	AWR	4.48%	0.65	12.56%	8.08%	9.76%	10.46%
California Water Service Group	CWT	4.48%	0.69	12.56%	8.08%	10.08%	10.70%
Middlesex Water Company	MSEX	4.48%	0.77	12.56%	8.08%	10.74%	11.19%
SJW Group	SJW	4.48%	0.81	12.56%	8.08%	10.99%	11.38%
Essential Utilities, Inc.	WTRG	4.48%	0.85	12.56%	8.08%	11.36%	11.66%
Mean			0.76			10.65%	11.13%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2
[2] Source: Bloomberg Professional, as of November 30, 2023
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- LONG-TERM PROJECTED RISK-FREE RATE & BLOOMBERG BETA

$K = Rf + \beta (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2025-2029)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.10%	0.75	12.56%	8.46%	10.45%	10.97%
NiSource Inc.	NI	4.10%	0.81	12.56%	8.46%	10.97%	11.37%
Northwest Natural Gas Company	NWN	4.10%	0.71	12.56%	8.46%	10.06%	10.69%
ONE Gas, Inc.	OGS	4.10%	0.78	12.56%	8.46%	10.71%	11.17%
Spire, Inc.	SR	4.10%	0.77	12.56%	8.46%	10.63%	11.11%
Eversource Energy	ES	4.10%	0.81	12.56%	8.46%	10.92%	11.33%
American States Water Company	AWR	4.10%	0.65	12.56%	8.46%	9.63%	10.36%
California Water Service Group	CWT	4.10%	0.69	12.56%	8.46%	9.96%	10.61%
Middlesex Water Company	MSEX	4.10%	0.77	12.56%	8.46%	10.65%	11.13%
SJW Group	SJW	4.10%	0.81	12.56%	8.46%	10.92%	11.33%
Essential Utilities, Inc.	WTRG	4.10%	0.85	12.56%	8.46%	11.31%	11.62%
Mean			0.76			10.56%	11.06%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14
[2] Source: Bloomberg Professional, as of November 30, 2023
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VALUE LINE LT AVERAGE BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Current 30-day average of 30-year U.S. Treasury bond yield	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.77%	0.74	12.56%	7.78%	10.53%	11.04%
NiSource Inc.	NI	4.77%	0.74	12.56%	7.78%	10.51%	11.02%
Northwest Natural Gas Company	NWN	4.77%	0.70	12.56%	7.78%	10.22%	10.81%
ONE Gas, Inc.	OGS	4.77%	0.73	12.56%	7.78%	10.44%	10.97%
Spire, Inc.	SR	4.77%	0.73	12.56%	7.78%	10.46%	10.98%
Eversource Energy	ES	4.77%	0.74	12.56%	7.78%	10.56%	11.06%
American States Water Company	AWR	4.77%	0.69	12.56%	7.78%	10.14%	10.75%
California Water Service Group	CWT	4.77%	0.71	12.56%	7.78%	10.26%	10.83%
Middlesex Water Company	MSEX	4.77%	0.74	12.56%	7.78%	10.49%	11.01%
SJW Group	SJW	4.77%	0.76	12.56%	7.78%	10.65%	11.13%
Essential Utilities, Inc.	WTRG	4.77%	0.77	12.56%	7.78%	10.77%	11.21%
Mean			0.73			10.46%	10.98%

Notes:
[1] Source: Bloomberg Professional, 30-day average as of November 30, 2023
[2] Source: Schedule AEB-5
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VALUE LINE LT AVERAGE BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Near-term projected 30-year U.S. Treasury bond yield (Q1 2024 - Q1 2025)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.48%	0.74	12.56%	8.08%	10.46%	10.98%
NiSource Inc.	NI	4.48%	0.74	12.56%	8.08%	10.44%	10.97%
Northwest Natural Gas Company	NWN	4.48%	0.70	12.56%	8.08%	10.13%	10.74%
ONE Gas, Inc.	OGS	4.48%	0.73	12.56%	8.08%	10.36%	10.91%
Spire, Inc.	SR	4.48%	0.73	12.56%	8.08%	10.38%	10.92%
Eversource Energy	ES	4.48%	0.74	12.56%	8.08%	10.49%	11.00%
American States Water Company	AWR	4.48%	0.69	12.56%	8.08%	10.05%	10.68%
California Water Service Group	CWT	4.48%	0.71	12.56%	8.08%	10.17%	10.77%
Middlesex Water Company	MSEX	4.48%	0.74	12.56%	8.08%	10.42%	10.95%
SJW Group	SJW	4.48%	0.76	12.56%	8.08%	10.58%	11.07%
Essential Utilities, Inc.	WTRG	4.48%	0.77	12.56%	8.08%	10.70%	11.16%
Mean			0.73			10.38%	10.92%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2
[2] Source: Schedule AEB-5
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

CAPITAL ASSET PRICING MODEL -- CURRENT RISK-FREE RATE & VALUE LINE LT AVERAGE BETA

$K = Rf + \beta (Rm - Rf)$
$K = Rf + 0.25 \times (Rm - Rf) + 0.75 \times \beta \times (Rm - Rf)$

		[1]	[2]	[3]	[4]	[5]	[6]
Company	Ticker	Projected 30-year U.S. Treasury bond yield (2025-2029)	Beta (β)	Market Return (Rm)	Market Risk Premium (Rm − Rf)	ROE (K)	ECAPM ROE
Atmos Energy Corporation	ATO	4.10%	0.74	12.56%	8.46%	10.36%	10.91%
NiSource Inc.	NI	4.10%	0.74	12.56%	8.46%	10.34%	10.89%
Northwest Natural Gas Company	NWN	4.10%	0.70	12.56%	8.46%	10.02%	10.65%
ONE Gas, Inc.	OGS	4.10%	0.73	12.56%	8.46%	10.26%	10.83%
Spire, Inc.	SR	4.10%	0.73	12.56%	8.46%	10.27%	10.84%
Eversource Energy	ES	4.10%	0.74	12.56%	8.46%	10.39%	10.93%
American States Water Company	AWR	4.10%	0.69	12.56%	8.46%	9.93%	10.59%
California Water Service Group	CWT	4.10%	0.71	12.56%	8.46%	10.06%	10.69%
Middlesex Water Company	MSEX	4.10%	0.74	12.56%	8.46%	10.32%	10.88%
SJW Group	SJW	4.10%	0.76	12.56%	8.46%	10.48%	11.00%
Essential Utilities, Inc.	WTRG	4.10%	0.77	12.56%	8.46%	10.61%	11.10%
Mean			0.73			10.28%	10.85%

Notes:
[1] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14
[2] Source: Schedule AEB-5
[3] Source: Schedule AEB-6
[4] Equals [3] - [1]
[5] Equals [1] + [2] x [4]
[6] Equals [1] + 0.25 x ([4]) + 0.75 x ([2] x [4])

HISTORICAL BETA - 2013 - 2022

Company	Ticker	[1] 12/31/2013	[2] 12/31/2014	[3] 12/31/2015	[4] 12/31/2016	[5] 12/31/2017	[6] 12/31/2018	[7] 12/31/2019	[8] 12/31/2020	[9] 12/31/2021	[10] 12/31/2022	[11] Average
Atmos Energy Corporation	ATO	0.80	0.80	0.80	0.70	0.70	0.60	0.60	0.80	0.80	0.80	0.74
NiSource Inc.	NI	0.85	0.85	NMF	NMF	0.60	0.50	0.55	0.85	0.85	0.85	0.74
Northwest Natural Gas Company	NWN	0.65	0.70	0.65	0.65	0.70	0.60	0.60	0.80	0.85	0.80	0.70
ONE Gas, Inc.	OGS				0.70	0.70	0.65	0.65	0.80	0.80	0.80	0.73
Spire, Inc.	SR	0.65	0.70	0.70	0.70	0.70	0.65	0.65	0.85	0.85	0.85	0.73
Eversource Energy	ES			0.75	0.70	0.65	0.60	0.55	0.90	0.90	0.90	0.74
American States Water Company	AWR	0.65	0.70	0.70	0.75	0.80	0.70	0.65	0.65	0.65	0.65	0.69
California Water Service Group	CWT	0.60	0.70	0.75	0.75	0.80	0.70	0.70	0.65	0.70	0.70	0.71
Middlesex Water Company	MSEX	0.75	0.70	0.70	0.75	0.80	0.75	0.75	0.75	0.70	0.70	0.74
SJW Group	SJW	0.85	0.85	0.75	0.75	0.70	0.60	0.60	0.85	0.80	0.80	0.76
Essential Utilities, Inc.	WTRG	0.60	0.70	0.75	0.70	0.75	0.70	0.65	0.95	0.95	0.95	0.77
Mean		0.71	0.74	0.73	0.72	0.72	0.64	0.63	0.80	0.80	0.80	0.73

Notes:

[1] Value Line, dated December 26, 2013.
[2] Value Line, dated December 31, 2014.
[3] Value Line, dated December 30, 2015.
[4] Value Line, dated December 29, 2016.
[5] Value Line, dated December 28, 2017.
[6] Value Line, dated December 27, 2018.
[7] Value Line, dated December 26, 2019.
[8] Value Line, dated December 30, 2020.
[9] Value Line, dated December 29, 2021.
[10] Value Line, dated December 30, 2022.
[11] Average ([1] - [10])

MARKET RISK PREMIUM DERIVED FROM S&P 500 INDEX

[1] Estimated Weighted Average Dividend Yield	1.69%
[2] Estimated Weighted Average Long-Term Growth Rate	10.78%
[3] S&P 500 Estimated Required Market Return	12.56%

Name	Ticker	[4] Shares Outst'g	[5] Price	[6] Market Capitalization	[7] Weight in Index	[8] Estimated Dividend Yield	[9] Cap-Weighted Dividend Yield	[10] Bloomberg Long-Term Growth Est.	[11] Cap-Weighted Long-Term Growth Est.
LyondellBasell Industries NV	LYB	324.36	95.10	30,847	0.11%	5.26%	0.01%	8.00%	0.01%
American Express Co	AXP	728.75	170.77	124,448	0.42%	1.41%	0.01%	14.01%	0.06%
Verizon Communications Inc	VZ	4,204.10	38.33	161,143		6.94%			
Broadcom Inc	AVGO	469.43	925.73	434,562	1.48%	1.99%	0.03%	13.89%	0.21%
Boeing Co/The	BA	604.98	231.63	140,131				183.61%	
Caterpillar Inc	CAT	509.09	250.72	127,638	0.43%	2.07%	0.01%	20.00%	0.09%
JPMorgan Chase & Co	JPM	2,891.01	156.08	451,229	1.54%	2.69%	0.04%	1.00%	0.02%
Chevron Corp	CVX	1,887.75	143.60	271,081	0.92%	4.21%	0.04%	7.27%	0.07%
Coca-Cola Co/The	KO	4,323.41	58.44	252,660	0.86%	3.15%	0.03%	6.51%	0.06%
AbbVie Inc	ABBV	1,765.54	142.39	251,395	0.86%	4.35%	0.04%	0.19%	0.00%
Walt Disney Co/The	DIS	1,830.32	92.69	169,652	0.58%	0.65%	0.00%	18.88%	0.11%
FleetCor Technologies Inc	FLT	72.20	240.50	17,365	0.06%			12.92%	0.01%
Extra Space Storage Inc	EXR	211.28	130.17	27,502	0.09%	4.98%	0.00%	1.10%	0.00%
Exxon Mobil Corp	XOM	4,006.13	102.74	411,590		3.70%		45.59%	
Phillips 66	PSX	439.96	128.89	56,706	0.19%	3.26%	0.01%	15.21%	0.03%
General Electric Co	GE	1,088.39	121.80	132,565		0.26%		22.50%	
HP Inc	HPQ	988.27	29.34	28,996	0.10%	3.76%	0.00%	3.00%	0.00%
Home Depot Inc/The	HD	995.26	313.49	312,005	1.06%	2.67%	0.03%	1.69%	0.02%
Monolithic Power Systems Inc	MPWR	47.91	548.72	26,290	0.09%	0.73%	0.00%	8.00%	0.01%
International Business Machines Corp	IBM	913.12	158.56	144,784	0.49%	4.19%	0.02%	2.77%	0.01%
Johnson & Johnson	JNJ	2,407.28	154.66	372,310	1.27%	3.08%	0.04%	3.86%	0.05%
Lululemon Athletica Inc	LULU	121.43	446.80	54,253	0.18%			16.00%	0.03%
McDonald's Corp	MCD	725.34	281.84	204,430	0.70%	2.37%	0.02%	9.34%	0.07%
Merck & Co Inc	MRK	2,534.02	102.48	259,687	0.88%	3.01%	0.03%	9.08%	0.08%
3M Co	MMM	552.32	99.07	54,718	0.19%	6.06%	0.01%	4.00%	0.01%
American Water Works Co Inc	AWK	194.71	131.84	25,670	0.09%	2.15%	0.00%	8.00%	0.01%
Bank of America Corp	BAC	7,913.73	30.49	241,290		3.15%		-5.00%	
Pfizer Inc	PFE	5,646.41	30.47	172,046		5.38%		50.40%	
Procter & Gamble Co/The	PG	2,356.89	153.52	361,829	1.23%	2.45%	0.03%	7.51%	0.09%
AT&T Inc	T	7,150.02	16.57	118,476	0.40%	6.70%	0.03%	3.36%	0.01%
Travelers Cos Inc/The	TRV	228.40	180.62	41,253	0.14%	2.21%	0.00%	15.33%	0.02%
RTX Corp	RTX	1,437.90	81.48	117,160	0.40%	2.90%	0.01%	8.61%	0.03%
Analog Devices Inc	ADI	496.26	182.52	90,578	0.31%	1.88%	0.01%	4.50%	0.01%
Walmart Inc	WMT	2,692.23	155.69	419,154	1.43%	1.46%	0.02%	3.00%	0.04%
Cisco Systems Inc	CSCO	4,063.48	48.38	196,591	0.67%	3.22%	0.02%	10.00%	0.07%
Intel Corp	INTC	4,216.00	44.70	188,455		1.12%		-1.82%	
General Motors Co	GM	1,369.48	31.60	43,276		1.14%		-4.65%	
Microsoft Corp	MSFT	7,432.26	378.91	2,816,158	9.59%	0.79%	0.08%	15.72%	1.51%
Dollar General Corp	DG	219.48	131.12	28,778		1.80%		-2.50%	
Cigna Group/The	CI	292.62	262.88	76,924	0.26%	1.87%	0.00%	9.80%	0.03%
Kinder Morgan Inc	KMI	2,222.77	17.57	39,054	0.13%	6.43%	0.01%	2.00%	0.00%
Citigroup Inc	C	1,913.88	46.10	88,230		4.60%		-9.70%	
American International Group Inc	AIG	702.04	65.81	46,201	0.16%	2.19%	0.00%	10.00%	0.02%
Altria Group Inc	MO	1,768.65	42.04	74,354	0.25%	9.32%	0.02%	4.50%	0.01%
HCA Healthcare Inc	HCA	267.66	250.48	67,044	0.23%	0.96%	0.00%	7.56%	0.02%
International Paper Co	IP	346.02	36.94	12,782		5.01%		-2.00%	
Hewlett Packard Enterprise Co	HPE	1,283.00	16.91	21,696	0.07%	3.08%	0.00%	3.03%	0.00%
Abbott Laboratories	ABT	1,736.06	104.29	181,054	0.62%	1.96%	0.01%	3.27%	0.02%
Aflac Inc	AFL	584.38	82.71	48,334	0.16%	2.42%	0.00%	8.04%	0.01%
Air Products and Chemicals Inc	APD	222.21	270.55	60,118	0.20%	2.59%	0.01%	12.55%	0.03%
Royal Caribbean Cruises Ltd	RCL	256.24	107.46	27,535					
Hess Corp	HES	307.15	140.56	43,173	0.15%	1.25%	0.00%	13.00%	0.02%
Archer-Daniels-Midland Co	ADM	533.38	73.73	39,326		2.44%		-7.07%	
Automatic Data Processing Inc	ADP	411.31	229.92	94,567	0.32%	2.44%	0.01%	16.00%	0.05%
Verisk Analytics Inc	VRSK	144.99	241.43	35,004	0.12%	0.56%	0.00%	12.15%	0.01%
AutoZone Inc	AZO	17.63	2,609.93	46,024	0.16%			13.72%	0.02%
Linde PLC	LIN	484.89	412.50	200,015	0.68%	1.24%	0.01%	14.00%	0.10%
Avery Dennison Corp	AVY	80.53	194.50	15,663	0.05%	1.67%	0.00%	7.00%	0.00%
Enphase Energy Inc	ENPH	136.55	101.02	13,794				28.59%	
MSCI Inc	MSCI	79.09	520.85	41,195	0.14%	1.06%	0.00%	14.48%	0.02%
Ball Corp	BALL	315.30	55.29	17,433	0.06%	1.45%	0.00%	10.30%	0.01%
Axon Enterprise Inc	AXON	74.93	229.87	17,225					
Ceridian HCM Holding Inc	CDAY	156.13	68.90	10,757					
Carrier Global Corp	CARR	839.05	51.96	43,597	0.15%	1.42%	0.00%	10.80%	0.02%
Bank of New York Mellon Corp/The	BK	769.07	48.32	37,162	0.13%	3.48%	0.00%	10.00%	0.01%
Otis Worldwide Corp	OTIS	409.26	85.79	35,110	0.12%	1.59%	0.00%	9.00%	0.01%
Baxter International Inc	BAX	507.32	36.08	18,304		3.22%		-1.17%	
Becton Dickinson & Co	BDX	290.41	236.18	68,588		1.61%		-2.02%	
Berkshire Hathaway Inc	BRK/B	1,308.41	360.00	471,029					
Best Buy Co Inc	BBY	217.64	70.94	15,439	0.05%	5.19%	0.00%	2.93%	0.00%
Boston Scientific Corp	BSX	1,464.98	55.89	81,878	0.28%			12.10%	0.03%
Bristol-Myers Squibb Co	BMY	2,034.76	49.38	100,476	0.34%	4.62%	0.02%	9.92%	0.03%
Brown-Forman Corp	BF/B	310.14	58.74	18,217	0.06%	1.48%	0.00%	6.42%	0.00%
Coterra Energy Inc	CTRA	752.19	26.25	19,745		3.05%		55.04%	
Campbell Soup Co	CPB	297.62	40.18	11,958	0.04%	3.68%	0.00%	2.81%	0.00%
Hilton Worldwide Holdings Inc	HLT	256.44	167.52	42,959	0.15%	0.36%	0.00%	17.09%	0.03%
Carnival Corp	CCL	1,119.45	15.06	16,859					

Qorvo Inc	QRVO	97.35	96.50	9,394	0.03%			10.04%	0.00%
UDR Inc	UDR	328.93	33.40	10,986	0.04%	5.03%	0.00%	6.08%	0.00%
Clorox Co/The	CLX	124.06	143.35	17,784	0.06%	3.35%	0.00%	11.53%	0.01%
Paycom Software Inc	PAYC	60.23	181.66	10,941	0.04%	0.83%	0.00%	15.19%	0.01%
CMS Energy Corp	CMS	291.76	56.76	16,561	0.06%	3.44%	0.00%	7.75%	0.00%
Colgate-Palmolive Co	CL	823.37	78.77	64,857	0.22%	2.44%	0.01%	7.21%	0.02%
EPAM Systems Inc	EPAM	57.70	258.19	14,898	0.05%			4.87%	0.00%
Comerica Inc	CMA	131.87	45.22	5,963	0.02%	6.28%	0.00%	10.63%	0.00%
Conagra Brands Inc	CAG	477.97	28.29	13,522	0.05%	4.95%	0.00%	0.84%	0.00%
Airbnb Inc	ABNB	434.75	126.34	54,926	0.19%			18.20%	0.03%
Consolidated Edison Inc	ED	344.92	90.11	31,081	0.11%	3.60%	0.00%	4.88%	0.01%
Corning Inc	GLW	853.18	28.49	24,307	0.08%	3.93%	0.00%	1.57%	0.00%
Cummins Inc	CMI	141.75	224.16	31,774	0.11%	3.00%	0.00%	9.15%	0.01%
Caesars Entertainment Inc	CZR	215.71	44.72	9,647				110.92%	
Danaher Corp	DHR	738.93	223.31	165,010		0.48%		-7.03%	
Target Corp	TGT	461.66	133.81	61,775	0.21%	3.29%	0.01%	0.15%	0.00%
Deere & Co	DE	288.00	364.41	104,950	0.36%	1.48%	0.01%	3.96%	0.01%
Dominion Energy Inc	D	836.77	45.34	37,939		5.89%		-0.72%	
Dover Corp	DOV	139.89	141.16	19,747	0.07%	1.45%	0.00%	10.00%	0.01%
Alliant Energy Corp	LNT	252.72	50.57	12,780	0.04%	3.58%	0.00%	6.26%	0.00%
Steel Dynamics Inc	STLD	161.82	119.13	19,277		1.43%		-13.17%	
Duke Energy Corp	DUK	771.00	92.28	71,148	0.24%	4.44%	0.01%	6.06%	0.01%
Regency Centers Corp	REG	184.58	62.78	11,588	0.04%	4.27%	0.00%	4.64%	0.00%
Eaton Corp PLC	ETN	399.30	227.69	90,917	0.31%	1.51%	0.00%	15.00%	0.05%
Ecolab Inc	ECL	285.14	191.73	54,670	0.19%	1.11%	0.00%	16.00%	0.03%
Revvity Inc	RVTY	123.41	88.90	10,971		0.31%		-26.69%	
Emerson Electric Co	EMR	570.10	88.90	50,682	0.17%	2.36%	0.00%	12.01%	0.02%
EOG Resources Inc	EOG	583.15	123.07	71,768	0.24%	2.96%	0.01%	17.83%	0.04%
Aon PLC	AON	200.22	328.49	65,769	0.22%	0.75%	0.00%	11.58%	0.03%
Entergy Corp	ETR	211.46	101.41	21,444	0.07%	4.46%	0.00%	6.22%	0.00%
Equifax Inc	EFX	123.22	217.71	26,826	0.09%	0.72%	0.00%	12.33%	0.01%
EQT Corp	EQT	411.33	39.96	16,437		1.58%		20.04%	
IQVIA Holdings Inc	IQV	182.50	214.10	39,073				-13.67%	
Gartner Inc	IT	77.95	434.84	33,895	0.12%			7.35%	0.01%
FedEx Corp	FDX	251.42	258.83	65,075	0.22%	1.95%	0.00%	14.50%	0.03%
FMC Corp	FMC	124.76	53.66	6,695		4.32%		-4.00%	
Brown & Brown Inc	BRO	284.60	74.74	21,271	0.07%	0.70%	0.00%	11.00%	0.01%
Ford Motor Co	F	3,932.10	10.26	40,343		5.85%		-2.52%	
NextEra Energy Inc	NEE	2,023.71	58.51	118,408	0.40%	3.20%	0.01%	8.10%	0.03%
Franklin Resources Inc	BEN	494.58	24.80	12,266		4.84%		-9.00%	
Garmin Ltd	GRMN	191.33	122.24	23,388	0.08%	2.39%	0.00%	5.60%	0.00%
Freeport-McMoRan Inc	FCX	1,433.98	37.32	53,516		1.61%		-15.66%	
Dexcom Inc	DXCM	386.37	115.52	44,634				30.59%	
General Dynamics Corp	GD	272.90	246.97	67,397	0.23%	2.14%	0.00%	10.40%	0.02%
General Mills Inc	GIS	581.28	63.66	37,004	0.13%	3.71%	0.00%	8.00%	0.01%
Genuine Parts Co	GPC	140.20	132.78	18,615	0.06%	2.86%	0.00%	9.49%	0.01%
Atmos Energy Corp	ATO	148.50	113.81	16,900	0.06%	2.83%	0.00%	7.25%	0.00%
WW Grainger Inc	GWW	49.63	786.19	39,022		0.95%			
Halliburton Co	HAL	895.05	37.03	33,144		1.73%		24.14%	
L3Harris Technologies Inc	LHX	189.54	190.81	36,166	0.12%	2.39%	0.00%	3.50%	0.00%
Healthpeak Properties Inc	PEAK	547.07	17.32	9,475	0.03%	6.93%	0.00%	1.24%	0.00%
Insulet Corp	PODD	69.83	189.09	13,204				41.08%	
Catalent Inc	CTLT	180.27	38.85	7,004	0.02%			9.24%	0.00%
Fortive Corp	FTV	351.43	68.98	24,242	0.08%	0.46%	0.00%	8.68%	0.01%
Hershey Co/The	HSY	149.89	187.92	28,166	0.10%	2.54%	0.00%	9.00%	0.01%
Synchrony Financial	SYF	413.80	32.36	13,391		3.09%			
Hormel Foods Corp	HRL	546.48	30.59	16,717	0.06%	3.69%	0.00%	1.08%	0.00%
Arthur J Gallagher & Co	AJG	215.90	249.00	53,759	0.18%	0.88%	0.00%	14.11%	0.03%
Mondelez International Inc	MDLZ	1,360.90	71.06	96,705	0.33%	2.39%	0.01%	9.17%	0.03%
CenterPoint Energy Inc	CNP	629.43	28.27	17,794	0.06%	2.83%	0.00%	8.02%	0.00%
Humana Inc	HUM	123.11	484.86	59,692	0.20%	0.73%	0.00%	12.32%	0.03%
Willis Towers Watson PLC	WTW	103.26	246.30	25,433	0.09%	1.36%	0.00%	11.19%	0.01%
Illinois Tool Works Inc	ITW	300.89	242.21	72,878	0.25%	2.31%	0.01%	3.91%	0.01%
CDW Corp/DE	CDW	133.96	210.88	28,249	0.10%	1.18%	0.00%	13.10%	0.01%
Trane Technologies PLC	TT	227.56	225.41	51,294	0.17%	1.33%	0.00%	13.29%	0.02%
Interpublic Group of Cos Inc/The	IPG	383.00	30.74	11,774	0.04%	4.03%	0.00%	5.71%	0.00%
International Flavors & Fragrances Inc	IFF	255.28	75.38	19,243	0.07%	4.30%	0.00%	5.50%	0.00%
Generac Holdings Inc	GNRC	61.43	117.07	7,192	0.02%			5.00%	0.00%
NXP Semiconductors NV	NXPI	257.76	204.08	52,604		1.99%		34.00%	
Kellanova	K	342.52	52.54	17,996	0.06%	4.26%	0.00%	1.69%	0.00%
Broadridge Financial Solutions Inc	BR	117.65	193.82	22,802		1.65%			
Kimberly-Clark Corp	KMB	337.94	123.73	41,813	0.14%	3.81%	0.01%	9.64%	0.01%
Kimco Realty Corp	KIM	619.89	19.32	11,976	0.04%	4.97%	0.00%	4.35%	0.00%
Oracle Corp	ORCL	2,739.38	116.21	318,343	1.08%	1.38%	0.01%	14.45%	0.16%
Kroger Co/The	KR	719.32	44.27	31,844	0.11%	2.62%	0.00%	4.21%	0.00%
Lennar Corp	LEN	250.15	127.92	31,999	0.11%	1.17%	0.00%	1.00%	0.00%
Eli Lilly & Co	LLY	949.31	591.04	561,078		0.76%		21.47%	
Bath & Body Works Inc	BBWI	227.38	32.62	7,417	0.03%	2.45%	0.00%	6.51%	0.00%
Charter Communications Inc	CHTR	147.92	400.13	59,187	0.20%			12.31%	0.02%
Loews Corp	L	223.25	70.29	15,692		0.36%			
Lowe's Cos Inc	LOW	575.11	198.83	114,350		2.21%		20.20%	
Hubbell Inc	HUBB	53.62	300.00	16,087		1.63%			
IDEX Corp	IEX	75.63	201.68	15,252	0.05%	1.27%	0.00%	11.00%	0.01%
Marsh & McLennan Cos Inc	MMC	493.07	199.42	98,328	0.33%	1.42%	0.00%	11.53%	0.04%
Masco Corp	MAS	224.50	60.55	13,594	0.05%	1.88%	0.00%	4.36%	0.00%
S&P Global Inc	SPGI	316.80	415.83	131,735	0.45%	0.87%	0.00%	13.66%	0.06%
Medtronic PLC	MDT	1,329.65	79.27	105,402	0.36%	3.48%	0.01%	4.33%	0.02%
Viatris Inc	VTRS	1,199.67	9.18	11,013		5.23%		-2.58%	
CVS Health Corp	CVS	1,286.90	67.95	87,445	0.30%	3.56%	0.01%	6.99%	0.02%
DuPont de Nemours Inc	DD	430.04	71.54	30,765	0.10%	2.01%	0.00%	11.43%	0.01%
Micron Technology Inc	MU	1,098.03	76.12	83,582		0.60%		-11.00%	
Motorola Solutions Inc	MSI	165.97	322.87	53,586	0.18%	1.21%	0.00%	10.82%	0.02%
Cboe Global Markets Inc	CBOE	105.56	182.19	19,231	0.07%	1.21%	0.00%	10.21%	0.01%

Laboratory Corp of America Holdings	LH	84.90	216.91	18,416		1.33%		-32.45%	
Newmont Corp	NEM	1,152.49	40.19	46,319	0.16%	3.98%	0.01%	11.58%	0.02%
NIKE Inc	NKE	1,224.01	109.90	134,519	0.46%	1.35%	0.01%	16.07%	0.07%
NiSource Inc	NI	413.42	25.64	10,600	0.04%	3.90%	0.00%	7.65%	0.00%
Norfolk Southern Corp	NSC	226.14	218.16	49,334	0.17%	2.48%	0.00%	0.73%	0.00%
Principal Financial Group Inc	PFG	238.41	73.83	17,602	0.06%	3.63%	0.00%	8.98%	0.01%
Eversource Energy	ES	349.09	59.41	20,739	0.07%	4.54%	0.00%	5.21%	0.00%
Northrop Grumman Corp	NOC	150.79	475.16	71,651	0.24%	1.57%	0.00%	2.53%	0.01%
Wells Fargo & Co	WFC	3,631.64	44.59	161,935	0.55%	3.14%	0.02%	13.41%	0.07%
Nucor Corp	NUE	245.84	169.97	41,785		1.20%		-10.84%	
Occidental Petroleum Corp	OXY	880.37	59.15	52,074		1.22%			
Omnicom Group Inc	OMC	197.93	80.63	15,959	0.05%	3.47%	0.00%	4.72%	0.00%
ONEOK Inc	OKE	582.55	68.85	40,109	0.14%	5.55%	0.01%	6.93%	0.01%
Raymond James Financial Inc	RJF	208.61	105.15	21,935		1.71%			
PG&E Corp	PCG	2,133.51	17.17	36,632	0.12%	0.23%	0.00%	6.26%	0.01%
Parker-Hannifin Corp	PH	128.48	433.18	55,653	0.19%	1.37%	0.00%	15.28%	0.03%
Rollins Inc	ROL	484.04	40.74	19,720	0.07%	1.47%	0.00%	14.86%	0.01%
PPL Corp	PPL	737.09	26.12	19,253	0.07%	3.68%	0.00%	4.20%	0.00%
ConocoPhillips	COP	1,187.41	115.57	137,229	0.47%	0.50%	0.00%	6.00%	0.03%
PulteGroup Inc	PHM	215.60	88.42	19,063	0.06%	0.90%	0.00%	2.04%	0.00%
Pinnacle West Capital Corp	PNW	113.31	74.94	8,492	0.03%	4.70%	0.00%	5.95%	0.00%
PNC Financial Services Group Inc/The	PNC	398.34	133.96	53,362	0.18%	4.63%	0.01%	12.87%	0.02%
PPG Industries Inc	PPG	235.80	141.99	33,481	0.11%	1.83%	0.00%	12.91%	0.01%
Progressive Corp/The	PGR	585.04	164.03	95,964		0.24%		39.34%	
Veralto Corp	VLTO	246.31	77.25	19,027					
Public Service Enterprise Group Inc	PEG	499.11	62.43	31,159	0.11%	3.65%	0.00%	5.47%	0.01%
Robert Half Inc	RHI	105.90	81.98	8,681	0.03%	2.34%	0.00%	1.26%	0.00%
Cooper Cos Inc/The	COO	49.52	336.92	16,686	0.06%	0.02%	0.00%	7.54%	0.00%
Edison International	EIX	383.57	66.99	25,695	0.09%	4.40%	0.00%	4.80%	0.00%
Schlumberger NV	SLB	1,423.42	52.04	74,075		1.92%		33.41%	
Charles Schwab Corp/The	SCHW	1,771.68	61.32	108,640	0.37%	1.63%	0.01%	3.60%	0.01%
Sherwin-Williams Co/The	SHW	255.97	278.80	71,363	0.24%	0.87%	0.00%	10.90%	0.03%
West Pharmaceutical Services Inc	WST	73.99	350.76	25,953	0.09%	0.23%	0.00%	5.80%	0.01%
J M Smucker Co/The	SJM	106.13	109.73	11,646	0.04%	3.86%	0.00%	5.95%	0.00%
Snap-on Inc	SNA	52.78	274.69	14,498	0.05%	2.71%	0.00%	4.85%	0.00%
AMETEK Inc	AME	230.80	155.23	35,827	0.12%	0.64%	0.00%	6.36%	0.01%
Southern Co/The	SO	1,091.52	70.98	77,476	0.26%	3.94%	0.01%	5.05%	0.01%
Truist Financial Corp	TFC	1,333.67	32.14	42,864	0.15%	6.47%	0.01%	16.00%	0.02%
Southwest Airlines Co	LUV	596.12	25.57	15,243	0.05%	2.82%	0.00%	10.15%	0.01%
W R Berkley Corp	WRB	257.87	72.55	18,709	0.06%	0.61%	0.00%	13.00%	0.01%
Stanley Black & Decker Inc	SWK	153.31	90.90	13,936	0.05%	3.56%	0.00%	9.00%	0.00%
Public Storage	PSA	175.83	258.76	45,498	0.15%	4.64%	0.01%	3.77%	0.01%
Arista Networks Inc	ANET	311.10	219.71	68,352	0.23%			19.72%	0.05%
Sysco Corp	SYY	504.37	72.17	36,401	0.12%	2.77%	0.00%	13.00%	0.02%
Corteva Inc	CTVA	704.88	45.20	31,861	0.11%	1.42%	0.00%	16.17%	0.02%
Texas Instruments Inc	TXN	908.20	152.71	138,692	0.47%	3.41%	0.02%	10.00%	0.05%
Textron Inc	TXT	196.01	76.66	15,026	0.05%	0.10%	0.00%	11.73%	0.01%
Thermo Fisher Scientific Inc	TMO	386.37	495.76	191,548		0.28%		-5.00%	
TJX Cos Inc/The	TJX	1,139.68	88.11	100,417	0.34%	1.51%	0.01%	6.38%	0.02%
Globe Life Inc	GL	94.12	123.13	11,589		0.73%			
Johnson Controls International plc	JCI	680.32	52.80	35,921	0.12%	2.80%	0.00%	13.36%	0.02%
Ulta Beauty Inc	ULTA	48.56	425.99	20,687	0.07%			6.41%	0.00%
Union Pacific Corp	UNP	609.60	225.27	137,324	0.47%	2.31%	0.01%	11.00%	0.05%
Keysight Technologies Inc	KEYS	174.60	135.89	23,726	0.08%			1.81%	0.00%
UnitedHealth Group Inc	UNH	924.93	551.09	509,717	1.74%	1.36%	0.02%	13.40%	0.23%
Blackstone Inc	BX	710.55	112.37	79,844	0.27%	2.85%	0.01%	7.63%	0.02%
Marathon Oil Corp	MRO	585.25	25.43	14,883	0.05%	1.73%	0.00%	8.00%	0.00%
Bio-Rad Laboratories Inc	BIO	24.06	304.92	7,336	0.02%			4.00%	0.00%
Ventas Inc	VTR	402.38	45.84	18,445	0.06%	3.93%	0.00%	8.02%	0.01%
VF Corp	VFC	388.88	16.73	6,506	0.02%	2.15%	0.00%	3.10%	0.00%
Vulcan Materials Co	VMC	132.87	213.56	28,376		0.81%		23.22%	
Weyerhaeuser Co	WY	730.00	31.35	22,886		2.42%			
Whirlpool Corp	WHR	54.85	108.90	5,973		6.43%		-2.33%	
Williams Cos Inc/The	WMB	1,216.50	36.79	44,755	0.15%	4.87%	0.01%	3.50%	0.01%
Constellation Energy Corp	CEG	319.38	121.04	38,658		0.93%		26.33%	
WEC Energy Group Inc	WEC	315.44	83.62	26,377	0.09%	3.73%	0.00%	6.41%	0.01%
Adobe Inc	ADBE	455.30	611.01	278,193	0.95%			17.33%	0.16%
AES Corp/The	AES	669.63	17.21	11,524	0.04%	3.86%	0.00%	10.12%	0.00%
Expeditors International of Washington Inc	EXPD	145.39	120.34	17,496		1.15%		-16.00%	
Amgen Inc	AMGN	535.18	269.64	144,305	0.49%	3.16%	0.02%	4.88%	0.02%
Apple Inc	AAPL	15,552.75	189.95	2,954,245	10.06%	0.51%	0.05%	13.00%	1.31%
Autodesk Inc	ADSK	213.76	218.43	46,692	0.16%			12.48%	0.02%
Cintas Corp	CTAS	101.85	553.25	56,351	0.19%	0.98%	0.00%	11.84%	0.02%
Comcast Corp	CMCSA	4,015.64	41.89	168,215	0.57%	2.77%	0.02%	9.26%	0.05%
Molson Coors Beverage Co	TAP	200.96	61.54	12,367	0.04%	2.66%	0.00%	12.99%	0.01%
KLA Corp	KLAC	135.93	544.62	74,031	0.25%	1.06%	0.00%	9.93%	0.03%
Marriott International Inc/MD	MAR	293.69	202.70	59,531	0.20%	1.03%	0.00%	17.38%	0.04%
Fiserv Inc	FI	600.19	130.61	78,390	0.27%			14.08%	0.04%
McCormick & Co Inc/MD	MKC	251.29	64.83	16,291	0.06%	2.59%	0.00%	7.01%	0.00%
PACCAR Inc	PCAR	523.08	91.82	48,029	0.16%	1.18%	0.00%	12.00%	0.02%
Costco Wholesale Corp	COST	442.74	592.74	262,430	0.89%	0.69%	0.01%	13.06%	0.12%
Stryker Corp	SYK	379.90	296.33	112,574	0.38%	1.01%	0.00%	7.62%	0.03%
Tyson Foods Inc	TSN	285.23	46.84	13,360		4.18%		46.71%	
Lamb Weston Holdings Inc	LW	144.93	100.03	14,497	0.05%	1.12%	0.00%	13.32%	0.01%
Applied Materials Inc	AMAT	836.53	149.78	125,296	0.43%	0.85%	0.00%	5.50%	0.02%
American Airlines Group Inc	AAL	653.54	12.43	8,124				54.64%	
Cardinal Health Inc	CAH	246.47	107.08	26,392	0.09%	1.87%	0.00%	13.32%	0.01%
Cincinnati Financial Corp	CINF	156.91	102.79	16,129	0.05%	2.92%	0.00%	18.21%	0.01%
Paramount Global	PARA	610.70	14.37	8,776		1.39%		-20.36%	
DR Horton Inc	DHI	333.18	127.67	42,538	0.14%	0.94%	0.00%	1.70%	0.00%
Electronic Arts Inc	EA	268.97	138.01	37,120	0.13%	0.55%	0.00%	10.32%	0.01%
Fair Isaac Corp	FICO	24.71	1,087.60	26,879				22.00%	
Fastenal Co	FAST	571.41	59.97	34,268		2.33%			

M&T Bank Corp	MTB	165.96	128.17	21,271	0.07%	4.06%	0.00%	11.59%	0.01%
Xcel Energy Inc	XEL	551.82	60.84	33,572	0.11%	3.42%	0.00%	6.12%	0.01%
Fifth Third Bancorp	FITB	681.02	28.95	19,715		4.84%		25.00%	
Gilead Sciences Inc	GILD	1,246.04	76.60	95,447	0.33%	3.92%	0.01%	2.10%	0.01%
Hasbro Inc	HAS	138.76	46.41	6,440		6.03%		-3.49%	
Huntington Bancshares Inc/OH	HBAN	1,448.08	11.26	16,305		5.51%		-7.69%	
Welltower Inc	WELL	556.09	89.10	49,548	0.17%	2.74%	0.00%	10.96%	0.02%
Biogen Inc	BIIB	144.90	234.08	33,918	0.12%			0.87%	0.00%
Northern Trust Corp	NTRS	207.04	79.25	16,408	0.06%	3.79%	0.00%	5.93%	0.00%
Packaging Corp of America	PKG	89.62	168.01	15,058	0.05%	2.98%	0.00%	5.00%	0.00%
Paychex Inc	PAYX	361.23	121.97	44,059	0.15%	2.92%	0.00%	7.00%	0.01%
QUALCOMM Inc	QCOM	1,113.00	129.05	143,633	0.49%	2.48%	0.01%	11.61%	0.06%
Ross Stores Inc	ROST	338.63	130.38	44,151	0.15%	1.03%	0.00%	10.00%	0.02%
IDEXX Laboratories Inc	IDXX	83.05	465.82	38,687	0.13%			17.98%	0.02%
Starbucks Corp	SBUX	1,136.70	99.30	112,874	0.38%	2.30%	0.01%	17.41%	0.07%
KeyCorp	KEY	936.26	12.39	11,600	0.04%	6.62%	0.00%	7.08%	0.00%
Fox Corp	FOXA	247.23	29.54	7,303	0.02%	1.76%	0.00%	6.24%	0.00%
Fox Corp	FOX	235.58	27.66	6,516	0.02%	1.88%	0.00%	6.24%	0.00%
State Street Corp	STT	308.58	72.82	22,471	0.08%	3.79%	0.00%	6.92%	0.01%
Norwegian Cruise Line Holdings Ltd	NCLH	425.43	15.27	6,496					
US Bancorp	USB	1,557.01	38.12	59,353	0.20%	5.04%	0.01%	7.50%	0.02%
A O Smith Corp	AOS	122.83	75.36	9,256		1.70%			
Gen Digital Inc	GEN	640.72	22.08	14,147	0.05%	2.26%	0.00%	12.98%	0.01%
T Rowe Price Group Inc	TROW	223.47	100.13	22,376		4.87%		-4.09%	
Waste Management Inc	WM	402.78	170.99	68,870	0.23%	1.64%	0.00%	10.05%	0.02%
Constellation Brands Inc	STZ	183.66	240.49	44,169	0.15%	1.48%	0.00%	9.75%	0.01%
DENTSPLY SIRONA Inc	XRAY	211.86	31.75	6,727	0.02%	1.76%	0.00%	7.93%	0.00%
Zions Bancorp NA	ZION	148.15	35.63	5,279		4.60%		-9.73%	
Alaska Air Group Inc	ALK	128.05	37.81	4,842	0.02%			3.56%	0.00%
Invesco Ltd	IVZ	449.55	14.27	6,415		5.61%		-0.68%	
Intuit Inc	INTU	279.94	571.46	159,972	0.54%	0.63%	0.00%	18.96%	0.10%
Morgan Stanley	MS	1,641.31	79.34	130,222	0.44%	4.29%	0.02%	3.64%	0.02%
Microchip Technology Inc	MCHP	541.05	83.44	45,145		2.10%		-1.00%	
Chubb Ltd	CB	407.99	229.43	93,605	0.32%	1.50%	0.00%	15.50%	0.05%
Hologic Inc	HOLX	240.00	71.30	17,112				-8.76%	
Citizens Financial Group Inc	CFG	466.22	27.27	12,714		6.16%		-10.63%	
O'Reilly Automotive Inc	ORLY	59.16	982.38	58,120	0.20%			11.39%	0.02%
Allstate Corp/The	ALL	261.69	137.87	36,079		2.58%		50.02%	
Equity Residential	EQR	379.72	56.84	21,584	0.07%	4.66%	0.00%	4.75%	0.00%
BorgWarner Inc	BWA	235.06	33.69	7,919	0.03%	1.31%	0.00%	4.33%	0.00%
Keurig Dr Pepper Inc	KDP	1,398.34	31.57	44,145	0.15%	2.72%	0.00%	6.85%	0.01%
Host Hotels & Resorts Inc	HST	705.40	17.47	12,323		4.12%			
Incyte Corp	INCY	224.11	54.34	12,178				36.36%	
Simon Property Group Inc	SPG	326.25	124.89	40,745	0.14%	6.09%	0.01%	1.71%	0.00%
Eastman Chemical Co	EMN	118.56	83.83	9,939	0.03%	3.77%	0.00%	4.75%	0.00%
AvalonBay Communities Inc	AVB	142.02	172.94	24,560	0.08%	3.82%	0.00%	6.27%	0.01%
Prudential Financial Inc	PRU	361.00	97.78	35,299	0.12%	5.11%	0.01%	10.47%	0.01%
United Parcel Service Inc	UPS	723.26	151.61	109,653	0.37%	4.27%	0.02%	1.64%	0.01%
Walgreens Boots Alliance Inc	WBA	863.92	19.94	17,226	0.06%	9.63%	0.01%	0.25%	0.00%
STERIS PLC	STE	98.80	200.94	19,853		1.04%			
McKesson Corp	MCK	133.06	470.56	62,614	0.21%	0.53%	0.00%	10.04%	0.02%
Lockheed Martin Corp	LMT	248.10	447.77	111,091	0.38%	2.81%	0.01%	7.04%	0.03%
Cencora Inc	COR	199.43	203.37	40,559	0.14%	1.00%	0.00%	9.04%	0.01%
Capital One Financial Corp	COF	380.85	111.66	42,525		2.15%		-6.30%	
Waters Corp	WAT	59.13	280.61	16,592	0.06%			4.44%	0.00%
Nordson Corp	NDSN	57.01	235.34	13,418		1.16%			
Dollar Tree Inc	DLTR	217.87	123.59	26,927	0.09%			7.77%	0.01%
Darden Restaurants Inc	DRI	120.32	156.47	18,826	0.06%	3.35%	0.00%	10.45%	0.01%
Evergy Inc	EVRG	229.58	51.04	11,718	0.04%	5.04%	0.00%	4.82%	0.00%
Match Group Inc	MTCH	271.81	32.38	8,801				43.48%	
Domino's Pizza Inc	DPZ	34.88	392.89	13,704	0.05%	1.23%	0.00%	13.97%	0.01%
NVR Inc	NVR	3.18	6,155.39	19,568				-4.57%	
NetApp Inc	NTAP	206.03	91.39	18,829	0.06%	2.19%	0.00%	7.40%	0.00%
Old Dominion Freight Line Inc	ODFL	109.11	389.06	42,452	0.14%	0.41%	0.00%	5.83%	0.01%
DaVita Inc	DVA	91.30	101.46	9,263				21.67%	
Hartford Financial Services Group Inc/The	HIG	300.77	78.16	23,508	0.08%	2.41%	0.00%	7.00%	0.01%
Iron Mountain Inc	IRM	291.99	64.15	18,731	0.06%	4.05%	0.00%	4.00%	0.00%
Estee Lauder Cos Inc/The	EL	232.31	127.69	29,663	0.10%	2.07%	0.00%	13.86%	0.01%
Cadence Design Systems Inc	CDNS	272.06	273.27	74,346	0.25%			18.56%	0.05%
Tyler Technologies Inc	TYL	42.12	408.84	17,222					
Universal Health Services Inc	UHS	61.01	137.48	8,387	0.03%	0.58%	0.00%	9.41%	0.00%
Skyworks Solutions Inc	SWKS	159.96	96.93	15,504		2.81%		-7.11%	
Quest Diagnostics Inc	DGX	112.44	137.23	15,429		2.07%		-1.27%	
Rockwell Automation Inc	ROK	114.67	275.44	31,586	0.11%	1.82%	0.00%	12.16%	0.01%
Kraft Heinz Co/The	KHC	1,226.54	35.11	43,064	0.15%	4.56%	0.01%	4.03%	0.01%
American Tower Corp	AMT	466.17	208.78	97,326	0.33%	3.10%	0.01%	10.93%	0.04%
Regeneron Pharmaceuticals Inc	REGN	107.13	823.81	88,254	0.30%			4.00%	0.01%
Amazon.com Inc	AMZN	10,334.03	146.09	1,509,699				86.99%	
Jack Henry & Associates Inc	JKHY	72.83	158.69	11,557	0.04%	1.31%	0.00%	7.06%	0.00%
Ralph Lauren Corp	RL	39.75	129.38	5,143	0.02%	2.32%	0.00%	10.38%	0.00%
Boston Properties Inc	BXP	156.94	56.93	8,935	0.03%	6.89%	0.00%	2.82%	0.00%
Amphenol Corp	APH	598.31	90.99	54,440	0.19%	0.97%	0.00%	4.04%	0.01%
Howmet Aerospace Inc	HWM	411.74	52.60	21,658		0.38%		20.41%	
Pioneer Natural Resources Co	PXD	233.31	231.64	54,044		5.53%		-3.00%	
Valero Energy Corp	VLO	340.45	125.36	42,679		3.25%		35.66%	
Synopsys Inc	SNPS	152.05	543.23	82,600	0.28%			16.68%	0.05%
Etsy Inc	ETSY	119.75	75.81	9,078	0.03%			2.74%	0.00%
CH Robinson Worldwide Inc	CHRW	116.65	82.05	9,571	0.03%	2.97%	0.00%	5.00%	0.00%
Accenture PLC	ACN	664.79	333.14	221,467	0.75%	1.55%	0.01%	10.00%	0.08%
TransDigm Group Inc	TDG	55.31	962.87	53,260	0.18%			15.56%	0.03%
Yum! Brands Inc	YUM	280.31	125.55	35,193	0.12%	1.93%	0.00%	11.93%	0.01%
Prologis Inc	PLD	923.86	114.93	106,179	0.36%	3.03%	0.01%	8.00%	0.03%
FirstEnergy Corp	FE	573.82	36.94	21,197		4.44%		-0.33%	

VeriSign Inc	VRSN	102.10	212.20	21,666	0.07%			11.50%	0.01%
Quanta Services Inc	PWR	145.29	188.31	27,359	0.09%	0.17%	0.00%	8.00%	0.01%
Henry Schein Inc	HSIC	130.59	66.73	8,714	0.03%			3.44%	0.00%
Ameren Corp	AEE	262.48	77.59	20,365	0.07%	3.25%	0.00%	7.11%	0.00%
ANSYS Inc	ANSS	86.87	293.36	25,485	0.09%			10.77%	0.01%
FactSet Research Systems Inc	FDS	37.99	453.46	17,226	0.06%	0.86%	0.00%	10.45%	0.01%
NVIDIA Corp	NVDA	2,470.00	467.70	1,155,219		0.03%		50.82%	
Sealed Air Corp	SEE	144.44	33.38	4,821	0.02%	2.40%	0.00%	0.01%	0.00%
Cognizant Technology Solutions Corp	CTSH	501.41	70.38	35,289	0.12%	1.65%	0.00%	12.00%	0.01%
Intuitive Surgical Inc	ISRG	352.07	310.84	109,438	0.37%			11.57%	0.04%
Take-Two Interactive Software Inc	TTWO	170.07	158.20	26,905				58.00%	
Republic Services Inc	RSG	314.64	161.84	50,921	0.17%	1.32%	0.00%	9.97%	0.02%
eBay Inc	EBAY	519.00	41.01	21,284	0.07%	2.44%	0.00%	0.32%	0.00%
Goldman Sachs Group Inc/The	GS	326.11	341.54	111,380	0.38%	3.22%	0.01%	7.71%	0.03%
SBA Communications Corp	SBAC	107.89	246.96	26,644	0.09%	1.38%	0.00%	8.00%	0.01%
Sempra	SRE	629.33	72.87	45,859	0.16%	3.27%	0.01%	5.49%	0.01%
Moody's Corp	MCO	183.00	364.96	66,788	0.23%	0.84%	0.00%	14.08%	0.03%
ON Semiconductor Corp	ON	430.70	71.33	30,722	0.10%			3.72%	0.00%
Booking Holdings Inc	BKNG	34.89	3,125.70	109,056	0.37%			15.00%	0.06%
F5 Inc	FFIV	59.71	171.19	10,221	0.03%			5.45%	0.00%
Akamai Technologies Inc	AKAM	150.83	115.53	17,426					
Charles River Laboratories International Inc	CRL	51.30	197.08	10,110	0.03%			9.00%	0.00%
MarketAxess Holdings Inc	MKTX	37.91	240.12	9,102		1.20%			
Devon Energy Corp	DVN	640.70	44.97	28,812		6.85%		51.35%	
Bio-Techne Corp	TECH	158.15	62.90	9,948	0.03%	0.51%	0.00%	4.50%	0.00%
Alphabet Inc	GOOGL	5,918.00	132.53	784,313	2.67%			16.65%	0.44%
Teleflex Inc	TFX	46.99	225.69	10,606	0.04%	0.60%	0.00%	7.00%	0.00%
Netflix Inc	NFLX	437.68	473.97	207,447				30.96%	
Allegion plc	ALLE	87.79	106.09	9,313	0.03%	1.70%	0.00%	5.93%	0.00%
Agilent Technologies Inc	A	292.12	127.80	37,333	0.13%	0.74%	0.00%	8.00%	0.01%
Warner Bros Discovery Inc	WBD	2,438.57	10.45	25,483				91.04%	
Elevance Health Inc	ELV	234.96	479.49	112,660	0.38%	1.23%	0.00%	10.85%	0.04%
Trimble Inc	TRMB	248.77	46.40	11,543					
CME Group Inc	CME	359.99	218.36	78,607	0.27%	2.02%	0.01%	11.10%	0.03%
Juniper Networks Inc	JNPR	318.87	28.45	9,072	0.03%	3.09%	0.00%	7.96%	0.00%
BlackRock Inc	BLK	148.76	751.23	111,754	0.38%	2.66%	0.01%	6.72%	0.03%
DTE Energy Co	DTE	206.11	104.11	21,458	0.07%	3.66%	0.00%	7.00%	0.01%
Nasdaq Inc	NDAQ	576.97	55.84	32,218	0.11%	1.58%	0.00%	2.68%	0.00%
Celanese Corp	CE	108.86	138.66	15,094	0.05%	2.02%	0.00%	2.27%	0.00%
Philip Morris International Inc	PM	1,552.41	93.36	144,933	0.49%	5.57%	0.03%	9.19%	0.05%
Salesforce Inc	CRM	968.00	251.90	243,839				21.67%	
Ingersoll Rand Inc	IR	404.80	71.43	28,915	0.10%	0.11%	0.00%	14.00%	0.01%
Huntington Ingalls Industries Inc	HII	39.72	237.02	9,415		2.19%		40.00%	
Roper Technologies Inc	ROP	106.82	538.25	57,497		0.56%		-1.00%	
MetLife Inc	MET	740.19	63.63	47,098	0.16%	3.27%	0.01%	9.17%	0.01%
Tapestry Inc	TPR	229.19	31.67	7,258	0.02%	4.42%	0.00%	11.00%	0.00%
CSX Corp	CSX	1,976.13	32.30	63,829	0.22%	1.36%	0.00%	6.39%	0.01%
Edwards Lifesciences Corp	EW	606.50	67.71	41,066	0.14%			9.23%	0.01%
Ameriprise Financial Inc	AMP	101.20	353.51	35,774	0.12%	1.53%	0.00%	15.82%	0.02%
Zebra Technologies Corp	ZBRA	51.36	236.98	12,171					
Zimmer Biomet Holdings Inc	ZBH	208.98	116.31	24,307	0.08%	0.83%	0.00%	7.12%	0.01%
CBRE Group Inc	CBRE	304.79	78.96	24,066					
Camden Property Trust	CPT	106.77	90.26	9,637	0.03%	4.43%	0.00%	6.17%	0.00%
Mastercard Inc	MA	930.44	413.83	385,043	1.31%	0.55%	0.01%	17.35%	0.23%
CarMax Inc	KMX	158.67	63.94	10,145	0.03%			16.34%	0.01%
Intercontinental Exchange Inc	ICE	572.36	113.84	65,158	0.22%	1.48%	0.00%	8.66%	0.02%
Fidelity National Information Services Inc	FIS	592.48	58.64	34,743	0.12%	3.55%	0.00%	5.51%	0.01%
Chipotle Mexican Grill Inc	CMG	27.45	2,202.25	60,441				25.41%	
Wynn Resorts Ltd	WYNN	112.95	84.42	9,535		1.18%		153.24%	
Live Nation Entertainment Inc	LYV	230.33	84.22	19,398					
Assurant Inc	AIZ	52.59	168.02	8,836	0.03%	1.71%	0.00%	14.60%	0.00%
NRG Energy Inc	NRG	225.76	47.84	10,801		3.16%			
Regions Financial Corp	RF	930.07	16.68	15,513	0.05%	5.76%	0.00%	0.99%	0.00%
Monster Beverage Corp	MNST	1,040.44	55.15	57,380				21.32%	
Mosaic Co/The	MOS	326.84	35.89	11,730	0.04%	2.23%	0.00%	7.00%	0.00%
Baker Hughes Co	BKR	1,006.23	33.75	33,960	0.12%	2.37%	0.00%	16.00%	0.02%
Expedia Group Inc	EXPE	133.33	136.18	18,156	0.06%			17.50%	0.01%
CF Industries Holdings Inc	CF	191.06	75.15	14,358		2.13%		46.00%	
Leidos Holdings Inc	LDOS	137.51	107.32	14,757	0.05%	1.42%	0.00%	8.12%	0.00%
APA Corp	APA	306.72	36.00	11,042	0.04%	2.78%	0.00%	0.72%	0.00%
Alphabet Inc	GOOG	5,725.00	133.92	766,692	2.61%			16.65%	0.43%
First Solar Inc	FSLR	106.84	157.78	16,858				43.22%	
TE Connectivity Ltd	TEL	310.78	131.00	40,712		1.80%			
Discover Financial Services	DFS	250.06	93.00	23,255		3.01%		56.16%	
Visa Inc	V	1,580.68	256.68	405,729	1.38%	0.81%	0.01%	14.32%	0.20%
Mid-America Apartment Communities Inc	MAA	116.69	124.48	14,525	0.05%	4.50%	0.00%	1.77%	0.00%
Xylem Inc/NY	XYL	241.08	105.13	25,345		1.26%			
Marathon Petroleum Corp	MPC	379.70	149.19	56,647		2.21%			
Advanced Micro Devices Inc	AMD	1,615.50	121.16	195,734				30.65%	
Tractor Supply Co	TSCO	108.11	203.01	21,948	0.07%	2.03%	0.00%	3.81%	0.00%
ResMed Inc	RMD	147.09	157.73	23,201		1.22%			
Mettler-Toledo International Inc	MTD	21.68	1,091.93	23,677	0.08%			5.01%	0.00%
Jacobs Solutions Inc	J	126.02	127.18	16,028	0.05%	0.82%	0.00%	12.31%	0.01%
Copart Inc	CPRT	960.23	50.22	48,223					
VICI Properties Inc	VICI	1,034.53	29.89	30,922	0.11%	5.55%	0.01%	7.09%	0.01%
Fortinet Inc	FTNT	767.91	52.56	40,361	0.14%			15.03%	0.02%
Albemarle Corp	ALB	117.35	121.27	14,231	0.05%	1.32%	0.00%	18.79%	0.01%
Moderna Inc	MRNA	381.28	77.70	29,626				-29.33%	
Essex Property Trust Inc	ESS	64.18	213.46	13,701	0.05%	4.33%	0.00%	5.71%	0.00%
CoStar Group Inc	CSGP	408.36	83.04	33,910	0.12%			20.00%	0.02%
Realty Income Corp	O	723.92	53.96	39,063	0.13%	5.69%	0.01%	0.68%	0.00%
Westrock Co	WRK	256.47	41.17	10,559	0.04%	2.94%	0.00%	4.20%	0.00%
Westinghouse Air Brake Technologies Corp	WAB	179.16	116.56	20,883	0.07%	0.58%	0.00%	12.86%	0.01%

Pool Corp	POOL	38.68	347.32	13,434		1.27%		-5.49%	
Western Digital Corp	WDC	324.24	48.31	15,664				-11.96%	
PepsiCo Inc	PEP	1,374.86	168.29	231,376	0.79%	3.01%	0.02%	8.70%	0.07%
Diamondback Energy Inc	FANG	178.99	154.41	27,637		8.73%		21.94%	
Palo Alto Networks Inc	PANW	315.30	295.09	93,042				30.00%	
ServiceNow Inc	NOW	205.00	685.74	140,577					
Church & Dwight Co Inc	CHD	246.38	96.63	23,808	0.08%	1.13%	0.00%	5.95%	0.00%
Federal Realty Investment Trust	FRT	81.62	95.59	7,802	0.03%	4.56%	0.00%	5.77%	0.00%
MGM Resorts International	MGM	341.58	39.44	13,472					
American Electric Power Co Inc	AEP	515.18	79.55	40,982	0.14%	4.42%	0.01%	4.83%	0.01%
SolarEdge Technologies Inc	SEDG	56.81	79.38	4,510				27.00%	
Invitation Homes Inc	INVH	611.96	33.36	20,415	0.07%	3.12%	0.00%	3.15%	0.00%
PTC Inc	PTC	119.25	157.36	18,764	0.06%			19.31%	0.01%
JB Hunt Transport Services Inc	JBHT	103.14	185.27	19,109		0.91%		27.00%	
Lam Research Corp	LRCX	131.79	715.92	94,353	0.32%	1.12%	0.00%	5.44%	0.02%
Mohawk Industries Inc	MHK	63.68	88.31	5,624				-3.08%	
Pentair PLC	PNR	165.30	64.54	10,668	0.04%	1.36%	0.00%	6.22%	0.00%
GE HealthCare Technologies Inc	GEHC	455.24	68.46	31,166	0.11%	0.18%	0.00%	12.70%	0.01%
Vertex Pharmaceuticals Inc	VRTX	257.68	354.81	91,429	0.31%			13.38%	0.04%
Amcor PLC	AMCR	1,445.34	9.48	13,702	0.05%	5.27%	0.00%	1.33%	0.00%
Meta Platforms Inc	META	2,219.61	327.15	726,144				24.05%	
T-Mobile US Inc	TMUS	1,156.48	150.45	173,992		1.73%		38.46%	
United Rentals Inc	URI	67.78	476.02	32,265	0.11%	1.24%	0.00%	17.87%	0.02%
Honeywell International Inc	HON	659.25	195.92	129,160	0.44%	2.20%	0.01%	7.69%	0.03%
Alexandria Real Estate Equities Inc	ARE	173.78	109.40	19,011	0.06%	4.53%	0.00%	5.28%	0.00%
Delta Air Lines Inc	DAL	643.46	36.93	23,763		1.08%		30.85%	
Seagate Technology Holdings PLC	STX	209.18	79.10	16,546	0.06%	3.54%	0.00%	6.11%	0.00%
United Airlines Holdings Inc	UAL	328.02	39.40	12,924				46.54%	
News Corp	NWS	191.39	23.04	4,410		0.87%			
Centene Corp	CNC	534.20	73.68	39,360	0.13%			8.43%	0.01%
Martin Marietta Materials Inc	MLM	61.81	464.59	28,715		0.64%		21.60%	
Teradyne Inc	TER	152.88	92.23	14,100	0.05%	0.48%	0.00%	7.82%	0.00%
PayPal Holdings Inc	PYPL	1,078.14	57.61	62,112	0.21%			6.26%	0.01%
Tesla Inc	TSLA	3,178.92	240.08	763,195	2.60%			11.00%	0.29%
Arch Capital Group Ltd	ACGL	373.17	83.69	31,231	0.11%			10.00%	0.01%
Dow Inc	DOW	701.40	51.75	36,297		5.41%		-4.72%	
Everest Group Ltd	EG	43.39	410.55	17,814		1.71%		37.66%	
Teledyne Technologies Inc	TDY	47.19	402.96	19,014	0.06%			8.03%	0.01%
News Corp	NWSA	380.67	22.04	8,390		0.91%			
Exelon Corp	EXC	994.30	38.51	38,290	0.13%	3.74%	0.00%	4.00%	0.01%
Global Payments Inc	GPN	260.39	116.44	30,320	0.10%	0.86%	0.00%	13.33%	0.01%
Crown Castle Inc	CCI	433.69	117.28	50,863	0.17%	5.34%	0.01%	7.00%	0.01%
Aptiv PLC	APTV	282.86	82.84	23,432	0.08%			11.44%	0.01%
Align Technology Inc	ALGN	76.59	213.80	16,375					
Illumina Inc	ILMN	158.80	101.95	16,190				-51.00%	
Kenvue Inc	KVUE	1,915.00	20.44	39,142		3.91%			
Targa Resources Corp	TRGP	222.98	90.45	20,168	0.07%	2.21%	0.00%	15.00%	0.01%
Bunge Global SA	BG	161.43	109.87	17,736		2.41%		-5.00%	
LKQ Corp	LKQ	267.60	44.53	11,916		2.69%			
Zoetis Inc	ZTS	459.11	176.67	81,112	0.28%	0.85%	0.00%	10.91%	0.03%
Digital Realty Trust Inc	DLR	302.85	138.78	42,029	0.14%	3.52%	0.01%	6.80%	0.01%
Equinix Inc	EQIX	93.88	815.01	76,516	0.26%	2.09%	0.01%	16.67%	0.04%
Las Vegas Sands Corp	LVS	764.49	46.12	35,258		1.73%			
Molina Healthcare Inc	MOH	58.30	365.56	21,312	0.07%			11.24%	0.01%

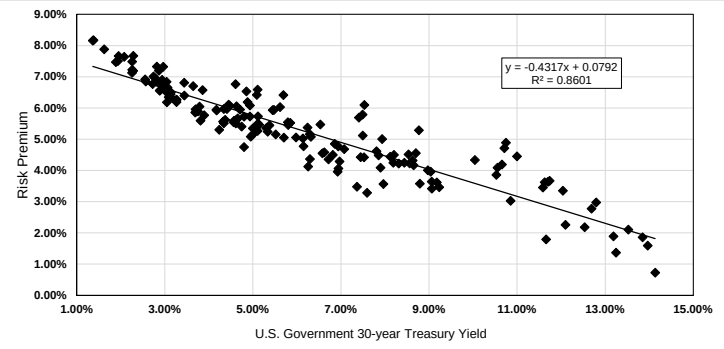
Notes:
[1] Equals sum of Col. [9]
[2] Equals sum of Col. [11]
[3] Equals ([1] x (1 + (0.5 x [2]))) + [2]
[4] Source: Bloomberg Professional as of November 30, 2023
[5] Source: Bloomberg Professional as of November 30, 2023
[6] Equals [4] x [5]
[7] Equals weight in the S&P 500
[8] Source: Bloomberg Professional as of November 30, 2023
[9] Equals [7] x [8]
[10] Source: Bloomberg Professional, as of November 30, 2023
[11] Equals [7] x [10]

BOND YIELD PLUS RISK PREMIUM

Quarter	[1] Average Authorized Natual Gas	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
1980.1	13.45%	11.66%	1.79%
1980.2	14.38%	10.52%	3.85%
1980.3	13.87%	10.85%	3.02%
1980.4	14.35%	12.10%	2.25%
1981.1	14.71%	12.53%	2.18%
1981.2	14.61%	13.24%	1.36%
1981.3	14.86%	14.13%	0.72%
1981.4	15.70%	13.85%	1.86%
1982.1	15.55%	13.96%	1.59%
1982.2	15.62%	13.52%	2.10%
1982.3	15.77%	12.79%	2.97%
1982.4	15.63%	10.75%	4.89%
1983.1	15.41%	10.71%	4.71%
1983.2	14.84%	10.65%	4.19%
1983.3	15.24%	11.62%	3.62%
1983.4	15.40%	11.74%	3.66%
1984.1	15.39%	12.04%	3.35%
1984.2	15.07%	13.18%	1.89%
1984.3	15.46%	12.69%	2.77%
1984.4	15.33%	11.70%	3.63%
1985.1	15.03%	11.58%	3.45%
1985.2	15.44%	11.00%	4.45%
1985.3	14.64%	10.55%	4.08%
1985.4	14.37%	10.04%	4.33%
1986.1	14.05%	8.77%	5.28%
1986.2	13.28%	7.49%	5.79%
1986.3	13.09%	7.40%	5.69%
1986.4	13.62%	7.53%	6.09%
1987.1	12.61%	7.49%	5.11%
1987.2	13.04%	8.53%	4.51%
1987.3	12.70%	9.06%	3.64%
1987.4	12.69%	9.23%	3.46%
1988.1	12.94%	8.63%	4.31%
1988.2	12.48%	9.06%	3.41%
1988.3	12.79%	9.18%	3.61%
1988.4	12.98%	8.97%	4.00%
1989.1	12.99%	9.04%	3.96%
1989.2	13.25%	8.70%	4.55%
1989.3	12.56%	8.12%	4.44%
1989.4	12.94%	7.93%	5.00%
1990.1	12.68%	8.44%	4.24%
1990.2	12.81%	8.65%	4.16%
1990.3	12.36%	8.79%	3.57%
1990.4	12.78%	8.56%	4.22%
1991.1	12.69%	8.20%	4.49%
1991.2	12.53%	8.31%	4.22%
1991.3	12.43%	8.19%	4.24%
1991.4	12.33%	7.85%	4.48%
1992.1	12.42%	7.81%	4.61%
1992.2	11.98%	7.90%	4.09%
1992.3	11.87%	7.45%	4.42%
1992.4	11.94%	7.52%	4.42%
1993.1	11.75%	7.07%	4.68%
1993.2	11.71%	6.86%	4.85%
1993.3	11.39%	6.32%	5.07%
1993.4	11.16%	6.14%	5.02%
1994.1	11.12%	6.58%	4.54%
1994.2	10.84%	7.36%	3.47%
1994.3	10.87%	7.59%	3.28%
1994.4	11.53%	7.96%	3.56%

Quarter	[1] Average Authorized Natual Gas	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
1995.2	11.00%	6.94%	4.06%
1995.3	11.07%	6.72%	4.35%
1995.4	11.61%	6.24%	5.37%
1996.1	11.45%	6.29%	5.16%
1996.2	10.88%	6.92%	3.95%
1996.3	11.25%	6.97%	4.28%
1996.4	11.19%	6.62%	4.57%
1997.1	11.31%	6.82%	4.49%
1997.2	11.70%	6.94%	4.76%
1997.3	12.00%	6.53%	5.47%
1997.4	10.92%	6.15%	4.77%
1998.2	11.37%	5.85%	5.52%
1998.3	11.41%	5.48%	5.93%
1998.4	11.69%	5.11%	6.58%
1999.1	10.82%	5.37%	5.44%
1999.2	11.25%	5.80%	5.45%
1999.4	10.38%	6.26%	4.12%
2000.1	10.66%	6.30%	4.36%
2000.2	11.03%	5.98%	5.05%
2000.3	11.33%	5.79%	5.54%
2000.4	12.10%	5.69%	6.41%
2001.1	11.38%	5.45%	5.93%
2001.2	10.75%	5.70%	5.05%
2001.4	10.65%	5.30%	5.35%
2002.1	10.67%	5.52%	5.15%
2002.2	11.64%	5.62%	6.03%
2002.3	11.50%	5.09%	6.41%
2002.4	11.01%	4.93%	6.08%
2003.1	11.38%	4.85%	6.53%
2003.2	11.36%	4.60%	6.76%
2003.3	10.61%	5.11%	5.50%
2003.4	10.84%	5.11%	5.73%
2004.1	11.06%	4.88%	6.18%
2004.2	10.57%	5.34%	5.24%
2004.3	10.37%	5.11%	5.26%
2004.4	10.66%	4.93%	5.73%
2005.1	10.65%	4.71%	5.94%
2005.2	10.54%	4.47%	6.07%
2005.3	10.47%	4.42%	6.05%
2005.4	10.32%	4.65%	5.66%
2006.1	10.68%	4.63%	6.05%
2006.2	10.60%	5.14%	5.46%
2006.3	10.34%	5.00%	5.34%
2006.4	10.14%	4.74%	5.40%
2007.1	10.52%	4.80%	5.72%
2007.2	10.13%	4.99%	5.14%
2007.3	10.03%	4.95%	5.08%
2007.4	10.12%	4.61%	5.50%
2008.1	10.38%	4.41%	5.97%
2008.2	10.17%	4.57%	5.59%
2008.3	10.55%	4.45%	6.10%
2008.4	10.34%	3.64%	6.69%
2009.1	10.24%	3.44%	6.80%
2009.2	10.11%	4.17%	5.94%
2009.3	9.88%	4.32%	5.56%
2009.4	10.31%	4.34%	5.97%
2010.1	10.24%	4.62%	5.61%
2010.2	9.99%	4.37%	5.62%
2010.3	10.43%	3.86%	6.57%
2010.4	10.09%	4.17%	5.92%
2011.1	10.10%	4.56%	5.54%
2011.2	9.85%	4.34%	5.51%
2011.3	9.65%	3.70%	5.95%
2011.4	9.88%	3.04%	6.84%
2012.1	9.63%	3.14%	6.50%
2012.2	9.83%	2.94%	6.89%
2012.3	9.75%	2.74%	7.01%
2012.4	10.06%	2.86%	7.19%

Quarter	[1] Average Authorized Natual Gas	[2] U.S. Govt. 30-year Treasury	[3] Risk Premium
2013.1	9.57%	3.13%	6.44%
2013.2	9.47%	3.14%	6.33%
2013.3	9.60%	3.71%	5.89%
2013.4	9.83%	3.79%	6.04%
2014.1	9.54%	3.69%	5.85%
2014.2	9.84%	3.44%	6.39%
2014.3	9.45%	3.27%	6.18%
2014.4	10.28%	2.96%	7.32%
2015.1	9.47%	2.55%	6.91%
2015.2	9.43%	2.88%	6.55%
2015.3	9.75%	2.96%	6.79%
2015.4	9.68%	2.96%	6.71%
2016.1	9.48%	2.72%	6.76%
2016.2	9.42%	2.57%	6.85%
2016.3	9.47%	2.28%	7.19%
2016.4	9.67%	2.83%	6.84%
2017.1	9.60%	3.05%	6.55%
2017.2	9.47%	2.90%	6.57%
2017.3	10.14%	2.82%	7.32%
2017.4	9.70%	2.82%	6.88%
2018.1	9.68%	3.02%	6.66%
2018.2	9.43%	3.09%	6.34%
2018.3	9.71%	3.06%	6.65%
2018.4	9.53%	3.27%	6.26%
2019.1	9.55%	3.01%	6.54%
2019.2	9.73%	2.78%	6.94%
2019.3	9.95%	2.29%	7.67%
2019.4	9.74%	2.26%	7.48%
2020.1	9.35%	1.89%	7.46%
2020.2	9.55%	1.38%	8.17%
2020.3	9.52%	1.37%	8.15%
2020.4	9.50%	1.62%	7.87%
2021.1	9.71%	2.07%	7.63%
2021.2	9.48%	2.26%	7.22%
2021.3	9.43%	1.93%	7.50%
2021.4	9.61%	1.95%	7.66%
2022.1	9.38%	2.25%	7.12%
2022.2	9.23%	3.05%	6.18%
2022.3	9.52%	3.26%	6.26%
2022.4	9.65%	3.89%	5.76%
2023.1	9.64%	3.75%	5.89%
2023.2	9.40%	3.81%	5.59%
2023.3	9.53%	4.23%	5.30%
2023.4	9.54%	4.80%	4.75%
AVERAGE	11.37%	6.08%	5.29%
MEDIAN	10.83%	5.22%	5.50%



SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9274291
R Square	0.8601248
Adjusted R Square	0.8593020
Standard Error	0.0054192
Observations	172

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.03070	0.03070	1,045.36873	0.00000
Residual	170	0.00499	0.00003		
Total	171	0.03569			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	0.0792	0.00	86.91	0.0000	0.0774	0.0810	0.0774	0.0810
U.S. Govt. 30-year Treasury	(0.4317)	0.01	(32.33)	0.0000	(0.4581)	(0.4054)	(0.4581)	(0.4054)

	[7]	[8]	[9]
	U.S. Govt. 30-year Treasury	Risk Premium	ROE
Current 30-day average of 30-year U.S. Treasury bond yield [4]	4.77%	5.86%	10.63%
Blue Chip Near-Term Projected Forecast (Q1 2024 - Q1 2025) [5]	4.48%	5.98%	10.46%
Blue Chip Long-Term Projected Forecast (2025-2029) [6]	4.10%	6.15%	10.25%
AVERAGE			10.45%

Notes:
[1] Source: Regulatory Research Associates, rate cases through Novemberr 30, 2023
[2] Source: S&P Capital IQ Pro, quarterly bond yields are the average of each trading day in the quarter
[3] Equals Column [1] − Column [2]
[4] Source: S&P Capital IQ Pro, 30-day average as of November 30, 2023
[5] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 2
[6] Source: Blue Chip Financial Forecasts, Vol. 42, No. 12, December 1, 2023, at 14.
[7] See notes [4], [5] & [6]
[8] Equals 0.079182 + (-0.431727 x Column [7])
[9] Equals Column [7] + Column [8]

FLOTATION COST ADJUSTMENT

Company	Ticker	Date [i]	[1] Shares Issued (000)	[2] Offering Price	[3] Under-writing Discount [ii]	[4] Offering Expense ($000)	[5] Net Proceeds Per Share	[6] Total Flotation Costs ($000)	[7] Gross Equity Issue Before Costs ($000)	[8] Net Proceeds ($000)	[9] Flotation Cost Percentage	
American Water Works Company	AWK	2/28/2023	12,650	135.50	2.033	700	133.41	26,411	1,714,075	1,687,664	1.54%	[iii]

[i] Offering Completion Date
[ii] Underwriting discount is calculated as the market price minus the offering price when not explicitly given in the prospectus.
[iii] American Water Works Company: AWK Prospectus 424B7 02.28.2023

The flotation cost adjustment is derived by dividing the dividend yield by 1 − F (where F = flotation costs expressed in percentage terms), or by 0.9846, and adding that result to the constant growth rate to determine the cost of equity. Using the formulas shown previously in my testimony, the Constant Growth DCF calculation is modified as follows to accommodate an adjustment for flotation costs:

$$k = \frac{D \times (1 + 0.5g)}{P \times (1 - F)} + g$$

Company	Ticker	[10] Annualized Dividend	[11] Stock Price	[12] Dividend Yield	[13] Expected Dividend Yield	[14] Expected Dividend Yield Adjusted for Flotation Costs	[15] Value Line Earnings Growth	[16] Yahoo! Finance Earnings Growth	[17] Zacks Earnings Growth	[18] Average Earnings Growth	[19] Cost of Equity: Mean Growth Rate	[20] Cost of Equity Adjusted for Flotation Costs	
Atmos Energy Corporation	ATO	$ 3.22	$ 110.15	2.92%	3.03%	3.08%	7.00%	7.50%	7.30%	7.27%	10.30%	10.34%	
NiSource Inc.	NI	$ 1.00	$ 25.47	3.93%	4.09%	4.15%	9.50%	8.30%	7.20%	8.33%	12.42%	12.49%	
Northwest Natural Gas Company	NWN	$ 1.95	$ 37.13	5.25%	5.36%	5.45%	6.50%	2.80%	3.70%	4.33%	9.70%	9.78%	
ONE Gas, Inc.	OGS	$ 2.60	$ 60.91	4.27%	4.39%	4.45%	6.50%	5.00%	5.00%	5.50%	9.89%	9.95%	
Spire, Inc.	SR	$ 2.88	$ 58.30	4.94%	5.11%	5.19%	8.00%	n/a	5.60%	6.80%	11.91%	11.99%	
Eversource Energy	ES	$ 2.70	$ 55.95	4.83%	4.95%	5.02%	6.00%	4.00%	5.00%	5.00%	9.95%	10.02%	
American States Water Company	AWR	$ 1.72	$ 79.00	2.18%	2.24%	2.27%	6.50%	4.40%	6.30%	5.73%	7.97%	8.01%	
California Water Service Group	CWT	$ 1.04	$ 49.63	2.10%	2.19%	2.22%	6.50%	10.80%	n/a	8.65%	10.84%	10.87%	
Middlesex Water Company	MSEX	$ 1.30	$ 64.21	2.02%	2.06%	2.10%	5.00%	2.70%	n/a	3.85%	5.91%	5.95%	
SJW Group	SJW	$ 1.52	$ 62.51	2.43%	2.51%	2.55%	6.50%	6.10%	n/a	6.30%	8.81%	8.85%	
Essential Utilities, Inc.	WTRG	$ 1.23	$ 34.25	3.59%	3.70%	3.75%	7.50%	5.20%	5.60%	6.10%	9.80%	9.85%	
Mean											9.77%	9.83%	
Median											9.89%	9.95%	
Flotation Cost Adjustment (Mean)												0.06%	[21]
Flotation Cost Adjustment (Median)												0.07%	[22]

Notes:
[1] - [4] See Notes [i] to [iii] above
[5] Equals [8]/[1]
[6] Equals [4] + ([1] x [3])
[7] Equals [1] x [2]
[8] Equals [7] - [6]
[9] Equals [6] / [7]
[10] Bloomberg Professional
[11] Bloomberg Professional, equals 30-day average as of November 30, 2023
[12] Equals [10] / [11]
[13] Equals [12] x (1 + 0.5 x [18])
[14] Equals [13] / (1 − Flotation Cost)
[15] Value Line
[16] Yahoo! Finance
[17] Zacks Investment Research
[18] Equals Average of [15], [16], [17]
[19] Equals [13] + [18]
[20] Equals [14] + [18]
[21] Equals [20] (Mean) − [19] (Mean)
[22] Equals [20] (Median) − [19] (Median)

2024-2028 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT
($ Millions)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]
		2022	2024	2025	2026	2027	2028	2024-28 Cap. Ex. / 2022 Net Plant
American States Water Co	AWR							
Capital Spending per Share			$5.25	$4.75	$4.25	$4.25	$4.25	
Common Shares Outstanding			$37.00	$37.25	37.50	37.50	37.50	
Capital Expenditures			$194.3	$176.9	$159.4	$159.4	$159.4	48.43%
Net Plant		$1,753.8						
Atmos Energy Corporation	ATO							
Capital Spending per Share			$18.70	$20.10	$21.50	$21.50	$21.50	
Common Shares Outstanding			$155.00	$162.50	170.00	170.00	170.00	
Capital Expenditures			$2,898.5	$3,266.3	$3,655.0	$3,655.0	$3,655.0	99.36%
Net Plant		$17,240.0						
California Water Service Group	CWT							
Capital Spending per Share			$6.15	$6.30	$6.45	$6.45	$6.45	
Common Shares Outstanding			$52.00	$51.00	50.00	50.00	50.00	
Capital Expenditures			$319.8	$321.3	$322.5	$322.5	$322.5	52.59%
Net Plant		$3,058.9						
Essential Utilities, Inc.	WTRG							
Capital Spending per Share			$4.25	$4.05	$3.85	$3.85	$3.85	
Common Shares Outstanding			$277.00	$281.00	285.00	285.00	285.00	
Capital Expenditures			$1,177.3	$1,138.1	$1,097.3	$1,097.3	$1,097.3	50.37%
Net Plant		$11,131.0						
Eversource Energy	ES							
Capital Spending per Share			$11.25	$10.88	$10.50	$10.50	$10.50	
Common Shares Outstanding			$355.00	$357.50	360.00	360.00	360.00	
Capital Expenditures			$3,993.8	$3,887.8	$3,780.0	$3,780.0	$3,780.0	53.23%
Net Plant		$36,113.0						
Middlesex Water Company	MSEX							
Capital Spending per Share			$5.45	$5.73	$6.00	$6.00	$6.00	
Common Shares Outstanding			$17.90	$17.95	18.00	18.00	18.00	
Capital Expenditures			$97.6	$102.8	$108.0	$108.0	$108.0	56.95%
Net Plant		$920.6						
NiSource Inc.	NI							
Capital Spending per Share			$6.55	$6.65	$6.75	$6.75	$6.75	
Common Shares Outstanding			$420.00	$430.00	440.00	440.00	440.00	
Capital Expenditures			$2,751.0	$2,859.5	$2,970.0	$2,970.0	$2,970.0	73.18%
Net Plant		$19,843.0						
Northwest Natural Gas Company	NWN							
Capital Spending per Share			$7.75	$7.63	$7.50	$7.50	$7.50	
Common Shares Outstanding			$38.00	$40.00	42.00	42.00	42.00	
Capital Expenditures			$294.5	$305.0	$315.0	$315.0	$315.0	49.59%
Net Plant		$3,114.4						
ONE Gas Inc.	OGS							
Capital Spending per Share			$11.95	$12.23	$12.50	$12.50	$12.50	
Common Shares Outstanding			$55.50	$56.25	57.00	57.00	57.00	
Capital Expenditures			$663.2	$687.7	$712.5	$712.5	$712.5	61.97%
Net Plant		$5,628.8						
SJW Group	SJW							
Capital Spending per Share			$8.25	$8.50	$8.75	$8.75	$8.75	
Common Shares Outstanding			$30.00	$30.00	30.00	30.00	30.00	
Capital Expenditures			$247.5	$255.0	$262.5	$262.5	$262.5	49.04%
Net Plant		$2,630.3						
Spire, Inc.	SR							
Capital Spending per Share			$12.85	$12.60	$12.35	$12.35	$12.35	
Common Shares Outstanding			$53.00	$54.00	55.00	55.00	55.00	
Capital Expenditures			$681.1	$680.4	$679.3	$679.3	$679.3	63.30%
Net Plant		$5,370.4						
New Jersey-American Water Company	NJAWC							
Capital Expenditures [8]			$488.1	$551.6	$562.9	$560.9	$556.3	54.38%
Net Plant [9]		$5,000.9						

Proxy Group Median	53.23%
Ratio of NJAWC to the Proxy Group	1.02

Notes:
[1] - [6] Source: Value Line Reports, November 24, 2023, November 10, 2023, October 6, 2023
[7] Equals (Column [2] + [3] + [4] + [5] + [6]) / Column [1]
[8] Data provided by NJAWC
[9] Data provided by NJAWC

2024-2028 CAPITAL EXPENDITURES AS A PERCENT OF 2022 NET PLANT

	Company		2024-2028
1	American States Water Co	AWR	48.43%
2	SJW Group	SJW	49.04%
3	Northwest Natural Gas Company	NWN	49.59%
4	Essential Utilities, Inc.	WTRG	50.37%
5	California Water Service Group	CWT	52.59%
6	Eversource Energy	ES	53.23%
7	New Jersey-American Water Company	NJAWC	54.38%
8	Middlesex Water Company	MSEX	56.95%
9	ONE Gas Inc.	OGS	61.97%
10	Spire, Inc.	SR	63.30%
11	NiSource Inc.	NI	73.18%
12	Atmos Energy Corporation	ATO	99.36%
	Proxy Group Median		53.23%
	NJAWC / Proxy Group		1.02

Notes:
Source: Schedule AEB-9, col. [7]

COMPARISON OF NJAWC AND PROXY GROUP COMPANIES
CAPITAL COST RECOVERY MECHANISMS

Company	Ticker	State	Utility Type	Infrastructure Cost Recovery Mechanism	Future Test Year	Revenue Stabilization or Decoupling	Citations
American States Water Co							
	AWR	California	Water	Yes	Fully Forecast	Full	Infrastructure Cost Recovery: 2022 10-K, p. 28 and p. 54. Revenue Stabilization or Decoupling: 2022 10-K, p. 29 and p. 43
	AWR	California	Electric	Yes	Fully Forecast	Full	Test Year: S&P Cap IQ Pro, Rate Case History and Commission Profiles
Atmos Energy Corporatior							
	ATO	Colorado	Gas	Yes	Historical	No	Infrastructure Cost Recovery: 2022 10-K, p. 9
	ATO	Kansas	Gas	Yes	Historical	Partial	Revenue Stabilization or Decoupling: 2022 10-K, p.9, S&P Global Market Intelligence,
	ATO	Kentucky	Gas	Yes	Fully Forecast	Partial	Regulatory Focus: Adjustment Clauses, dated 7/18/22, Company Tariffs (CO and VA).
	ATO	Louisiana	Gas	No	Historical	FRP	
	ATO	Mississippi	Gas	Yes	Historical	FRP	Test Year: S&P Cap IQ Pro, Rate Case History and Commission Profiles; Company Tariffs
	ATO	Tennessee	Gas	No	Historical	FRP	(LA, MS, TN); 2022 10-K, p. 10
	ATO	Texas	Gas	Yes	Historical	FRP	
	ATO	Virginia	Gas	Yes	Historical	Partial	
California Water Service Group							
	CWT	California	Water	Yes	Fully Forecast	Full	Infrastructure Cost Recovery and Revenue Stabilization or Decoupling: 2022 10-K, p.9
	CWT	Hawaii	Water	No	Fully Forecast	No	(California Water); Tariffs (HI, WA, NM)
	CWT	New Mexico	Water	No	Historical	No	Test Year: S&P Cap IQ Pro, Rate Case History and Commission Profiles
	CWT	Washington	Water	Yes	Historical	No	
Essential Utilities, Inc.							
	WTRG	Pennsylvania	Water	Yes	Fully Forecast	No	Infrastructure Cost Recovery: 2022 10-K, p. 9; S&P Global Market Intelligence, Regulatory
	WTRG	Pennsylvania	Gas	Yes	Fully Forecast	No	Focus: Adjustment Clauses, dated 7/18/22
	WTRG	Ohio	Water	Yes	Partially Forecast	No	Revenue Stabilization or Decoupling: 2022 10-K, p. 11
	WTRG	Illinois	Water	Yes	Fully Forecast	Full	Test Year: S&P Cap IQ Pro, Rate Case History and Commission Profiles
	WTRG	Texas	Water	Yes	Historical	No	
	WTRG	New Jersey	Water	Yes	Partially Forecast	No	
	WTRG	North Carolina	Water	Yes	Historical	No	
	WTRG	Indiana	Water	Yes	Fully Forecast	No	
	WTRG	Virginia	Water	Yes	Historical	No	
	WTRG	Kentucky	Gas	Yes	Fully Forecast	Partial	
	WTRG	West Virginia	Gas	No	Historical	No	
Eversource Energy							
	ES	Connecticut	Electric	Yes	Fully Forecast	Full	Infrastructure Cost Recovery: 2022 10-K, p. 11 (water); S&P Global Market Intelligence,
	ES	Connecticut	Gas	Yes	Fully Forecast	Full	Regulatory Focus: Adjustment Clauses, dated 7/18/22 (electric and natural gas)
	ES	Connecticut	Water	Yes	Fully Forecast	Full	
	ES	Massachusetts	Electric	Yes	Historical	Full	
	ES	Massachusetts	Gas	Yes	Historical	Full	Revenue Stabilization or Decoupling: 2022 10-K, p. 11 (water); S&P Global Market
	ES	Massachusetts	Water	Yes	Historical	No	Intelligence, Regulatory Focus: Adjustment Clauses, dated 7/18/22 (electric and natural gas)
	ES	New Hampshire	Electric	Yes	Historical	Partial	Test Year: S&P Cap IQ Pro, Rate Case History
	ES	New Hampshire	Water	Yes	Historical	No	
Middlesex Water Company							
	MSEX	New Jersey	Water	Yes	Partially Forecast	No	Infrastructure Cost Recovery/ Revenue Decoupling: Tariffs (NJ, DE, PA)
	MSEX	Delaware	Water	Yes	Historical	No	Test Year: S&P Cap IQ Pro, Rate Case History
	MSEX	Pennsylvania	Water	No	Fully Forecast	No	
NiSource Inc.							
	NI	Indiana	Electric	Yes	Fully Forecast	Partial	Infrastructure Cost Recovery and Revenue Stabilization or Decoupling: S&P Global Market
	NI	Indiana	Gas	Yes	Fully Forecast	No	Intelligence, Regulatory Focus: Adjustment Clauses, dated 7/18/22
	NI	Kentucky	Gas	Yes	Fully Forecast	Partial	Test Year: S&P Cap IQ Pro, Rate Case History
	NI	Maryland	Gas	Yes	Partially Forecast	Partial	
	NI	Ohio	Gas	Yes	Partially Forecast	SFV	
	NI	Pennsylvania	Gas	Yes	Fully Forecast	Partial	
	NI	Virginia	Gas	Yes	Historical	Partial	
Northwest Natural Gas Company							Infrastructure Cost Recovery and Revenue Stabilization or Decoupling: S&P Global Market
	NWN	Oregon	Gas	Yes	Fully Forecast	Partial	Intelligence, Regulatory Focus: Adjustment Clauses, dated 7/18/22
	NWN	Washington	Gas	No	Historical	No	Test Year: S&P Cap IQ Pro, Rate Case History
ONE Gas, Inc.							
	OGS	Kansas	Gas	Yes	Historical	Partial	Infrastructure Cost Recovery and Revenue Stabilization or Decoupling: S&P Global Market
	OGS	Oklahoma	Gas	No	Historical	FRP	Intelligence, Regulatory Focus: Adjustment Clauses, dated 7/18/22; 2022 10-K, p. 7.
	OGS	Texas	Gas	Yes	Historical	FRP	Test Year: S&P Cap IQ Pro, Rate Case History
SJW Group							
	SJW	California	Water	Yes	Fully Forecast	No	Infrastructure Cost Recovery: 2022 10-K, pp. 5-8
	SJW	Connecticut	Water	Yes	Fully Forecast	Full	Revenue Stabilization or Decoupling: 2022 10-K, p. 60.
	SJW	Maine	Water	Yes	Historical	No	Test Year: S&P Cap IQ Pro, Rate Case History and Commission Profiles
	SJW	Texas	Water	No	Historical	No	
Spire, Inc.							Infrastructure Cost Recovery and Revenue Stabilization or Decoupling: S&P Global Market
	SR	Alabama (AL)	Gas	No	Fully Forecast	FRP	Intelligence, Regulatory Focus: Adjustment Clauses, dated 7/18/22, Company Tariffs (AL and
	SR	Alabama (Gulf)	Gas	No	Fully Forecast	FRP	MS)
	SR	Mississippi	Gas	No	Historical	FRP	Test Year: S&P Cap IQ Pro, Rate Case History; 2022 10-K, pgs. 117-121
	SR	Missouri	Gas	Yes	Partially Forecast	Partial	

Proxy Group Totals				Yes	44	Historical	27	Full	10
				No	12	Fully Forecast	23	Partial	13
						Partially Forecast	6	FRP	9
								SFV	1
								No	23
				CCRM	78.57%	FTY	51.79%		58.93%
NJAWC		New Jersey	Water		Yes		Partially Forecast	No	American Water Works Company, Inc., 2022 10-K, p. 7,

CAPITAL STRUCTURE ANALYSIS

COMMON EQUITY RATIO [1]

Proxy Group Company	Ticker	2022	2021	2020	3-yr Avg.
American States Water Company	AWR	60.78%	59.68%	56.75%	59.07%
Atmos Energy Corporation	ATO	60.01%	59.88%	58.31%	59.40%
California Water Service Group	CWT	50.88%	48.85%	52.23%	50.65%
Essential Utilities, Inc.	WTRG	57.80%	55.09%	55.36%	56.08%
Eversource Energy	ES	56.37%	54.75%	55.63%	55.58%
Middlesex Water Company	MSEX	61.42%	59.01%	59.21%	59.88%
NiSource Inc.	NI	54.17%	54.85%	54.43%	54.48%
Northwest Natural Gas Company	NWN	51.21%	49.57%	47.44%	49.41%
ONE Gas, Inc.	OGS	58.23%	61.09%	60.04%	59.79%
SJW Group	SJW	53.78%	52.06%	56.76%	54.20%
Spire, Inc.	SR	54.32%	55.46%	58.61%	56.13%
Proxy Group					
MEAN		56.27%	55.48%	55.89%	55.88%
LOW		50.88%	48.85%	47.44%	49.41%
HIGH		61.42%	61.09%	60.04%	59.88%

COMMON EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2022	2021	2020	3-yr Avg.
Golden State Water / Bear Valley	AWR	60.78%	59.68%	56.75%	59.07%
Atmos Energy Corporation	ATO	60.01%	59.88%	58.31%	59.40%
California Water Service	CWT	50.41%	48.11%	51.34%	49.95%
New Mexico Water Service Water Division	CWT		69.19%	67.06%	68.12%
New Mexico Water Service Sewer Division	CWT		62.89%	59.47%	61.18%
Washington Water Service	CWT	62.87%	65.96%	71.93%	66.92%
Hawaii Water Service Pukalani Division	CWT	65.87%	65.58%	64.56%	65.34%
Aqua Pennsylvania Water	WTRG		54.32%	51.14%	52.73%
Aqua Pennsylvania Wastewater	WTRG		98.06%	97.07%	97.57%
Peoples Natural Gas Company	WTRG	58.85%	57.75%	61.48%	59.36%
Peoples Gas Company	WTRG	67.48%	55.97%	79.59%	67.68%
Aqua Ohio Water	WTRG	54.03%	52.11%	64.62%	56.92%
Aqua Ohio Wastewater	WTRG	74.40%	73.67%	72.82%	73.63%
Aqua Illinois	WTRG	56.55%	57.99%	54.57%	56.37%
Aqua Texas	WTRG		49.91%	50.17%	50.04%
Aqua New Jersey, Inc. Water	WTRG	55.74%	53.19%	50.28%	53.07%
Aqua New Jersey, Inc. Wastewater	WTRG	100.00%	100.00%	100.00%	100.00%
Aqua North Carolina	WTRG	50.21%	48.75%	50.62%	49.86%
Aqua Virginia	WTRG	47.83%	48.83%	55.23%	50.63%
Delta Natural Gas Company	WTRG	58.51%	54.49%	56.93%	56.64%
Peoples Gas of WV	WTRG	58.78%	47.74%	48.44%	51.65%
Connecticut Light and Power Company	ES	57.03%	54.86%	55.42%	55.77%
Yankee Gas Company	ES	61.62%	61.12%	61.97%	61.57%
Aquarion Water Company CT	ES	55.94%	57.55%	58.76%	57.42%
NSTAR Electric Company	ES	55.89%	55.10%	54.95%	55.32%
NSTAR Gas Company	ES	55.96%	55.54%	55.54%	55.68%
Aquarion Water Company MA	ES	86.93%	85.64%	96.04%	89.54%
Eversource Gas of MA	ES	53.20%	52.25%	68.65%	58.03%
Public Service Company of NH	ES	53.77%	49.10%	48.66%	50.51%
Aquarion Water Company NH	ES	75.26%	59.74%	58.81%	64.60%
Middlesex Water Company	MSEX	61.15%	58.76%	59.03%	59.65%
Pinelands Water	MSEX	100.00%	100.00%	100.00%	100.00%
Pinelands WW	MSEX	100.00%	100.00%	100.00%	100.00%
Northern Indiana Public Service Company LLC	NI	56.92%	58.59%	58.01%	57.84%
Columbia Gas of Kentucky, Inc.	NI	54.91%	53.87%	54.68%	54.49%
Columbia Gas of Maryland, Inc.	NI	51.96%	55.26%	54.95%	54.06%
Columbia Gas of Ohio, Inc.	NI	50.67%	50.79%	50.45%	50.64%
Columbia Gas of Pennsylvania, Inc.	NI	56.64%	56.05%	55.68%	56.12%
Columbia Gas of Virginia, Inc.	NI	44.25%	44.52%	43.69%	44.15%
Northwest Natural Gas Company	NWN	51.21%	49.57%	47.44%	49.41%
Kansas Gas Service Company, Inc.	OGS	58.37%	61.37%	60.33%	60.02%
Oklahoma Natural Gas Company	OGS		60.99%	59.85%	60.42%
Texas Gas Service Company, Inc.	OGS	58.13%	60.98%	59.99%	59.70%
San Jose Water	SJW	53.20%	50.25%	54.02%	52.49%
CT Water	SJW	54.61%	52.66%	59.12%	55.46%
Maine Water Co.	SJW	53.92%	57.59%	60.15%	57.22%
Canyon Lake Water Service Company	SJW		59.64%	74.05%	66.85%
Spire Alabama Inc.	SR	61.18%	58.51%	64.20%	61.30%
Spire Gulf Inc.	SR	51.61%	49.48%	40.55%	47.21%
Spire Mississippi Inc.	SR		100.00%	100.00%	100.00%
Spire Missouri Inc.	SR	51.46%	53.96%	56.68%	54.03%

Notes:
[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.
[2] Electric, Natural Gas and Water operating subsidiaries where data was unable to be obtained for 2022, 2021 and 2020 were removed from the analysis.

CAPITAL STRUCTURE ANALYSIS

LONG-TERM DEBT RATIO [1]

Proxy Group Company	Ticker	2022	2021	2020	3-yr Avg.
American States Water Company	AWR	39.22%	40.32%	43.25%	40.93%
Atmos Energy Corporation	ATO	39.99%	40.12%	41.69%	40.60%
California Water Service Group	CWT	49.12%	51.15%	47.77%	49.35%
Essential Utilities, Inc.	WTRG	42.20%	44.91%	44.64%	43.92%
Eversource Energy	ES	43.11%	44.67%	43.74%	43.84%
Middlesex Water Company	MSEX	38.26%	40.66%	40.43%	39.78%
NiSource Inc.	NI	45.83%	45.15%	45.57%	45.52%
Northwest Natural Gas Company	NWN	48.79%	50.43%	52.56%	50.59%
ONE Gas, Inc.	OGS	41.77%	38.91%	39.96%	40.21%
SJW Group	SJW	46.22%	47.94%	43.24%	45.80%
Spire, Inc.	SR	45.68%	44.54%	41.39%	43.87%
Proxy Group					
MEAN		43.65%	44.44%	44.02%	44.04%
LOW		38.26%	38.91%	39.96%	39.78%
HIGH		49.12%	51.15%	52.56%	50.59%

LONG-TERM DEBT RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2022	2021	2020	3-yr Avg.
Golden State Water / Bear Valley	AWR	39.22%	40.32%	43.25%	40.93%
Atmos Energy Corporation	ATO	39.99%	40.12%	41.69%	40.60%
California Water Service	CWT	49.59%	51.89%	48.66%	50.05%
New Mexico Water Service Water Division	CWT		30.81%	32.94%	31.88%
New Mexico Water Service Sewer Division	CWT		37.11%	40.53%	38.82%
Washington Water Service	CWT	37.13%	34.04%	28.07%	33.08%
Hawaii Water Service Pukalani Division	CWT	34.13%	34.42%	35.44%	34.66%
Aqua Pennsylvania Water	WTRG		45.68%	48.86%	47.27%
Aqua Pennsylvania Wastewater	WTRG		1.94%	2.93%	2.43%
Peoples Natural Gas Company	WTRG	41.15%	42.25%	38.52%	40.64%
Peoples Gas Company	WTRG	32.52%	44.03%	20.41%	32.32%
Aqua Ohio Water	WTRG	45.97%	47.89%	35.38%	43.08%
Aqua Ohio Wastewater	WTRG	25.60%	26.33%	27.18%	26.37%
Aqua Illinois	WTRG	43.45%	42.01%	45.43%	43.63%
Aqua Texas	WTRG		50.09%	49.83%	49.96%
Aqua New Jersey, Inc. Water	WTRG	44.26%	46.81%	49.72%	46.93%
Aqua New Jersey, Inc. Wastewater	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua North Carolina	WTRG	49.79%	51.25%	49.38%	50.14%
Aqua Virginia	WTRG	52.17%	51.17%	44.77%	49.37%
Delta Natural Gas Company	WTRG	41.49%	45.51%	43.07%	43.36%
Peoples Gas of WV	WTRG	41.22%	52.26%	51.56%	48.35%
Connecticut Light and Power Company	ES	41.82%	43.93%	43.30%	43.02%
Yankee Gas Company	ES	38.38%	38.88%	38.03%	38.43%
Aquarion Water Company CT	ES	44.06%	42.45%	41.24%	42.58%
NSTAR Electric Company	ES	43.68%	44.42%	44.52%	44.21%
NSTAR Gas Company	ES	44.04%	44.46%	44.46%	44.32%
Aquarion Water Company MA	ES	13.07%	14.36%	3.96%	10.46%
Eversource Gas of MA	ES	46.80%	47.75%	31.35%	41.97%
Public Service Company of NH	ES	46.23%	50.90%	51.34%	49.49%
Aquarion Water Company NH	ES	24.73%	40.26%	41.18%	35.39%
Middlesex Water Company	MSEX	38.53%	40.91%	40.62%	40.02%
Pinelands Water	MSEX	0.00%	0.00%	0.00%	0.00%
Pinelands WW	MSEX	0.00%	0.00%	0.00%	0.00%
Northern Indiana Public Service Company LLC	NI	43.08%	41.41%	41.99%	42.16%
Columbia Gas of Kentucky, Inc.	NI	45.09%	46.13%	45.32%	45.51%
Columbia Gas of Maryland, Inc.	NI	48.04%	44.74%	45.05%	45.94%
Columbia Gas of Ohio, Inc.	NI	49.33%	49.21%	49.55%	49.36%
Columbia Gas of Pennsylvania, Inc.	NI	43.36%	43.95%	44.32%	43.88%
Columbia Gas of Virginia, Inc.	NI	55.75%	55.48%	56.31%	55.85%
Northwest Natural Gas Company	NWN	48.79%	50.43%	52.56%	50.59%
Kansas Gas Service Company, Inc.	OGS	41.63%	38.63%	39.67%	39.98%
Oklahoma Natural Gas Company	OGS		39.01%	40.15%	39.58%
Texas Gas Service Company, Inc.	OGS	41.87%	39.02%	40.01%	40.30%
San Jose Water	SJW	46.80%	49.75%	45.98%	47.51%
CT Water	SJW	45.39%	47.34%	40.88%	44.54%
Maine Water Co.	SJW	46.08%	42.41%	39.85%	42.78%
Canyon Lake Water Service Company	SJW		40.36%	25.95%	33.15%
Spire Alabama Inc.	SR	38.82%	41.49%	35.80%	38.70%
Spire Gulf Inc.	SR	48.39%	50.52%	59.45%	52.79%
Spire Mississippi Inc.	SR		0.00%	0.00%	0.00%
Spire Missouri Inc.	SR	48.54%	46.04%	43.32%	45.97%

Notes:

[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.

[2] Electric, Natural Gas and Water operating subsidiaries where data was unable to be obtained for 2022, 2021 and 2020 were removed from the analysis.

CAPITAL STRUCTURE ANALYSIS

PREFERRED EQUITY RATIO [1]

Proxy Group Company	Ticker	2022	2021	2020	3-yr Avg.
American States Water Company	AWR	0.00%	0.00%	0.00%	0.00%
Atmos Energy Corporation	ATO	0.00%	0.00%	0.00%	0.00%
California Water Service Group	CWT	0.00%	0.00%	0.00%	0.00%
Essential Utilities, Inc.	WTRG	0.00%	0.00%	0.00%	0.00%
Eversource Energy	ES	0.53%	0.58%	0.63%	0.58%
Middlesex Water Company	MSEX	0.32%	0.33%	0.35%	0.33%
NiSource Inc.	NI	0.00%	0.00%	0.00%	0.00%
Northwest Natural Gas Company	NWN	0.00%	0.00%	0.00%	0.00%
ONE Gas, Inc.	OGS	0.00%	0.00%	0.00%	0.00%
SJW Group	SJW	0.00%	0.00%	0.00%	0.00%
Spire, Inc.	SR	0.00%	0.00%	0.00%	0.00%
Proxy Group					
MEAN		0.08%	0.08%	0.09%	0.08%
LOW		0.00%	0.00%	0.00%	0.00%
HIGH		0.53%	0.58%	0.63%	0.58%

PREFERRED EQUITY RATIO - UTILITY OPERATING COMPANIES

Company Name	Ticker	2022	2021	2020	3-yr Avg.
Golden State Water / Bear Valley	AWR	0.00%	0.00%	0.00%	0.00%
Atmos Energy Corporation	ATO	0.00%	0.00%	0.00%	0.00%
California Water Service	CWT	0.00%	0.00%	0.00%	0.00%
New Mexico Water Service Water Division	CWT		0.00%	0.00%	0.00%
New Mexico Water Service Sewer Division	CWT		0.00%	0.00%	0.00%
Washington Water Service	CWT	0.00%	0.00%	0.00%	0.00%
Hawaii Water Service Pukalani Division	CWT	0.00%	0.00%	0.00%	0.00%
Aqua Pennsylvania Water	WTRG		0.00%	0.00%	0.00%
Aqua Pennsylvania Wastewater	WTRG		0.00%	0.00%	0.00%
Peoples Natural Gas Company	WTRG	0.00%	0.00%	0.00%	0.00%
Peoples Gas Company	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua Ohio Water	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua Ohio Wastewater	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua Illinois	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua Texas	WTRG		0.00%	0.00%	0.00%
Aqua New Jersey, Inc. Water	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua New Jersey, Inc. Wastewater	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua North Carolina	WTRG	0.00%	0.00%	0.00%	0.00%
Aqua Virginia	WTRG	0.00%	0.00%	0.00%	0.00%
Delta Natural Gas Company	WTRG	0.00%	0.00%	0.00%	0.00%
Peoples Gas of WV	WTRG	0.00%	0.00%	0.00%	0.00%
Connecticut Light and Power Company	ES	1.15%	1.20%	1.28%	1.21%
Yankee Gas Company	ES	0.00%	0.00%	0.00%	0.00%
Aquarion Water Company CT	ES	0.00%	0.00%	0.00%	0.00%
NSTAR Electric Company	ES	0.42%	0.48%	0.52%	0.47%
NSTAR Gas Company	ES	0.00%	0.00%	0.00%	0.00%
Aquarion Water Company MA	ES	0.00%	0.00%	0.00%	0.00%
Eversource Gas of MA	ES	0.00%	0.00%	0.00%	0.00%
Public Service Company of NH	ES	0.00%	0.00%	0.00%	0.00%
Aquarion Water Company NH	ES	0.01%	0.01%	0.01%	0.01%
Middlesex Water Company	MSEX	0.32%	0.33%	0.36%	0.34%
Pinelands Water	MSEX	0.00%	0.00%	0.00%	0.00%
Pinelands WW	MSEX	0.00%	0.00%	0.00%	0.00%
Northern Indiana Public Service Company LLC	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Kentucky, Inc.	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Maryland, Inc.	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Ohio, Inc.	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Pennsylvania, Inc.	NI	0.00%	0.00%	0.00%	0.00%
Columbia Gas of Virginia, Inc.	NI	0.00%	0.00%	0.00%	0.00%
Northwest Natural Gas Company	NWN	0.00%	0.00%	0.00%	0.00%
Kansas Gas Service Company, Inc.	OGS	0.00%	0.00%	0.00%	0.00%
Oklahoma Natural Gas Company	OGS		0.00%	0.00%	0.00%
Texas Gas Service Company, Inc.	OGS	0.00%	0.00%	0.00%	0.00%
San Jose Water	SJW	0.00%	0.00%	0.00%	0.00%
CT Water	SJW	0.00%	0.00%	0.00%	0.00%
Maine Water Co.	SJW	0.00%	0.00%	0.00%	0.00%
Canyon Lake Water Service Company	SJW		0.00%	0.00%	0.00%
Spire Alabama Inc.	SR	0.00%	0.00%	0.00%	0.00%
Spire Gulf Inc.	SR	0.00%	0.00%	0.00%	0.00%
Spire Mississippi Inc.	SR		0.00%	0.00%	0.00%
Spire Missouri Inc.	SR	0.00%	0.00%	0.00%	0.00%

Notes:

[1] Ratios are weighted by actual common capital, preferred equity, and long-term debt of Operating Subsidiaries.

[2] Electric, Natural Gas and Water operating subsidiaries where data was unable to be obtained for 2022, 2021 and 2020 were removed from the analysis.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

PATRICK L. BARYENBRUCH

Exhibit P-11

NEW JERSEY-AMERICAN WATER COMPANY, INC.

1. Q. Please state your name, position and business address.

A. My name is Patrick L. Baryenbruch. I am the President of my own consulting practice, Baryenbruch & Company, LLC, which was established in 1985. In that capacity, I provide consulting services to utilities and their regulators. My business address is 2832 Claremont Road, Raleigh, North Carolina 27608.

2. Q. Summarize your academic and professional background.

A. I received a Bachelor's degree in Accounting from the University of Wisconsin Oshkosh and a Master's in Business Administration degree from the University of Michigan. I am a member of the American Institute of Certified Public Accountants and the North Carolina Association of Certified Public Accountants.

I began my career with Arthur Andersen & Company, where I performed financial audits of utilities, banks and finance companies. I left to pursue an M.B.A. degree. Upon graduation from business school, I worked with the management consulting firms of Theodore Barry & Associates and Scott Consulting Group (now ScottMadden) before establishing my own firm.

3. Q. Do you hold any professional certifications?

A. Yes. I am a Certified Public Accountant ("CPA") with an active license from the states of Wisconsin and North Carolina. I am a Certified Information Technology Professional), an accreditation awarded by the American Institute of Certified Public Accountants to CPA professionals who can demonstrate expertise in information technology management.

4. Q. Have you provided testimony in other regulatory proceedings on the issue of utility/affiliate transactions?

A. Yes. During my career, I have performed more than 140 evaluations of affiliate charges to 46 utility companies. I have acted as an expert witness on utility/affiliate charges in 100 rate case proceedings before regulators in 21 states. Schedule PLB-1 to my testimony presents my previous affiliate transaction-related assignments.

5. Q. What other work experience do you have within the utility industry?

A. Besides my work supporting rate cases, much of my career has been spent as a management consultant for projects related to the utility industry. I have performed consulting assignments for more than 60 utilities and 10 public service commissions. I have participated as project manager, lead consultant or staff consultant for 24 commission-ordered management and prudence audits of public utilities. Of these, I have been responsible for evaluating the area of affiliate charges and allocation of corporate expenses in the commission-ordered audits of Connecticut Light and Power (now Eversource), Connecticut Natural Gas, General Water Corporation (now Veolia), Philadelphia Suburban Water Company (now Essential Utilities), and Pacific Gas & Electric Company.

My firm performed the commission-ordered audit of Southern California Edison's 2002, 2003, 2004 and 2005 transactions with its non-regulated affiliate companies.

For 20 years, I was heavily involved in providing consulting services related to information technology ("IT") infrastructure within the utility industry. These projects

involved improvements in business management practices of utility IT organizations, covering processes such as business planning, risk management, performance measurement and reporting, cost recovery, budgeting, cost management and personnel development.

I acted as the project manager or a member of the project management team for several very large-scale IT implementation projects involving more than 800,000 hours of work by hundreds of utility client employees and contractor personnel.

6. Q. Please describe the basis for your direct testimony in this case.

A. I am presenting the results of my evaluation of the necessity of services provided by American Water Works Service Company, Inc. ("Service Company") to New Jersey-American Water Company ("NJAWC") and the reasonableness of the associated charges during the 12 months ended June 30, 2023 (Base Year 2023).

7. Q. Are you sponsoring any exhibits in your testimony?

A. Yes. I am sponsoring Schedule PLB-1, which presents my previous affiliate transaction-related assignments, and Schedule PLB-2, which is the Market-to-Cost Comparison of Service Company charges to NJAWC during Base Year 2023. This study was undertaken in conjunction with NJAWC's rate case and the results are true to the best of my knowledge and belief.

8. Q. What were the objectives of your study?

A. This study was undertaken to answer the following four questions concerning the services provided by the Service Company to NJAWC, each of which bears on the reasonableness of those charges as incurred during Base Year 2023.

1) Are the Service Company's charges to NJAWC during Base Year 2023 reasonable?

2) Was NJAWC charged the lower of cost or market for managerial and professional services provided by the Service Company during Base Year 2023?

3) Are NJAWC's Base Year 2023 costs of Service Company's customer accounts services comparable to those of other utilities?

4) Are the services NJAWC receives from the Service Company necessary?

9. Q. What conclusions were you able to draw concerning question number one, whether the Service Company charges to NJAWC were reasonable?

A. I was able to determine that the Service Company's Base Year 2023 cost per NJAWC customer is reasonable because it is in line with, albeit considerably lower than, the average cost per customer for the proxy service companies.

10. Q. How were you able to make this determination?

A. Every centralized service company in a holding company system subject to regulation by the Federal Energy Regulatory Commission ("FERC") must file a Form 60 in accordance with Section 1270 of the Public Utility Holding Company Act of 2005, Section 390 of the Federal Power Act, and Section 18 Code of Federal Regulations paragraph 366.23. Form 60 is designed to collect financial information from service

companies within a holding company structure. For 2022, a Form 60 was filed by service companies associated with 22 utility holding companies. These service companies support utilities that provide regulated electric and, in some cases, gas service to retail customers. Although utility service companies may deliver a range of services to their regulated utility affiliates, all utility service companies provide administrative and general A&G ("A&G") services to their affiliates. This is the case because considerable economies of scale derive from centralizing the management of corporate A&G services such as finance, human resources, and information technology. Because A&G-related services are delivered by all utility service companies, my study uses A&G charges per customer as the metric by which to test the reasonableness of affiliate charges. Sch. PLB-2, p. 8.

11. Q. Why is a comparison of A&G costs useful to a determination of the reasonableness of the Service Company's charges to NJAWC?

A. A&G-related services cover the functions identified below and provide a useful comparison because the processes involved in delivering these services are similar across utility types.

Executive Management	Information Technology
Finance	Procurement
Accounting	Rates and Regulatory
Taxes	Legal
Financial Planning and Analysis	Human Resources
Internal Auditing	Customer Services

12. Q. What were the specific findings of your study?

A. My study found that, during Base Year 2023, NJAWC was charged $73 per customer for A&G related services provided by the Service Company. This compares to an average of $129 per customer in 2022 for the service company proxy group. Sch. PLB-2, p. 11. In fact, eighteen of the 22 utility service companies that filed a FERC Form 60 for 2022 had a higher per-customer A&G cost than NJAWC's charges from the Service Company, which was only seven dollars more than the lowest per customer charge of the proxy group of service companies. Sch. PLB-2, p. 11. Therefore, it can readily be seen that, based on a comparison of A&G costs charged by other utility service companies, the charges to NJAWC from the Service Company are reasonable, indeed are lower than average.

13. Q. What conclusions were you able to draw concerning question number two, whether NJAWC was charged the lower of cost or market services provided by the Service Company?

A. I was able to draw the following conclusions:

1) NJAWC was charged the lower of cost or market for managerial and professional services during Base Year 2023.

2) On average, the hourly rates for outside service providers are 87% higher than the Service Company's hourly rates. Sch. PLB-2, p. 24.

3) The managerial and professional services provided by the Service Company are vital and could not be procured externally by NJAWC without careful supervision on the

part of NJAWC. If these services were contracted entirely to outside providers, NJAWC would have to add at least six positions to manage activities of outside firms. These positions would be required to ensure the quality and timeliness of services provided. Sch. PLB-2, p. 24.

4) If all the managerial and professional services now provided by the Service Company had been outsourced during Base Year 2023, NJAWC and its customers would have incurred nearly $38.7 million in additional expenses. This amount includes the higher cost of outside providers and the cost of six new NJAWC positions needed to direct the outsourced work. Sch. PLB-2, p. 25.

5) This study's hourly rate comparison understates the cost advantages that accrue to NJAWC from its use of the Service Company. Outside service providers generally bill for every hour worked. Service Company exempt personnel, on the other hand, charge a maximum of eight hours per day even when they work more hours. If all overtime hours of Service Company personnel were factored into the hourly rate calculation, the Service Company would have had an even greater annual dollar advantage than the $38.7 million cited above. Sch. PLB-2, p. 24.

6) It would be difficult for NJAWC to find local service providers with the same specialized water industry expertise as possessed by the Service Company staff. Service Company personnel spend substantially all their time serving operating water companies. This specialization brings with it a unique knowledge of water utility operations and regulation that may not be available from local service providers.

7) Unlike service providers in the general business community, Service Company fees do not include any profit markup. Only its actual cost of service is being recovered from NJAWC ratepayers.

14. Q. What conclusions were you able to draw concerning question number three, whether the Base Year 2023 costs of the Service Company's customer account services were reasonable?

A. Based on a comparison of Service Company's account services costs to those of neighboring utilities I determined that the costs paid by NJAWC are reasonable.

15. Q. Please describe your methodology.

A. Customer account services involve the processes that occur from the time meter-read data is recorded in the customer information system through the printing and mailing of bills, concluding with the collection and processing of customer payments. Customer account services are accomplished by the following utility functions:

- Customer Service Operations – customer calls/contact, credit, order taking/disposition, bill collection efforts and outage calls
- Customer Call IT – support of phone banks, voice recognition units, call handling software applications and telecommunications
- Customer billing – bill printing, stuffing and mailing
- Remittance processing – processing customer payments received in the mail
- Bill payment centers – processing customer payments at locations where customers can pay their bills in person

I then compared those costs to those of neighboring utilities. Neighboring electric utility cost information comes from the FERC Form 1 that each utility subject to FERC

regulation must file. FERC's chart of accounts is defined in Chapter 18, Part 101 of the Code of Federal Regulations. FERC accounts that contain expenses related to customer account services are Account 903 Customer Accounts Expense – Records and Collection Expense and Account 905 Customer Accounts Expense – Miscellaneous Customer Accounts Expense. Exhibit 11 (page 27) of Sch. PLB-2 provides FERC's definition of the type of expenses that should be recorded in these accounts.

16. Q. Which companies did you use for a comparison group?

A. I examined the customer accounts costs of the following neighboring electric utilities.

Customer Accounts Expenses Comparison Group

New York	Central Hudson Gas & Electric Corporation	Pennsylvania	Duquesne Light Company
	Consolidated Edison Company		Metropolitan Edison Company
	New York State Gas & Electric Corporation		PECO Energy Company
	Niagara Mohawk Power Corporation		Pennsylvania Electric Company
	Orange and Rockland Utilities, Inc		Pennsylvania Power Company
	Rochester Gas and Electric Corporation		PPL Electric Utilities Corporation
New Jersey	Atlantic City Electric Company		West Penn Power Company
	Jersey Central Power & Light Company	Delaware	Delmarva Power & Light Company
	Public Service Electric and Gas Company		
	Rockland Electric Company		

17. Q. What did your analysis reveal?

A. Here, too, my study reveals that the customer costs charged to NJAWC by the Service Company are quite reasonable. As the chart on page 30 of Sch. PLB-2 shows graphically, during Base Year 2023, the cost of customer account services for NJAWC customers was $20.89, compared to the 2022 average of $52.87 for comparable utilities. In fact, twelve of the 17 comparison group utilities have a higher cost than NJAWC.

18. Q. Finally, what conclusions were you able to draw concerning question number four, whether the services NJAWC receives from the Service Company are necessary?

A. I was able to draw the following conclusions:

1) The services that the Service Company provides are necessary and are required for a water and wastewater utility. These services are customarily provided by service companies of other utility holding companies. Sch. PLB-2, Exh. 13 and pp 32-34.

2) There is no redundancy or overlap in the services provided by the Service Company to NJAWC. A detailed analysis of all the functional work activities required to deliver service to customers showed just one of the entities—Service Company or NJAWC—with primary responsibility. Sch. PLB-2, Exh. 13 and pp. 32-34.

19. Q. Does this complete your Direct Testimony?

A. Yes.

Schedule PLB-1

Patrick Baryenbruch's Previous Affiliate Transactions and Rate Case Engagements

	Client	State	Year	Purpose	Rate Case Witness?
1	Connecticut American Water	Connecticut	1999	Rate Case	Yes
2	Illinois American Water	Illinois	2007	Rate Case	Yes
		Illinois	2021	Rate Case	Yes
3	Indiana American Water	Indiana	2017	Rate Case	Yes
		Indiana	2022	Rate Case	Yes
4	Iowa American Water	Iowa	2020	Rate Case	Yes
5	Kentucky American Water	Kentucky	2003	Rate Case	Yes
		Kentucky	2006	Rate Case	Yes
		Kentucky	2008	Rate Case	Yes
		Kentucky	2009	Rate Case	Yes
		Kentucky	2018	Rate Case	Yes
6	Massachusetts American Water	Massachusetts	2000	Rate Case	Yes
7	Missouri American Water	Missouri	2002	Rate Case	Yes
		Missouri	2008	Rate Case	Yes
		Missouri	2014	Rate Case	Yes
		Missouri	2016	Rate Case	Yes
		Missouri	2019	Rate Case	Yes
8	New Jersey American Water	New Jersey	2005	Rate Case	Yes
		New Jersey	2007	Rate Case	Yes
		New Jersey	2009	Rate Case	Yes
		New Jersey	2010	Rate Case	Yes
		New Jersey	2014	Rate Case	Yes
		New Jersey	2017	Rate Case	Yes
		New Jersey	2019	Rate Case	Yes
9	New Mexico American Water	New Mexico	2007	Rate Case	Yes
10	New York American Water	New York	2006	Rate Case	Yes
		New York	2010	Rate Case	Yes
		New York	2013	Rate Case	Yes
		New York	2015	Rate Case	Yes
11	Ohio American Water	Ohio	2006	Rate Case	Yes
		Ohio	2010	Rate Case	Yes
12	Pennsylvania American Water	Pennsylvania	2008	Compliance	No
		Pennsylvania	2011	Compliance	No
		Pennsylvania	2014	Compliance	No
		Pennsylvania	2017	Compliance	No
		Pennsylvania	2020	Compliance	No
13	Tennessee American Water	Tennessee	2006	Rate Case	Yes
		Tennessee	2010	Rate Case	Yes
14	Virginia American Water	Virginia	1996	Rate Case	Yes
		Virginia	1999	Rate Case	Yes
		Virginia	2000	Rate Case	Yes
		Virginia	2001	Rate Case	Yes
		Virginia	2003	Rate Case	Yes
		Virginia	2007	Rate Case	Yes
		Virginia	2009	Rate Case	Yes
		Virginia	2011	Rate Case	Yes
		Virginia	2014	Rate Case	Yes
		Virginia	2018	Rate Case	Yes
		Virginia	2021	Rate Case	Yes
15	West Virginia American Water	West Virginia	2002	Rate Case	Yes
		West Virginia	2006	Rate Case	Yes
		West Virginia	2007	Rate Case	Yes
		West Virginia	2009	Rate Case	Yes
		West Virginia	2012	Rate Case	Yes
		West Virginia	2014	Rate Case	Yes
		West Virginia	2017	Rate Case	Yes
		West Virginia	2020	Rate Case	Yes
		West Virginia	2022	Rate Case	Yes
16	Atlanta Gas Light (Southern Co)	Georgia	2009	Rate Case	Yes
17	Atmos Energy Corporation	Virginia	2004	Compliance	No
18	Columbia Gas of Kentucky	Kentucky	2015	Rate Case	Yes
19	Columbia Gas of Maryland	Maryland	2015	Rate Case	Yes
20	Columbia Gas of Massachusetts	Massachusetts	2004	Rate Case	Yes
		Massachusetts	2006	Internal Info	No
		Massachusetts	2011	Internal Info	No
		Massachusetts	2012	Internal Info	No
		Massachusetts	2014	Internal Info	No
		Massachusetts	2017	Internal Info	No
21	Northern Indiana Public Service	Indiana	2015	Internal Info	No
		Indiana	2016	Rate Case	Yes
		Indiana	2020	Rate Case	Yes
		Indiana	2021	Rate Case	Yes
22	Liberty Utilities New York Water	New York	2022	Rate Case	Yes
23	Columbia Gas of Virginia	Virginia	2003	Compliance	No
		Virginia	2004	Compliance	No
		Virginia	2005	Rate Case	Yes
		Virginia	2006	Compliance	No
		Virginia	2007	Compliance	No
		Virginia	2008	Compliance	No
		Virginia	2009	Rate Case	Yes
		Virginia	2010	Compliance	No
		Virginia	2011	Compliance	No
		Virginia	2012	Compliance	No
		Virginia	2013	Rate Case	Yes
		Virginia	2014	Compliance	No
		Virginia	2015	Rate Case	Yes
		Virginia	2016	Compliance	No
		Virginia	2017	Rate Case	Yes
		Virginia	2018	Compliance	No
		Virginia	2019	Compliance	No
		Virginia	2020	Compliance	No
		Virginia	2021	Rate Case	Yes
		Virginia	2022	Compliance	No
24	Columbia Gas of Pennsylvania	Pennsylvania	2015	Internal Info	No
		Pennsylvania	2020	Rate Case	Yes
25	Dominion Energy, Inc.	Virginia	2008	Rate Case	Yes
		Virginia	2009	Compliance	No
		Virginia	2010	Compliance	No
		Virginia	2011	Compliance	No
		Virginia	2012	Compliance	No
		Virginia	2014	Compliance	No
		Virginia	2017	Compliance	No
		Virginia	2019	Compliance	No
26	Duke Energy	North Carolina	2006	Compliance	No
27	Elizabethtown Gas (Southern Co)	New Jersey	2008	Rate Case	Yes
28	Electric Transmission Texas	Texas	2016	Rate Case	Yes
		Texas	2020	Rate Case	Yes
		Texas	2022	Rate Case	Yes
29	General Water Works of Rio Rancho	New Mexico	1993	Rate Case	Yes
30	General Water Works of Virginia	Virginia	1992	Rate Case	Yes
31	Po River Water and Sewer	Virginia	1993	Rate Case	Yes
		Virginia	2007	Rate Case	Yes
		Virginia	2008	Rate Case	Yes
32	Progress Energy	North Carolina	2001	Internal Info	No
33	Roanoke Gas	Virginia	2006	Compliance	No
34	Southern California Edison	California	2002	Compliance	No
		California	2003	Compliance	No
		California	2004	Compliance	No
		California	2005	Compliance	No
35	AEP Texas	Texas	2018	Rate Case	Yes
36	Appalachian Power	Virginia	2021	Rate Case	Yes
37	Southwestern Electric Power	Texas	2016	Rate Case	Yes
		Texas	2020	Rate Case	Yes
38	Kentucky Utilities	Virginia	2020	Rate Case	Yes
39	Virginia Natural Gas (Southern Co)	Virginia	2004	Compliance	No
		Virginia	2005	Rate Case	Yes
		Virginia	2010	Rate Case	Yes
40	United Water of Pennsylvania	Pennsylvania	2004	Rate Case	Yes
41	Corix Infrastructure/Water Services Corp.	Enterprise	2018	Internal Info	No
		Enterprise	2019	Internal Info	No
		Enterprise	2021	Internal Info	No
42	Community Utilities of Indiana	Indiana	2020	Rate Case	No
43	Massanutten Public Service Company	Virginia	2006	Rate Case	Yes
		Virginia	2008	Rate Case	Yes
		Virginia	2013	Rate Case	Yes
		Virginia	2019	Rate Case	Yes
44	Water Service Corporation Kentucky	Kentucky	2010	Rate Case	Yes
		Kentucky	2012	Rate Case	Yes
		Kentucky	2019	Rate Case	Yes
		Kentucky	2021	Rate Case	Yes
45	Corix Utilities Oklahoma	Oklahoma	2019	Compliance	Yes
46	Great Basin Water Company	Nevada	2019	Rate Case	Yes
		Nevada	2021	Rate Case	Yes

Total Studies	143
Number of Rate Cases	100
Number of Utility Clients	46
Number of States	21

Market-to-Cost Comparison of Service Company Charges to New Jersey-American Water Company, Inc.

12 Months Ended June 30, 2023

September 2023

New Jersey-American Water Company, Inc.
Market-to-Cost Comparison of Service Company Charges
12 Months Ended June 30, 2023

Table of Contents

I – Introduction

Purpose of This Study

This Market-to-Cost Comparison of 12 months ended June 30, 2023 (Base Year 2023) Service Company Charges to New Jersey-American Water Company, Inc., (NJAWC) study was undertaken to answer four questions concerning the services provided by American Water Works Service Company, Inc., (Service Company) to NJAWC.

1. Were the Service Company's charges to NJAWC during Base Year 2023 reasonable?

2. Was NJAWC charged the lower of cost or market for managerial and professional services provided by the Service Company during Base Year 2023?

3. Were Base Year 2023 costs of Service Company's customer account services comparable to those of other utilities?

4. Are the services NJAWC receives from the Service Company necessary?

Study Results

Concerning question 1, the following conclusion was reached:

- The Service Company's Base Year 2023 cost per NJAWC customer is reasonable compared to costs per customer for electric and combination electric/gas service companies. During Base Year 2023, NJAWC was charged $73 per customer for administrative and general (A&G)-related services provided by the Service Company. This compares to an average of $129 per customer in 2022 for service companies reporting to the Federal Energy Regulatory Commission (FERC). Eighteen of the 22 utility service companies that filed a FERC Form 60 for 2022 had higher per-customer A&G costs than NJAWC's charges from the Service Company.

Concerning question 2, the following conclusions were reached from this study:

- NJAWC was charged the lower of cost or market for managerial and professional services during Base Year 2023.

- On average, the hourly rates for outside service providers are 87% higher than the Service Company's hourly rates. Consequently, the Company obtains services from the Service Company at considerably below the market prices for such services.

- The managerial and professional services provided by the Service Company are vital and could not be procured externally by NJAWC without careful supervision on the part of NJAWC. If these services were contracted entirely to outside providers, NJAWC would have to add at least six positions to manage activities of outside firms. This position would be required to ensure the quality and timeliness of services provided.

- If all the managerial and professional services now provided by the Service Company had been outsourced during Base Year 2023, NJAWC and its customers would have incurred nearly $38.7 million in additional expenses. This amount includes the higher cost of outside providers and the cost of two new NJAWC positions needed to direct the outsourced work.

- This study's hourly rate comparison understates the cost advantages that accrue to NJAWC from its use of the Service Company. Outside service providers generally bill for every hour worked. Service Company exempt personnel, on the other hand, charge a

maximum of eight hours per day even when they work more hours. If all overtime hours of Service Company personnel were factored into the hourly rate calculation, the Service Company would have had an even greater annual dollar advantage than the $38.7 million cited above.

- It would be difficult for NJAWC to find local service providers with the same specialized water and wastewater industry expertise as that possessed by Service Company staff. Service Company personnel spend substantially all their time serving operating water and wastewater companies. This specialization brings with it a unique knowledge of water and wastewater utility operations and regulation that may not be available from local service providers.

- Service Company fees do not include any profit markup. Only its actual cost of service is being recovered from NJAWC customers.

Concerning question 3, the following conclusion was reached:

- The cost of the Service Company's customer account services is reasonable. Such costs are slightly above the average of the proxy group of comparable regulated utilities of the size and scope of the Service Company and NJAWC. During Base Year 2023, the cost of customer account services for NJAWC customers was $20.89, compared to the 2022 average of $52.87 for comparable utilities. Twelve of the 17 comparison group utilities have a higher cost than NJAWC.

Concerning question 4, the following conclusions were drawn:

- The services that the Service Company provides are necessary and are required for water and wastewater utilities. These services are customarily provided by service companies of other utility holding companies.

- Furthermore, there is no redundancy or overlap in the services provided by the Service Company to NJAWC. For all the services provided (Exhibit 13), there was only one entity primarily responsible for the service. A detailed analysis of all the functional work activities required to deliver service to customers showed just one of the entities—Service Company or NJAWC—with primary responsibility.

Overview of American Water Works Service Company

American Water's Service Company exists to provide certain shared services to American Water subsidiaries. It follows a service company model used by many utility holding companies that own multiple regulated utilities. By consolidating executive and professional services into a single service company, utility holding companies are able to realize the following benefits for customers:

- Purchasing Economies – Common expenses (e.g., insurance, chemicals, piping) can be procured on a much larger scale, thereby providing greater bargaining power for the combined entity compared to individual utility operating companies. A service company facilitates enterprise-wide purchasing programs through its procurement and contract administration functions.

- Operating Economies of Scale – A service company is able to deliver services more efficiently because workloads can be balanced across more persons and facilities. For instance, American Water's Service Company can maintain one principal water testing laboratory for the entire organization. This is much more cost-efficient than each operating utility funding its own testing arrangements.

- Continuity of Service – Centralizing service company personnel who perform similar services facilitates job cross-training and sharing of knowledge and expertise. This makes it easier to manage staff turnover and absences and to sustain high levels of service to operating utilities. An individual operating utility might experience considerable disruption if a key professional left and it were necessary to hire outside to fill the vacancy.

- Maintenance of Enterprise-Wide Standards – Personnel in American Water's Service Company establish standards for many functions (e.g., engineering designs, operating procedures and maintenance practices). It is easier to align operating utility operations because their implementation is supported by the Service Company.

- Improved Support and Guidance – American Water's Service Company provides another dimension of management and financial support and guidance that supplements local operating utility management. The Service Company facilitates standard planning and reporting, which helps ensure that operating utilities meet the requirements of their customers in a cost-effective manner.

- Retention of Personnel – A service company organization provides operating utility personnel with another career path beyond what may be available on a local level. These opportunities tend to improve employee retention.

American Water follows the model for other utility service companies in another important regard: its services are provided to affiliate operating utilities, like NJAWC, at cost. American Water's Service Company is not a profit-making entity. It assigns only its actual expenses to the American Water subsidiaries it services.

The Service Company provides services to American Water operating companies from the following locations:

- One Water Street – Service Company employees at One Water Street provide corporate governance and service functions, including executive management, finance, accounting, audit, tax, regulatory, external affairs, engineering, supply chain, human resources and benefits services. One Water Street also includes American Water's main Information Technology (IT) Services center for employees, which provides software delivery and enhancements. It also provides local on-site support and an IT Service Desk for remote assistance. Further, One Water Street supports critical systems such as supervisory control and data acquisition (SCADA) as well as emerging technologies such as geographic information systems and mobility. It provides technical expertise in project governance and release management while ensuring compliance with all governmental regulations.

- Central Lab – The national trace substance laboratory is located in Belleville, Illinois, and performs testing for all American Water operating companies.

- Customer Relations and Customer Service – Provide customer relations, field resource coordination services, customer communication, and billing and collection services from various locations.

- Information Technology Services Center – The IT Services Center supports the technology infrastructure required to run business applications and communications systems for American Water's operating companies.

- Regional Support Services – Operating companies are provided with certain support services that are delivered more effectively on a regional basis because individual operating company workloads are not sufficient to warrant maintaining their own full-time staff for these activities. These services require closer proximity to operating companies and therefore are located near the operating companies to which the employees provide service.

Service Company Accounting

Service Company maintains an accounting ledger for recording transactions (e.g., labor, expenses, overhead, capital and other assets, liabilities and equity) in a Service Company ledger separate from affiliates' ledgers. Monthly financial statements are prepared that summarize month-to-date and year-to-date costs, budgets and prior year, with variances and explanations, by category and function. Accounting categories by transaction type are described below:

- Service Company Labor: The Service Company utilizes a system that tracks time and attendance. Employees electronically enter hours worked (including vacation, sick, family leave, etc.) and accounting information (e.g., business unit; formula; pay type) and electronically submit the timesheet for approval. Submitted timesheets are electronically routed to authorized approvers. Time sheets require approval (of hours and accounting information such as formulas, etc.) by an authorized timesheet approver in the employee's home business unit.

- Service Company Expenses: Expenditures (i.e., standard invoices, purchase orders, electronic disbursements, miscellaneous invoices, recurring invoices, recurring vouchers, and procurement cards) and journal entries require a preparer to enter accounting coding details (e.g., cost center, cost element and Work Breakdown Structure (WBS)) and a

reviewer to approve the information in accordance with the corporate Delegation of Authority Policy. Expenditures are processed electronically and are automatically routed to the employee's supervisor for approval. Costs are posted many times daily, in detail, in the business unit selected. Journal entries are submitted as prepared to the appropriate reviewer and posted as approved.

- Service Company Assets: Service Company assets are procured directly by Service Company or through a capital leasing arrangement with Laurel Oak Properties (LOP). Service Company capitalizes these LOP leases as Non-Utility Plant assets in accordance with generally accepted accounting principles. Generally speaking, Service Company assets (including hardware, servers, laptops, desktops, servers, storage racks, furniture, laboratory and test equipment, security cameras, monitors and leasehold improvements) are acquired through LOP via a capital lease. LOP, on behalf of the Service Company, will acquire the necessary materials and services to build the assets that are needed for the Service Company to meet its business needs. One Water Street (OWS), which owns the Camden headquarters, is providing furniture, fixtures and office-related equipment for the first 7 years of the lease with the Service Company.

- Service Company Overhead: Costs for support personnel (e.g., administrative assistants, mailroom clerks), rents, facility expenses, pension, medical insurance, taxes, general office supplies and other similar expenses are recorded in the ledger of the cost center responsible for incurring the charge. Overhead expenditures are posted using the labor and expense processes noted above, and are recorded, in detail, in the ledger of the cost center responsible for the charge, using an overhead WBS.

Service Company Billing and Clearing

Service Company has developed a billing system that charges directly or allocates costs for services provided to Affiliates. Service Company billing is processed monthly and includes all Service Company costs charged to Affiliates using the WBS element selected for each transaction.

- WBS element: Every Service Company transaction (vouchers, journal entries, payroll batch, etc.) requires a WBS element within the account coding string. Each WBS element is configured in SAP with the following: Affiliate(s) to be charged, percent of charge to be billed to each Affiliate (total must equal 100%), receiving object (e.g., Affiliate's cost center) for O&M costs or an Affiliate's WBS element for capital expenditures (CAPEX). WBS elements are configured in SAP with an end date (month/year) to prevent transactions from using an expired WBS during data input.

- Affiliate Billing Process: Service Company billing is a two-step process that first calculates allocations of transactions for all non-overhead WBS elements. The second step calculates overhead transaction allocations using the ratio of direct labor (Cost Element 5012000) allocations to Affiliates from the first step above multiplied by the pool of overhead expenses by physical location.

- Bill Clearing Process: Service Company billings are cleared through American Water Capital Corp., (an affiliate) monthly via an intercompany journal entry to GL Account 23120000 (Notes Payable – Associated Companies) posted on the last day of the month. Payments are estimated for each Affiliate using the prior month actual billing (current month estimate) with adjustment for prior month actual to estimate (previous month funding) true-up.

Service Company Base Year 2023 Charges

During Base Year 2023, the Service Company billed NJAWC a total of approximately $83.3 million, as shown in the table below. These charges were subjected to a market-to-cost comparison.

	BY 2023
Support Services - O&M	$ 56,967,430
Support Services - Capital	$ 25,332,171
Total Service Company Charges	$ 82,299,601

For purposes of comparing these charges to certain outside benchmarks, Service Company services were placed into three categories:

- Managerial and Professional Services – Includes such services as management, accounting, legal, human resources, engineering and information technology.
- Customer Account Services – Includes customer-related services, such as call handling, credit, billing, collection and payment processing.
- Field Resource Coordination Services – Includes tracking and dispatching service orders for field representatives and distribution crews to carry out.

Total Base Year 2023 Service Company dollar and hour charges break down between management and professional, customer account and field resource coordination services as follows:

	BY 2023	
	Charges	Hours
Management and Professional Services	$69,414,810	324,191
Customer Account Services	$11,730,460	114,379
Field Resource Coordination Services	$ 1,154,331	21,212
Total Service Company Charges	$82,299,601	459,782

Service Company Cost Comparison Approach

This study's first question—whether the Service Company Base Year 2023 charges were reasonable—was determined by comparing NJAWC's A&G-related Service Company charges per regulated retail customer to the same charges for utility companies that must file the Federal Energy Regulatory Commission (FERC) Form 60 – Annual Report of Service Companies.

The second question—whether the Service Company charges during Base Year 2023 were priced at the lower of cost or market—was evaluated by comparing the cost per hour for managerial and professional services provided by Service Company personnel to hourly billing rates that would be charged by outside providers of equivalent services. Service Company costs per hour were based on actual charges to NJAWC during Base Year 2023. Outside providers' billing rates came from surveys or other information from professionals who could perform the services now provided by the Service Company.

The third question—whether Service Company's Base Year 2023 customer account services charges were comparable to other utilities—was addressed by comparing NJAWC's customer account services expenses to those of neighboring investor-owned electric utilities. This utility comparison group was selected because the cost of outside providers of customer account services is proprietary and not publicly available. Comparison to electric utilities is appropriate

because all utilities, regardless of service type, must perform customer account services activities, including updating customer records for meter reads, printing and mailing bills, and collecting and processing customer payments. Electric utility costs are available from the FERC Form 1; thus, there is appropriate data transparency. The selection of electric utilities from New Jersey and neighboring states provides a sufficiently sized comparison group.

The fourth question—the necessity of Service Company services—was investigated by defining the services provided to NJAWC and determining if these services would be required if NJAWC were not part of the American Water organization.

Methodology

Utility service companies deliver a range of services to their regulated utility affiliates. Some may support their regulated utility affiliate's operations-related functions (e.g., transmission, distribution). All utility service companies, however, provide A&G services to their affiliates. This is the case because considerable economies of scale derive from centralizing the management of corporate A&G services such as finance, human resources and information technology. Because A&G-related services are delivered by all utility service companies, this study uses A&G charges per customer as the metric by which to test the reasonableness of affiliate charges.

NJAWC's Service Company A&G Cost per Customer

During Base Year 2023, NJAWC was charged $73 per customer by the Service Company for A&G-related services. The calculation of this amount, shown in the table below, starts with total Service Company charges and adjusts for capital and non-A&G function (e.g., engineering, operations and water quality) charges. These adjustments are necessary to develop a per-customer cost that can be compared to the cost of the utility service company comparison group.

	Base Year 2023
Total Service Company charges	$ 82,299,601
Less: Capital charges	$ (25,332,171)
Less: Non-A&G charges	
Engineering	$ (491,990)
Operations	$ (2,973,416)
Water Quality	$ (1,137,228)
Net A&G Service Company Charges	$ 52,364,796
NJAWC Customer Count	721,512
NJAWC A&G SC Charges per Customer	$ 73

Comparison Group Cost Per Customer

Every centralized service company in a holding company system subject to regulation by the FERC must file a Form 60 in accordance with the Public Utility Holding Company Act of 2005, Section 1270, Section 390 of the Federal Power Act, and Section 18 Code of Federal Regulations paragraph 366.23. Form 60 is designed to collect financial information from service companies within a holding company structure.

Charges to utility affiliates for the comparison group service companies were obtained from Schedule XVI – Analysis of Charges for Service Associate and Non-Associate Companies (p. 303 to 306) of each entity's FERC Form 60. Information from Form 60 schedule Account 457 – Analysis of Billing – Associate Companies was also used to isolate and eliminate charges to non-regulated affiliates from the cost pool used to calculate A&G expenses per regulated service customer.

For 2022, a Form 60 was filed by service companies associated with 22 utility holding companies. These service companies support utilities that provide regulated electric and, in some cases, gas service to retail customers.

FERC Form 60 shows service company charges to affiliates by FERC account. The table below shows a list of FERC A&G accounts and designates which correspond to services the Service Company provides to NJAWC. Amounts in the designated FERC accounts are included in the calculation of service company A&G expenses per regulated customer.

FERC Account	Included In Cost Calculation
901 - Supervision	X
902 - Meter reading expenses	
903 - Customer records and collection expenses	X
904 - Uncollectible accounts	
905 - Miscellaneous customer accounts expenses	X
907 - Supervision	
908 - Customer assistance expenses	X
909 - Informational And Instructional Advertising Expenses	
910 - Miscellaneous Customer Service And Informational Ex	X
911 - Supervision	
912 - Demonstrating and Selling Expenses	
913 - Advertising Expenses	
916 - Miscellaneous Sales Expenses	
920 - Administrative and General Salaries	X
921 - Office Supplies and Expenses	X
923 - Outside Services Employed	X
924 - Property Insurance	X
925 - Injuries and Damages	
926 - Employee Pensions and Benefits	X
928 - Regulatory Commission Expenses	
930.1 - General Advertising Expenses	
930.2 - Miscellaneous General Expenses	X
931 - Rents	X
935 - Maintenance of Structures and Equipment	X

The A&G expenses per regulated utility customer for the 22 utility companies whose service companies filed a Form 60 for 2022 are calculated in Exhibit 1 (page 10).

Exhibit 2 (page 11) shows NJAWC's Base Year 2023 Service Company cost per customer of $73 to be lower than the 2022 average of $129 per customer for the comparison group service companies. Eighteen of the 22 comparison group service companies had higher per-customer A&G costs than NJAWC's charges from the Service Company. Based on this result, it is possible to conclude that the Service Company's charges to NJAWC were reasonable.

Exhibit 1

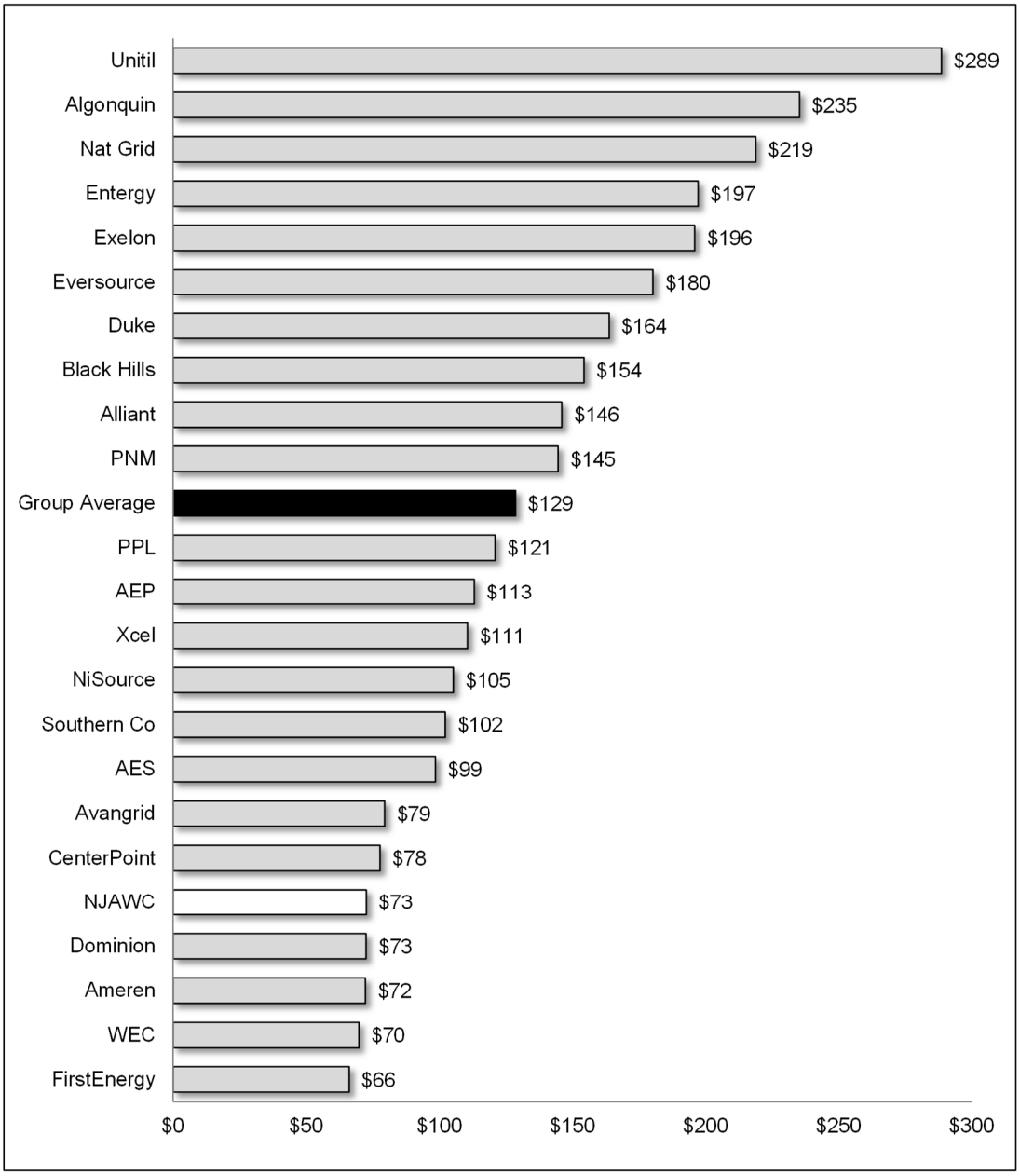
New Jersey-American Water Company, Inc.
Calculation of 2022 Service Company A&G Charges Per Customer

Utility Company	2022 Regulated Retail Service Company A&G Expenses	Regulated Retail Customers	Cost per Customer
AEP	$633,631,593	5,600,000	$ 113
AES	$104,062,557	1,056,000	$ 99
Algonquin	$282,397,645	1,200,000	$ 235
Alliant	$207,364,390	1,420,000	$ 146
Ameren	$238,462,661	3,300,000	$ 72
Avangrid	$262,152,291	3,300,000	$ 79
Black Hills	$197,599,354	1,280,000	$ 154
CenterPoint	$528,629,625	6,800,000	$ 78
Dominion	$507,688,924	7,000,000	$ 73
Duke	$1,611,979,511	9,840,000	$ 164
Entergy	$632,023,344	3,204,000	$ 197
Eversource	$721,020,599	4,000,000	$ 180
Exelon	$1,960,011,901	10,000,000	$ 196
FirstEnergy	$396,898,656	6,000,000	$ 66
Nat Grid	$1,532,213,935	7,000,000	$ 219
NiSource	$378,141,896	3,593,000	$ 105
PNM	$117,182,934	810,000	$ 145
PPL	$423,061,953	3,498,000	$ 121
Southern Co	$897,411,486	8,775,000	$ 102
Unitil	$55,708,515	193,000	$ 289
WEC	$322,743,099	4,622,000	$ 70
Xcel	$652,463,461	5,900,000	$ 111
Total/Average	$12,662,850,330	98,391,000	$ 129

Source: FERC Form 60; Baryenbruch & Company, LLC, analysis

Exhibit 2

New Jersey-American Water Company, Inc.
Comparison of Service Company A&G Charges Per Customer



Source: Company information; 2022 FERC Form 60; Baryenbruch & Company, LLC, analysis

Methodology

The lower-of-cost-or-market comparison is accomplished by comparing the cost per hour for Service Company managerial and professional services to those of outside service providers to whom these duties could be assigned. Based on the nature of the Service Company services, it was determined that the following outside providers could perform the categories of services indicated below:

- Management Consultants – executive and administrative management, risk management, human resources and communications services
- Attorneys – legal services
- Certified Public Accountants – accounting, financial, rates and regulatory services
- IT Professionals – information technology services
- Professional Engineers – engineering, operations and water quality services.

Service Company's hourly rates were calculated for each of the five outside service provider categories, based on the dollars and hours charged to NJAWC during Base Year 2023. Hourly billing rates for outside service providers were developed using third party surveys or directly from information furnished by outside providers themselves.

It should be noted that by using the Service Company's hours charged to NJAWC during Base Year 2023, its hourly rates are actually overstated because some Service Company personnel charge a maximum of 8 hours per day even when they work more. Outside service providers generally bill for every hour worked. If all overtime hours of Service Company personnel had been factored into the hourly rate calculation, Service Company hourly rates would have been lower.

The last step in the lower-of-cost-or-market comparison was to compare the Service Company's average cost per hour to the average cost per hour for outside providers.

Service Company Hourly Rates

Exhibit 3 (page 14) details the assignment of Base Year 2023 management and professional Service Company charges by outsider provider category. Exhibit 4 (page 15) shows the same assignment for Service Company management and professional hours charged to NJAWC during Base Year 2023.

Adjustments to these dollar amounts were necessary to calculate Service Company hourly rates that are directly comparable to those of outside providers. Adjustments were made to the following non-labor Service Company charges for Base Year 2023:

- Contract Services – Base Year 2023 Service Company charges to NJAWC include expenses associated with the use of outside professional firms to perform certain enterprise-wide services (e.g., legal, financial audit, actuarial services). These professional fees are excluded from the Service Company hourly rate calculation because the related services have effectively been out-sourced already.
- IT Infrastructure Expenses – Included in Base Year 2023 Service Company charges to NJAWC are leases, maintenance fees and depreciation related to American Water's enterprise computing and network infrastructure and business applications. An outside provider that takes over operation of this infrastructure would recover these expenses over and above the cost of personnel necessary to operate the data center.

- Non-Service-Related Expenses – These are corporate expenses such current and deferred income tax expense, line-of-credit fees and board expenses. These are not related to the provision of services by Service Company personnel and have been excluded.
- Travel Expenses – In general, client-related travel expenses incurred by outside service providers are not recovered through their hourly billing rates. Rather, actual out-of-pocket travel expenses are billed to clients in addition to fees for professional services. Thus, it is appropriate to remove these Service Company charges from the hourly rate calculation.

Exhibit 5 (page 16) shows how contract services, travel expenses, IT infrastructure and non-service-related Service Company charges are assigned to the five outside provider categories.

Based on the assignment of expenses and hours shown in Exhibits 3 and 4 and the excludable items shown in Exhibit 5, the Service Company's equivalent costs per hour for Base Year 2023 are calculated below.

	Base Year 2023					
	Attorney	Management Consultant	Certified Public Accountant	IT Professional	Professional Engineer	Total
Total management, professional & technical services charges	$ 2,965,353	$ 23,421,814	$ 10,254,078	$ 28,373,728	$ 4,399,837	$ 69,414,810
Less: Exclusions						
Contract services	$ 173,421	$ 1,762,322	$ 1,172,970	$ 13,337,782	$ 123,693	$ 16,570,187
IT infrastructure expenses	$ -	$ 1,911,316	$ 413	$ 6,539,674	$ -	$ 8,451,403
Non-service related expenses	$ 355,572	$ (308,791)	$ 147,838	$ 58,472	$ 333,985	$ 587,076
Travel expenses	$ 15,543	$ 214,246	$ 128,859	$ 114,793	$ 118,509	$ 591,951
Total Exclusions	$ 544,537	$ 3,579,092	$ 1,450,080	$ 20,050,721	$ 576,187	$ 26,200,617
Net Service-Related Charges (A)	$ 2,420,817	$ 19,842,722	$ 8,803,998	$ 8,323,007	$ 3,823,650	$ 43,214,192
Total Hours (B)	9,023	109,377	97,405	69,868	38,517	324,191
Average Hourly Rate (A / B)	**$ 268**	**$ 181**	**$ 90**	**$ 119**	**$ 99**	

Exhibit 3

New Jersey-American Water Company, Inc.
Base Year 2023 Service Company Charges by Location and Function

Group	Function	Base Year 2023 Service Company Charges					
		Attorney	Management Consultant	Certified Public Accountant	IT Professional	Professional Engineer	Total
Belleville Lab	Water Quality	$ -	$ -	$ -	$ -	$ 1,137,228	$ 1,137,228
Call Centers	Human Resources	$ -	$ 1,360	$ -	$ -	$ -	$ 1,360
Corporate	Accounting	$ -	$ -	$ 4,431,748	$ -	$ -	$ 4,431,748
	Administration	$ -	$ 10,755,639	$ -	$ -	$ -	$ 10,755,639
	Audit	$ -	$ -	$ 820,245	$ -	$ -	$ 820,245
	Business Development	$ -	$ 439,393	$ -	$ -	$ -	$ 439,393
	Communications	$ -	$ 1,210,008	$ -	$ -	$ -	$ 1,210,008
	Engineering	$ -	$ -	$ -	$ -	$ 3,259,893	$ 3,259,893
	External Affairs	$ -	$ 4,318	$ -	$ -	$ -	$ 4,318
	Finance	$ -	$ 144,111	$ 1,574,203	$ -	$ -	$ 1,718,313
	Human Resources	$ -	$ 4,532,794	$ -	$ -	$ -	$ 4,532,794
	Information Technology	$ -	$ -	$ -	$ 367,126	$ -	$ 367,126
	Legal	$ 1,714,503	$ -	$ -	$ -	$ -	$ 1,714,503
	Operations	$ -	$ 2,362,601	$ -	$ -	$ -	$ 2,362,601
	Supply Chain	$ -	$ -	$ 2,028,615	$ -	$ -	$ 2,028,615
Regional Offices	Administration	$ -	$ 2,033,318	$ -	$ -	$ -	$ 2,033,318
	Business Development	$ -	$ 1,214,491	$ -	$ -	$ -	$ 1,214,491
	Engineering	$ -	$ -	$ -	$ -	$ 2,715	$ 2,715
	External Affairs	$ -	$ 551,266	$ -	$ -	$ -	$ 551,266
	Finance	$ -	$ -	$ 678,252	$ -	$ -	$ 678,252
	Human Resources	$ -	$ 113	$ -	$ -	$ -	$ 113
	Legal	$ 1,250,850	$ -	$ -	$ -	$ -	$ 1,250,850
	Operations	$ -	$ 172,404	$ -	$ -	$ -	$ 172,404
	Rates & Regulatory	$ -	$ -	$ 721,015	$ -	$ -	$ 721,015
Information Technology	Information Technology	$ -	$ -	$ -	$ 28,006,602	$ -	$ 28,006,602
Total Charges		**$ 2,965,353**	**$ 23,421,814**	**$ 10,254,078**	**$ 28,373,728**	**$ 4,399,837**	**$ 69,414,810**

Exhibit 4

New Jersey-American Water Company, Inc.
Base Year 2023 Service Company Hours by Location and Function

Group	Function	Base Year 2023 Service Company Hours					
		Attorney	Management Consultant	Certified Public Accountant	IT Professional	Professional Engineer	Total
Belleville Lab	Water Quality	-	-	-	-	10,304	10,304
Call Centers	Human Resources	-	-	-	-	-	-
Corporate	Accounting	-	-	42,761	-	-	42,761
	Administration	-	18,533	-	-	-	18,533
	Audit	-	-	3,480	-	-	3,480
	Business Development	-	2,373	-	-	-	2,373
	Communications	-	7,868	-	-	-	7,868
	Engineering	-	-	-	-	28,213	28,213
	External Affairs	-	-	-	-	-	-
	Finance	-	2,273	19,063	-	-	21,336
	Human Resources	-	33,405	-	-	-	33,405
	Information Technology	-	-	-	3,422	-	3,422
	Legal	4,661	-	-	-	-	4,661
	Operations	-	11,020	-	-	-	11,020
	Supply Chain	-	-	20,704	-	-	20,704
Regional Offices	Administration	-	15,515	-	-	-	15,515
	Business Development	-	11,333	-	-	-	11,333
	Engineering	-	-	-	-	-	-
	External Affairs	-	5,496	-	-	-	5,496
	Finance	-	-	5,800	-	-	5,800
	Human Resources	-	-	-	-	-	-
	Legal	4,362	-	-	-	-	4,362
	Operations	-	1,562	-	-	-	1,562
	Rates & Regulatory	-	-	5,596	-	-	5,596
Information Technology	Information Technology	-	-	-	66,446	-	66,446
Total Hours		**9,023**	**109,377**	**97,405**	**69,868**	**38,517**	**324,191**

Exhibit 5

New Jersey-American Water Company, Inc.

Base Year 2023 Service Company Charges Excludable from the Hourly Rate Calculation

Charges By Function	Exclusions From Hourly Rate Calculation: Contract Services	Enterprise IT Expenses	Non-Services-Related Items	Travel Expenses	Total	Outside Service Provider Category
Accounting	$ 533,682	$ 60	$ 5,393	$ 36,274	$ 575,409	Certified Public Accountant
Administration	$ 982,977	$ 1,911,316	$ (327,046)	$ 116,747	$ 2,683,994	Management Consultant
Audit	$ 267,960		$ -	$ 3,457	$ 271,418	Certified Public Accountant
Business Development	$ 24,431			$ 25,697	$ 50,129	Management Consultant
Communications	$ 137,259		$ 8,816	$ 12,111	$ 158,186	Management Consultant
Engineering	$ 107,719		$ 14,699	$ 60,895	$ 183,312	Professional Engineer
External Affairs	$ (0)			$ 5,062	$ 5,062	Management Consultant
Finance	$ 309,439		$ 135,124	$ 41,677	$ 486,240	Certified Public Accountant
Human Resources	$ 617,654		$ 9,439	$ 54,629	$ 681,722	Management Consultant
Information Technology	$ 13,337,782	$ 6,539,674	$ 58,472	$ 114,793	$ 20,050,721	IT Professional
Legal	$ 173,421		$ 355,572	$ 15,543	$ 544,537	Attorney
Operations	$ 61,753		$ 6,295	$ 51,840	$ 119,888	Professional Engineer
Rates & Regulatory	$ 24	$ 353		$ 18,904	$ 19,281	Certified Public Accountant
Supply Chain	$ 61,865		$ 7,321	$ 28,546	$ 97,732	Certified Public Accountant
Water Quality	$ (45,779)		$ 312,991	$ 5,774	$ 272,986	Professional Engineer
Total	**$ 16,570,187**	**$ 8,451,403**	**$ 587,076**	**$ 591,951**	**$ 26,200,617**	

Recap By Outside Provider	Exclusions From Hourly Rate Calculation: Contract Services	Enterprise IT Expenses	Non-Services-Related Items	Travel Expenses	Total
Attorney	$ 173,421	$ -	$ 355,572	$ 15,543	$ 544,537
Management Consultant	$ 1,762,322	$ 1,911,316	$ (308,791)	$ 214,246	$ 3,579,092
Certified Public Accountant	$ 1,172,970	$ 413	$ 147,838	$ 128,859	$ 1,450,080
IT Professional	$ 13,337,782	$ 6,539,674	$ 58,472	$ 114,793	$ 20,050,721
Professional Engineer	$ 123,693	$ -	$ 333,985	$ 118,509	$ 576,187
Total	**$ 16,570,187**	**$ 8,451,403**	**$ 587,076**	**$ 591,951**	**$ 26,200,617**

Outside Service Provider Hourly Rates

The next step in the lower-of-cost-or-market comparison is to obtain the average billing rates for outside service providers. The source of this information and the determination of the average rates are described in the paragraphs that follow.

It should be noted that professionals working for three of the five outside provider categories may be licensed to practice by state regulatory bodies. However, not every professional working for these firms is licensed. For instance, among US certified public accounting firms, only more experienced staff are predominantly licensed CPAs (see table below). Some Service Company employees also have professional licenses. Thus, it is valid to compare the Service Company's hourly rates to those of the outside professional service providers included in this study.

Position	US Average
Partners/Owners	98%
Directors (11+ years experience)	87%
Managers (6-10 years experience)	79%
Sr Associates (4-5 years experience)	50%
Associates (1-3 years experience)	22%
New Professionals	10%

Source: AICPA's National PCPS/TSCPA Management of an Accounting Practice Survey (2010)

Attorneys

An estimate of New Jersey attorney billing rates is developed from actual rates compiled by Clio, a practice management service provider to law firms. The 2022 average rate of relevant practice areas is calculated in Exhibit 6 (page 19).

Management Consultants

The cost per hour for management consultants is developed from a survey performed by Rodenhauser & Company LLC, a research company that monitors the consulting industry. The survey includes rates that were in effect during 2022 for firms throughout the United States. Consultants typically do not limit their practice to any one region and must travel to a client's location. Thus, the U.S. national average is appropriate for comparison.

The first step in the calculation, presented in Exhibit 7 (page 20), is to determine an average rate by consultant position level. From these rates, a single weighted average hourly rate is calculated based upon the percentage of time that is typically applied to a consulting assignment by each consultant position level.

Certified Public Accountants

The average hourly rate for CPAs is developed from a 2020 survey performed by the American Institute of Certified Public Accountants (AICPA) (this is the latest survey available). As shown in Exhibit 8 (page 21), a weighted average hourly rate is developed based on a set of accountant positions and a percentage of time that is typically applied to an accounting assignment, based on Baryenbruch & Company, LLC's, experience. Since the survey includes hourly rates that were in effect as of December 31, 2020, the calculated average rate is escalated to December 31, 2022—the midpoint of Base Year 2023.

Information Technology Professionals

The average hourly rate for information technology consultants and contractors is developed from two sources: The Service Company for IT contractor rates and a survey performed by Rodenhauser & Company LLC, for IT consultants. As shown in Exhibit 9 (page 22), that data is compiled and a weighted average is calculated based on a percentage of time that is typically applied to an IT consulting assignment, based on Baryenbruch & Company, LLC's, experience.

Professional Engineers

The Company provided hourly rate information for outside engineering firms that provided NJAWC with their rate schedules. As presented in Exhibit 10 (page 23), an average rate is developed for each engineering position level. Then, using the Service Company's percentage mix by engineering position, a weighted average cost per hour is calculated.

Exhibit 6

New Jersey-American Water Company, Inc.
Hourly Billing Rates for Attorneys

Average Billing Rates - New Jersey (2022)

Practice Area	Hourly Rate
Administrative	$ 341
Appellate	$ 370
Bankruptcy	$ 397
Business	$ 342
Civil Litigation	$ 334
Collections	$ 426
Commercial/Sale of Goods	$ 385
Construction	$ 319
Contracts	$ 340
Corporate	$ 432
Employment/Labor	$ 459
Insurance	$ 261
Intellectual Property	$ 408
Mediation/Arbitration	$ 438
Real Estate	$ 364
Tax	$ 456
Worker's Compensation	$ 156
Average Hourly Rate	$ 366

Source: Themis Solutions Inc. (Clio)

New Jersey-American Water Company, Inc.
Hourly Billing Rates of U.S. Management Consultants

Survey billing rates in effect in 2022 (Note A)

A. Calculation of Average Hourly Billing Rate by Consultant Position

	Average Hourly Rates (Note A)				
	Analyst Consultant	Associate	Sr. Assoc/ Manager	Principal	Partner
Average	$ 247	$ 299	$ 366	$ 553	$ 688

B. Calculation of Overall Average Hourly Billing Rate Based on a Typical Distribution of Time on an Engagement

	Entry-Level Consultant	Associate Consultant	Senior Consultant	Junior Partner	Senior Partner	
Average Hourly Billing Rate (from above)	$ 247	$ 299	$ 366	$ 553	$ 688	
Percent of Consulting Assignment	30%	30%	25%	10%	5%	Weighted Average
	$ 74	$ 90	$ 91	$ 55	$ 34	$ 345

Average Hourly Billing Rate For Management Consultants During 2022 $ 345

Note A: Source is Rodenhauser & Company LLC; Baryenbruch & Company, LLC, analysis

Exhibit 8

New Jersey-American Water Company, Inc.
Hourly Billing Rates of Certified Public Accountants

A. Calculation of Average Hourly Billing Rate by Public Accounting Position
Survey billing rates were those in effect in 2020 (Note A)

	Average Hourly Billing Rate (Notes A and B)				
	Staff Accountant	Senior Accountant	Manager	Partner	
Average Hourly Billing Rate by CPA Firm Position	$ 113	$ 149	$ 199	$ 280	
Percent of Accounting Assignment	30%	30%	20%	20%	Weighted Average
	$ 34	$ 45	$ 40	$ 56	$ 174

National Average Hourly Billing Rate (above)	$ 174
Cost of Living Adjustment	
COL Index for Camden, NJ	90.7
Average COL Index	100.0
Adjustment Percentage	90.7%
Cost of Living Adjusted Hourly Rate	$ 158
Escalation to 2022 Midpoint (December 31, 2022)	
CPI at December 31, 2020	260.5
CPI at December 31, 2022	296.8
Inflation/Escalation (Note C)	13.9%
Average Hourly Billing Rate For CPAs At December 31, 2022	$ 180

Note A: Source is AICPA's 2020 National PCPS/TSCPA Management of an Accounting Practice Survey
Note B: Source is Cost of Living Index, Source Council for Community and Economic Research
Note C: Source is U.S. Bureau of Labor Statistics (https://data.bls.gov/cgi-bin/surveymost)

Exhibit 9

New Jersey-American Water Company, Inc.
Hourly Billing Rates for Information Technology Professionals

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A. Calculation of Average Hourly Billing Rate by Information Technology Position
Survey billing rates were those in effect in 2022 (Note A)

	Average Hourly Billing Rate (Note A)					
	Contractor Positions		Consultant Positions			
	Contractor	Senior Contractor	Associate	Manager	Partner	
Average Hourly Billing Rate by IT Position Category	$ 91	$ 121	$ 271	$ 377	$ 502	
Percent of IT Assignment	25%	25%	25%	15%	10%	Weighted Average
	$ 23	$ 30	$ 68	$ 57	$ 50	$ 228

Average Hourly Billing Rate For IT Professionals During 2022 $ 228

Note A: Source is American Water Works Service Company, Rodenhauser & Company and Baryenbruch & Company, LLC

Exhibit 10

New Jersey-American Water Company, Inc.
Hourly Billing Rates of Professional Engineers

A. Calculation of Average 2022 Hourly Rate by Engineer Position (Note A)

	Average Hourly Billing Rates			
	Technician	Engineer Design Engineer	Project Manager	Officer
Name of Firm	Senior Technician	Project Engineer	Sr. Mgr. Engineer	Principal Engineer
Firm #1	$140	$144	$199	$261
Firm #2	$90		$170	$300
Firm #3	$98	$117	$165	$210
Firm #4	$102	$143	$244	$315
Firm #5	$99	$123	$171	$200
Firm #6	$100	$125	$180	$210
Firm #7	$97	$120	$176	$201
Firm #8	$115	$108	$165	$230
Firm #9	$71	$127	$168	$210
Firm #10	$90	$130	$142	$205
Firm #11	$105	$156	$195	$236
Firm #12	$103	$122	$153	$165
Firm #13	$135	$100	$199	$295
Firm #14	$99	$151	$195	
Firm #15	$120	$142	$212	$240
Firm #16	$119	$105	$156	$260
Firm #17	$130	$159	$198	$240
Firm #18	$97	$132	$178	$180
Firm #19	$95	$127	$188	$220

B. Calculation of Overall Average Engineering Hourly Billing Rate

	Technician	Engineer Design Engineer	Project Manager	Officer	
	Senior Technician	Project Engineer	Sr. Mgr. Engineer	Principal Engineer	
Average Hourly Billing Rate (From Above)	$106	$129	$182	$232	
Typical Percent of Time on an Engineering Assignment	13%	31%	46%	10%	Weighted Average
	$14	$40	$83	$24	$161

Note A: Source is American Water Service Company information.

Service Company versus Outside Provider Cost Comparison

As shown in the table below, Service Company costs per hour are considerably lower than those of outside providers.

	Base Year 2023 Hourly Rate Differences		
Service Provider	Service Company	Outside Provider	Difference--Service Co. Greater(Less) Than Outside
Attorney	$ 268	$ 366	$ (98)
Management Consultant	$ 181	$ 345	$ (164)
Certified Public Accountant	$ 90	$ 180	$ (90)
IT Professional	$ 119	$ 228	$ (109)
Professional Engineer	$ 99	$ 161	$ (62)

Based on these cost-per-hour differentials and the number of managerial and professional services hours billed to NJAWC during Base Year 2023, outside service providers would have cost $37,592,198 more than the Service Company (see table below). Thus, on average, outside providers' hourly rates are 87% higher than those of the Service Company ($37,592,198 / $43,214,192).

	Base Year 2023 Cost Differentials		
Service Provider	Hourly Rate Difference--Service Co. Greater(Less) Than Outside	Service Company Hours Charged	Dollar Difference
Attorney	$ (98)	9,023	$ (884,254)
Management Consultant	$ (164)	109,377	$ (17,937,828)
Certified Public Accountant	$ (90)	97,405	$ (8,766,450)
IT Professional	$ (109)	69,868	$ (7,615,612)
Professional Engineer	$ (62)	38,517	$ (2,388,054)
Service Company Less Than Outside Providers			$ (37,592,198)

It bears repeating that the cost differential associated with using outside providers is even greater because exempt Service Company personnel do not charge more than 8 hours per day even when they work more. Outside providers generally charge clients for all hours worked. Thus, NJAWC would have been charged by outside providers for overtime worked by Service Company personnel who are not paid for that time.

If NJAWC were to use outside service providers rather than the Service Company for managerial and professional services, it would incur other additional expenses besides those associated with higher hourly rates. Managing outside firms who would perform approximately 324,200 hours of work (approximately 180 full-time equivalents at 1,800 "billable" hours per FTE per year) would add a significant workload to the existing NJAWC management team. Thus, it would be necessary for NJAWC to add at least 6 positions to supervise the outside firms and ensure they deliver quality and timely services. The individuals who would fill these positions would need a good understanding of each profession being managed. This person must also have management experience and the authority necessary to provide credibility with outside firms. As calculated in the table below, the new positions would add $1,092,000 per year to NJAWC's personnel expenses.

Cost of Adding 6 Professional Positions To NJAWC's Staff		Total
New Positions' Salary	$	130,000
Benefits (at 25%)	$	32,500
Office Expenses (15%)	$	19,500
Total Cost of Added VAWC Staff	$	182,000
Number of New Positions Required		6
Total Cost of Added NJAWC Staff	$	1,092,000
Total Additional Cost		
Hourly Rate Differential	$	37,592,198
New Positions	$	1,092,000
Total Additional Cost	$	38,684,198

Thus, the total effect on NJAWC customers of contracting all services now provided by Service Company would be an increase in their costs of $38,684,198. Based on the results of this comparison, it is possible to conclude that the Service Company charged NJAWC at the lower of cost or market for services provided during Base Year 2023.

Background

Customer account services involve the processes that occur from the time meter-read data is recorded in the customer information system through the printing and mailing of bills, concluding with the collection and processing of customer payments. Customer account services are accomplished by the following utility functions:

- Customer Service Operations – customer calls/contact, credit, order taking/disposition, bill collection efforts and outage calls
- Customer Call IT – support of phone banks, voice recognition units, call handling software applications and telecommunications
- Customer billing – bill printing, stuffing and mailing
- Remittance processing – processing customer payments received in the mail
- Bill payment centers – processing customer payments at locations where customers can pay their bills in person

Neighboring electric utility cost information comes from the FERC Form 1 that each utility subject to FERC regulation must file. FERC's chart of accounts is defined in Chapter 18, Part 101 of the Code of Federal Regulations. FERC accounts that contain expenses related to customer account services are Account 903 Customer Accounts Expense – Records and Collection Expense and Account 905 Customer Accounts Expense – Miscellaneous Customer Accounts Expense. Exhibit 11 (page 27) provides FERC's definition of the type of expenses that should be recorded in these accounts.

In addition to the charges in these FERC accounts, labor-related overhead charged to the following FERC accounts must be added to the labor components of Accounts 903 and 905:

- Account 926 Employee Pension and Benefits
- Account 408 Taxes Other Than Income (employer's portion of FICA)

Comparison Group

Electric utilities included in the comparison group are shown in the table below. These are companies whose FERC Form 1 reports show amounts for accounts 903 and 905.

Customer Accounts Expenses Comparison Group

New York	Central Hudson Gas & Electric Corporation	Pennsylvania	Duquesne Light Company
	Consolidated Edison Company		Metropolitan Edison Company
	New York State Gas & Electric Corporation		PECO Energy Company
	Niagara Mohawk Power Corporation		Pennsylvania Electric Company
	Orange and Rockland Utilities, Inc		Pennsylvania Power Company
	Rochester Gas and Electric Corporation		PPL Electric Utilities Corporation
New Jersey	Atlantic City Electric Company		West Penn Power Company
	Jersey Central Power & Light Company	Delaware	Delmarva Power & Light Company
	Public Service Electric and Gas Company		
	Rockland Electric Company		

New Jersey-American Water Company, Inc.
FERC Account Descriptions

903 – Customer Records and Collection Expenses

This account shall include the cost of labor, materials used and expenses incurred in work on customer applications, contracts, orders, credit investigations, billing and accounting, collections and complaints.

Labor

1. Receiving, preparing, recording and handling routine orders for service, disconnections, transfers or meter tests initiated by the customer, excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
2. Investigations of customers' credit and keeping of records pertaining thereto, including records of uncollectible accounts written off.
3. Receiving, refunding or applying customer deposits and maintaining customer deposit, line extension, and other miscellaneous records.
4. Checking consumption shown by meter readers' reports where incidental to preparation of billing data.
5. Preparing address plates and addressing bills and delinquent notices.
6. Preparing billing data.
7. Operating billing and bookkeeping machines.
8. Verifying billing records with contracts or rate schedules.
9. Preparing bills for delivery and mailing or delivering bills.
10. Collecting revenues, including collection from prepayment meters unless incidental to meter reading operations.
11. Balancing collections, preparing collections for deposit, and preparing cash reports.
12. Posting collections and other credits or charges to customer accounts and extending unpaid balances.
13. Balancing customer accounts and controls.
14. Preparing, mailing, or delivering delinquent notices and preparing reports of delinquent accounts.
15. Final meter reading of delinquent accounts when done by collectors incidental to regular activities.
16. Disconnecting and reconnecting services because of nonpayment of bills.
17. Receiving, recording, and handling of inquiries, complaints, and requests for investigations from customers, including preparation of necessary orders, but excluding the cost of carrying out such orders, which is chargeable to the account appropriate for the work called for by such orders.
18. Statistical and tabulating work on customer accounts and revenues, but not including special analyses for sales department, rate department, or other general purposes, unless incidental to regular customer accounting routines.
19. Preparing and periodically rewriting meter reading sheets.
20. Determining consumption and computing estimated or average consumption when performed by employees other than those engaged in reading meters.

Materials and expenses

21. Address plates and supplies.
22. Cash overages and shortages.
23. Commissions or fees to others for collecting.
24. Payments to credit organizations for investigations and reports.
25. Postage.
26. Transportation expenses, including transportation of customer bills and meter books under centralized billing procedure.
27. Transportation, meals, and incidental expenses.
28. Bank charges, exchange, and other fees for cashing and depositing customers' checks.
29. Forms for recording orders for services, removals, etc.
30. Rent of mechanical equipment.

905 – Miscellaneous Customer Accounts Expenses

This account shall include the cost of labor, materials used and expenses incurred not provided for in other accounts.

Labor

1. General clerical and stenographic work.
2. Miscellaneous labor.

Materials and expenses

3. Communication service.
4. Miscellaneous office supplies and expenses and stationery and printing other than those specifically provided for in accounts 902 and 903.

NJAWC's Cost per Customer

As calculated below, NJAWC's customer account services expense per customer was $20.89 for Base Year 2023. The cost pool used to calculate this average includes charges for Service Company services (e.g., call handling, billing, payment processing) and postage and forms expenses, which are incurred directly by NJAWC. It is necessary to adjust the Service Company's charges because electric utilities experience an average of 1.25 calls per customer compared to American Water's 0.86 calls per customer during 2023. Thus, the Service Company's expenses had to be increased, for comparison purposes, to reflect its costs if it had had 1.25 calls per customer.

New Jersey-American Water Company, Inc.	Cost Component	Year Ended June 30, 2023 Service Co Charges	Adjustment Fewer Calls For Water Cos. (A)	Adjusted	
Service Company	Call processing, order processing, credit, bill collection, forms, postage	$ 13,059,476	$ 909,396	$ 13,968,873	
	Customer payment processing			$ 498,207	(B)
NJAWC	Customer Advocacy			$ 605,190	
			Cost Pool Total	$ 15,072,269	
			Total Customers	721,512	
	Year Ended June 30, 2023 Cost per New Jersey American Customer			$ 20.89	

Note A: Adjustment for American Water's fewer calls per customer
This adjustment is necessary because water utilities experience fewer calls per customer than do electric utilities

Call handling expenses		$ 2,009,269
Electric utility industry's avg calls/customer	1.25	
American Water's avg calls/customer	0.86	
Percent different	45%	45%
Total Adjustment		$ 909,396

Note B: Estimated customer payment processing expenses

Number of customer bills		8,604,617
Bank charge per item		$ 0.0579
Total estimated annual expense		$ 498,207

Electric Utility Group Cost per Customer

Exhibit 12 (page 29) shows the calculation of customer account expense per customer for the electric utility comparison group. The underlying data is taken from the utilities' 2022 FERC Form 1.

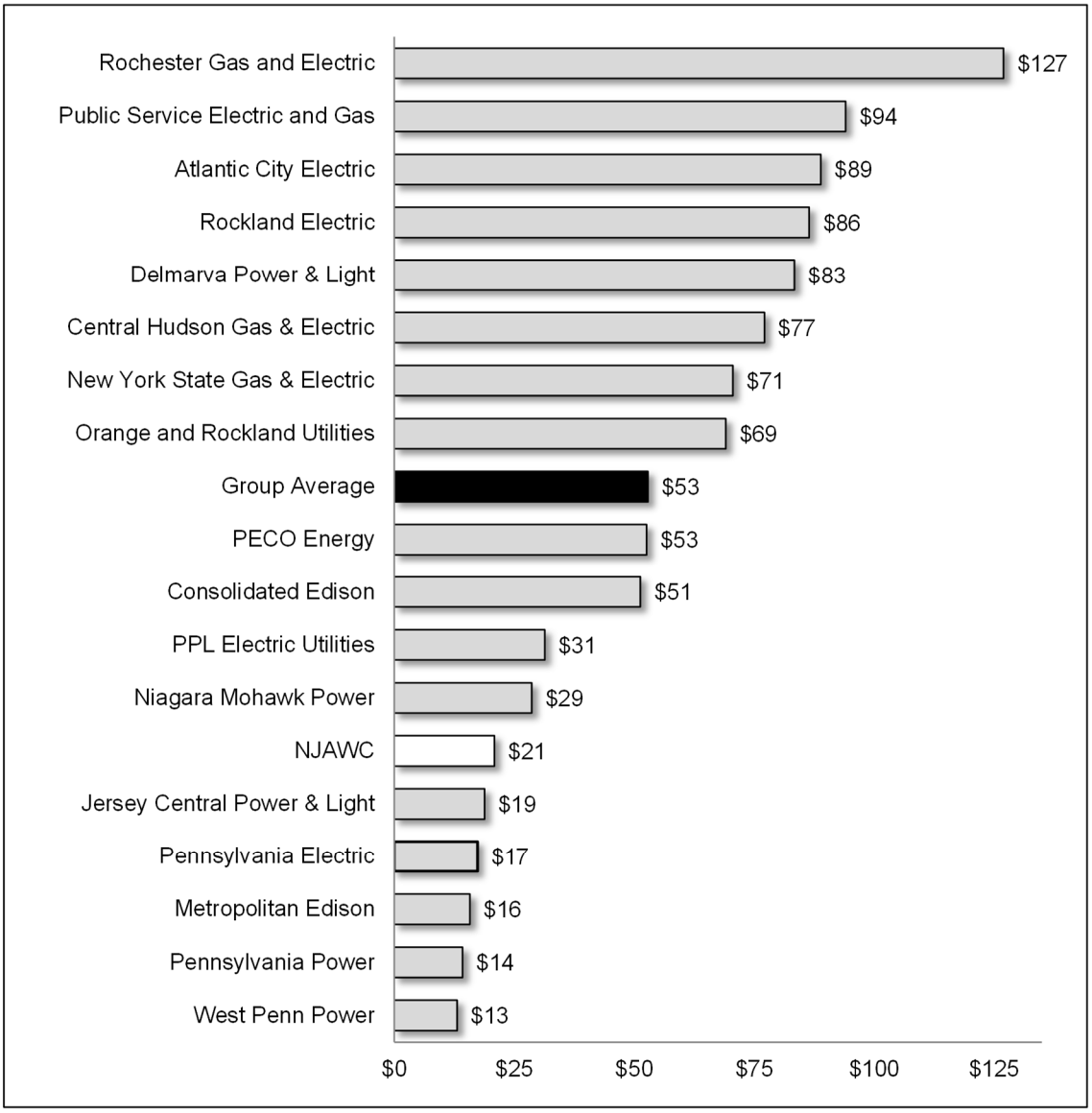
New Jersey-American Water Company, Inc.
Comparison Group 2022 Customer Account Expenses Per Customer

Comparison Group	Customer Accounts Services Cost Pool				Total Customers	Customer Account Services Expenses per Customer
		Employee Benefits				
	Account 903 and 905	Employee Pension and Benefits	Payroll Taxes	Total Cost Pool		
Atlantic City Electric Company	$ 50,094,147	$ 194,764	$ 135,704	$ 50,424,615	567,212	$ 88.90
Central Hudson Gas & Electric Corporation	$ 20,377,013	$ 48,185	$ 572,396	$ 20,997,594	272,231	$ 77.13
Consolidated Edison Company	$ 163,746,314	$ 11,713,920	$ 8,888,145	$ 184,348,379	3,593,840	$ 51.30
Delmarva Power & Light Company	$ 45,087,455	$ 150,966	$ 206,760	$ 45,445,180	544,898	$ 83.40
Jersey Central Power & Light Company	$ 19,868,496	$ 1,127,656	$ 736,189	$ 21,732,340	1,155,415	$ 18.81
Metropolitan Edison Company	$ 8,987,220	$ 110,409	$ 132,348	$ 9,229,977	585,024	$ 15.78
New York State Gas & Electric Corporation	$ 61,874,751	$ 1,175,729	$ 1,631,641	$ 64,682,121	916,521	$ 70.57
Niagara Mohawk Power Corporation	$ 38,096,435	$ 2,504,313	$ 2,457,980	$ 43,058,728	1,502,305	$ 28.66
Orange and Rockland Utilities, Inc.	$ 14,689,909	$ 1,221,782	$ 684,303	$ 16,595,993	240,208	$ 69.09
PECO Energy Company	$ 84,694,412	$ 1,543,586	$ 2,647,697	$ 88,885,695	1,690,627	$ 52.58
Pennsylvania Electric Company	$ 9,774,669	$ 340,096	$ 86,072	$ 10,200,837	588,187	$ 17.34
Pennsylvania Power Company	$ 2,378,821	$ 16,394	$ 29,328	$ 2,424,543	170,274	$ 14.24
PPL Electric Utilities Corporation	$ 42,532,175	$ 1,797,745	$ 1,853,824	$ 46,183,744	1,472,759	$ 31.36
Public Service Electric and Gas Company	$ 209,132,730	$ 7,139,051	$ 4,527,331	$ 220,799,112	2,346,606	$ 94.09
Rochester Gas and Electric Corporation	$ 48,595,259	$ 556,137	$ 431,415	$ 49,582,811	390,454	$ 126.99
Rockland Electric Company	$ 6,439,806	$ 16,376	$ 11,981	$ 6,468,162	74,786	$ 86.49
West Penn Power Company	$ 9,107,517	$ 440,617	$ 78,603	$ 9,626,737	735,509	$ 13.09
Total/Average	$ 835,477,129	$ 30,097,725	$ 25,111,716	$ 890,686,570	16,846,856	$ 52.87

Source: FERC Form 1; Baryenbruch & Company, LLC, analysis

Summary of Results

As shown in the table below, NJAWC's Base Year 2023 cost per customer is well below the 2022 average cost for the neighboring electric utility comparison group. Twelve comparison group utilities have a higher cost than NJAWC. Based on this comparison, it can be concluded that NJAWC's Base Year 2023 customer account expenses are reasonable.



Source: Company information; FERC Form 1; Baryenbruch & Company, LLC, analysis

Analysis of Services

The final aspect of this study was an assessment of whether the services provided to NJAWC by the Service Company would be necessary if NJAWC were not part of the American Water organization. The first step in this evaluation was to determine specifically what the Service Company does for NJAWC. Based on discussions with Service Company personnel, the matrix in Exhibit 13 (pages 32-34) was created showing which entity—NJAWC or a Service Company location—is responsible for each of the functions NJAWC requires to ultimately provide service to its customers. This matrix was reviewed to determine: (1) if there is redundancy or overlap in the services being provided by the Service Company and (2) if Service Company services are typical of those needed by a stand-alone water utility.

Upon review of Exhibit 13, the following conclusions can be drawn:

- The services that the Service Company provides are necessary and are required for water and wastewater utilities. These services are customarily provided by service companies of other utility holding companies.

- There is no redundancy or overlap in the services provided by the Service Company to NJAWC. For all the services listed in Exhibit 13, there is only one entity that is primarily responsible for the service.

New Jersey-American Water Company, Inc.
Designation of Responsibility for Water Utility Functions

P - Primarily Responsible S - Provides Support	Performed By:					
		American Water Works Service Company			
Water Company Function	NJAWC	Customer Service	Other Service Company	IT Service Centers	Central Lab
Engineering and Construction Management					
CPS Preparation	S		P		
Five-Year System Planning	P		S		
Engineering Standards & Policies Development			P		
Project Design					
Major Projects (e.g., new treatment plant)	P		S		
Special Projects	P		S		
Minor Projects (e.g., pipelines)	P				
Construction Project Management					
Major Projects	P		S		
Special Projects	P		S		
Minor Projects	P				
Hydraulics Review	P		S		
Developers Extensions	P				
Tank Painting	P		S		
Water Quality and Purification					
Water Quality Standards Development			P		S
Research Studies	S		P		S
Water Quality Program Implementation	P		S		
Water Treatment Operations & Maintenance	P		S		
Compliance Sampling	P		S		S
Testing/Other Sampling	S		S		P
Transmission and Distribution					
Preventive Maintenance Program Development	P		S		
System Maintenance	P				
Leak Detection	P		S		
Customer Service					
Community Relations	P		S		
Customer Contact	S (1)	P (1)			
Call Processing		P (1)			
Service Order Processing	S	P			
Customer Credit		P			
Meter Reading	P				
Customer Bill Preparation				P (1)	
Bill Collection	S (1)	P (1)	S (1)		
Customer Payment Processing	S (1)		P (1)		
Meter Standards Development	P		S		
Meter Testing, Maintenance & Replacement	P				

Note 1: Does not include wastewater service.

New Jersey-American Water Company, Inc.
Designation of Responsibility for Water Utility Functions

P - Primarily Responsible S - Provides Support	Performed By:					
		American Water Works Service Company				
Water Company Function	NJAWC	Customer Service	Other Service Company	T&I Service Centers	Central Lab
Financial Management						
Financial Planning	P		S		
Financings--Equity	S		P		
Financings--Long Term Debt & Preferred (Note 2)	S		P		
Short Term Lines of Credit Arrangements(Note 2)	S		P		
Investor Relations			P		
Insurance Program Administration	S		P		
Loss Control/Safety Program Administration	S		P		
Pension Fund Asset Management			P		
Cash Management/Disbursements			P		
Internal Auditing			P		
Budgeting and Variance Reporting					
Corporate Guidelines & Instructions			P		
Regional Guidelines & Instructions			P		
Budget Preparation					
Revenue and O&M	S		P		
Depreciation and Interest Expense	S		P		
Budget Preparation--Service Company Charges	S	S	P	S	S
Capital Budget Preparation—Projects	P		S		
Capital Budget Preparation—Non-Project Work	P		S		
Prepare Monthly Budget Variance Report			P		
("Budget/Plan Analysis")					
Prepare Capital Project Budget Status Report	P		S		
Year-End Projections	P		S		
Accounting and Taxes					
Accounts Payable Accounting	S		P		
Payroll Accounting	S		P		
Work Order Accounting	S		P		
Fixed Asset Accounting	S		P		
Journal Entry Preparations--Billing Corrections	S		P		
Journal Entry Preparation--All Others	S		P		
Financial Statement Preparation	S		P		
State Commission Reporting	S		P		
Income Taxes--State			P		
Income Taxes--Federal			P		
Property Taxes	S		P		
Gross Receipts (Town) Taxes	S		P		

New Jersey-American Water Company, Inc.
Designation of Responsibility for Water Utility Functions

P - Primarily Responsible S - Provides Support	Performed By:					
		American Water Works Service Company			
Water Company Function	NJAWC	Customer Service	Other Service Company	IT Service Centers	Central Lab
Rates					
Rate Studies & Tariff Change Administration	S		P		
Rate Case Planning and Preparation	S		P		
Rate Case Administration	S		P		
Commission Inquiry Response	S		P		
Legal	S		P		
Purchasing and Materials Management – National (pipe, chemicals, meters, etc.)					
Specification Development	S		P		
Bid Solicitation	S		P		
Contract Administration	S		P		
Purchasing and Materials Management – State (state supplier service agreements)					
Specification Development	P		S		
Bid Solicitation	P				
Contract Administration	P				
Ordering	P				
Inventory Management	P				
Human Resources Management					
Benefit Program Development			P		
Benefits Program Administration			P		
Management Compensation Administration			P		
Wage & Salary Program Design			P		
Wage & Salary Administration			P		
Labor Negotiations--Wages	P		S		
Labor Negotiations--Benefits	P		S		
Labor Negotiations-- Work Rules	P		S		
Training Program Development			P		
Training--Course Delivery			P		
Affirmative Action/EEO--Plan Development			P		
Affirmative Action/EEO--Implementation			P		
Information Systems Services					
Service Company Data Centers					
System Operations & Maintenance				P	
Software Maintenance				P	
Network Administration				P	
PC Acquisition & Support	S			P	
Help Desk				P	

Governance Practices Associated with Service Company Charges

There are several ways by which NJAWC exercises control over Service Company services and charges. The most important of these are described below.

1. Chief Operating Officer Oversight – The Chief Operating Officer (COO) is on the Executive Leadership Team (ELT) of American Water. This position is responsible for the overall performance of each operating company in American Water. As part of the ELT, the COO has equal say with other ELT members in major business decisions of American Water and can monitor Service Company performance quality and spending. The COO also addresses local concerns with each operating company president.

2. Operating Company Board Oversight – The NJAWC board of directors includes members of the NJAWC management team and external business and community leaders. The NJAWC board has quarterly scheduled meetings each year to review and discuss financial, operational and other matters.

3. NJAWC President's Oversight – The NJAWC President is responsible for the overall performance of NJAWC American and, as such, monitors services and charges received from the Service Company. The NJAWC President reports to the Deputy Chief Operating Officer who, in turn, reports to the Chief Operating Officer who has a significant voice in major business decisions that impact the Service Company's quality and cost of services.

4. CFO Operations and Supporting Staff (Finance team) – The Finance team is responsible for monitoring the overall financial performance of NJAWC. This includes overseeing NJAWC's financial reporting process, performing revenue and expense analysis, the annual budgeting process, and monitoring internal control performance. Every month, the Finance team performs a detailed expense analysis that includes Service Company charges. Month-to-date actual and year-to-date actual performance is compared against budget and prior period actuals. The Finance team also reviews and investigates monthly Service Company charges based on the results of the team's analytical procedures in order to determine the appropriateness of the charges.

5. Service Company Budget Review/Approval – The Service Company Board of Directors (BOD) formally reviews and approves the budget for Service Company on an annual basis. The Service Company BOD consists of: (a) the AW ELT and (b) key Executive Management representatives from Service Company. The Service Company's overall budget is assigned to each operating company, which consolidates these charges with its own direct spending to arrive at a total operating company budget. This is presented to the operating company's board of directors (e.g., NJAWC) for their approval.

6. Major Project Review and Approval – Before major Service Company non-capital projects are undertaken, they must be reviewed and approved by American Water's Executive Leadership Team which includes the Deputy and Chief Operating Officers. The Deputy Chief Operating Officer, with significant input from his direct reports, can impact all new initiatives and projects before they are authorized. Major non-capital projects and initiatives for the Service Company are approved through the Business Planning process. As part of the business planning process a technology roadmap of initiatives is developed from American Water's vision, strategy, operational objectives and key business programs. The alignment of these initiatives with enterprise goals is approved by the Executive Leadership Team and key business leaders from various operational and functional areas of American

Water. The roadmap is updated annually to produce a rolling roadmap and investment plan.

7. Capital Program Management (CPM) – CPM covers capital and asset planning and is employed throughout American Water, including the Service Company. CPM provides a full range of governance practices, including a formal protocol for assessing system needs, prioritizing capital expenditures, managing the capital program, approving project spending, delivering projects and measuring outputs. CPM ensures that:

   - Capital expenditure plans are aligned with the strategic intent of the business
   - The impact of capital expenditures is fully reflected in operating expense plans
   - The impacts of these plans on state operating company budgets and operating results are understood
   - Effective controls are in place over budgets (through business plans) and individual capital projects (through appropriate authorization thresholds, management and reporting processes).

   The CPM process was designed to optimize the effectiveness of asset investment. The process is managed at two levels for all American Water companies, including all NJAWC Operating Units. Monthly meetings of the CPM are held to review capital spending compared to plan, review new project requests and review updates or modifications to existing projects. The NJAWC management team participates, as necessary, and provides the data used in the monthly review schedules.

8. Accounting and Financial Reporting – The Service Company follows the same accounting and financial reporting processes as American Water's regulated utilities. At month-end, the Service Company Finance team reviews key transactions and analyzes month-to-date variance to budget to ensure accuracy before the billing process takes place. Once completed, the Service Company bill is produced, and shows the actuals that are directly charged or allocated to the states based on predetermined formulas. At this time, the operating companies may question expenses and spending for better understanding of results. NJAWC Finance team reviews the monthly Service Company bill for accuracy and reasonableness on a monthly basis. Any errors or overcharges are corrected on a subsequent billing.

9. Operating Company Budget Variance Analysis – Each month a Service Company Affiliate Billing Analysis Report is prepared and provided to operating companies. This report allows operating companies to monitor their Service Company budget-versus-actual charges for the month and year-to-date.

10. Service Company Budget Variance Analysis - Each function within a Service Company is responsible for reviewing the budget-versus-actual charges for the month and year-to-date. On a monthly basis, Service Company actual results vs budget variances are reviewed with State Presidents as well as the ELT. Key variances by function are presented and discussed.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Robert V. Mustich

January 19, 2024

Exhibit P-12

DIRECT TESTIMONY OF ROBERT V. MUSTICH

TABLE OF CONTENTS

NEW JERSEY-AMERICAN WATER COMPANY, INC.

I. INTRODUCTION

1. Q. Please provide your name, position and business address.

A. My name is Robert V. Mustich. I am Managing Director and East Region Rewards Business Leader for Willis Towers Watson. Willis Towers Watson is a leading global professional services company which has 45,000 associates throughout the world, and offers solutions in the areas of corporate risk and broking; human capital and benefits; health care exchange solutions; and investment, risk, and reinsurance. My business address is 800 North Glebe Road, Arlington, VA 22203.

2. Q. Please state your educational and professional background and experience.

A. I graduated from American University with a BS/BA in Human Resources Management. I have over 30 years of industry and compensation consulting services experience, have been with Willis Towers Watson for over 26 years, and have assisted management and Boards of Directors at numerous companies in designing and assessing total compensation programs. Since joining the firm in 1997, I have consulted with numerous utilities and serve as a senior member of our utilities industry practice. I have conducted competitive assessments of total compensation for numerous public utilities throughout the U.S. Prior to joining Willis Towers Watson, I was a senior compensation consultant for PricewaterhouseCoopers (formerly Coopers and Lybrand, LLP) performing similar compensation consulting services for clients. Prior to that, I held corporate senior staff compensation and benefits positions.

3. Q. Please explain Willis Towers Watson's experience in providing compensation and benefits consulting services to organizations such as New Jersey-American Water Company, Inc., ("New Jersey-American Water" or the "Company").

A. Willis Towers Watson has extensive experience serving clients in the utility industry, having provided services to approximately 100 utilities in the U.S. within the last year. Because we invest so heavily in our utility industry capabilities, we have rich sources of information regarding industry compensation and benefits that enables us to benchmark New Jersey-American Water against similar companies in the U.S. Given Willis Towers Watson's breadth and depth of resources, we are frequently engaged by companies to evaluate the competitiveness of their compensation philosophy, compensation and benefit levels, performance pay design and pay structures, and other consulting services. Willis Towers Watson and I have conducted similar competitive compensation studies for other utility clients.

II. DEFINITIONS

4. Q. Are there some key definitions that you will need to reference as part of your testimony?

A. Yes. "Target Total Cash Compensation" represents the sum of base salary plus target annual performance compensation. "Target Total Direct Compensation" represents the sum of base salary, plus target annual performance compensation, plus long-term performance compensation.

III. PURPOSE AND OVERVIEW OF TESTIMONY

5. Q. What is the purpose of your testimony?

A. The purpose of my testimony is to review the Company's stated compensation philosophy to determine if it is reasonably consistent with the compensation philosophies of other utility companies and of industry, generally. I also reviewed whether the target total direct compensation provided to New Jersey-American Water employees, when viewed against the markets for talent for employees in similar positions, is within the range of market-based total compensation. Willis Towers Watson specifically focused on the following aspects of New Jersey-American Water's program:

- Market-based total compensation philosophy;
- Competitive market positioning of target total direct compensation (base salary plus annual performance compensation plus long-term performance compensation);
- Design of annual performance compensation program (the Company's Annual Performance Plan ("APP")); and
- Design of long-term performance compensation program (the Company's Long Term Performance Plan ("LTPP")).

6. Q. Are you sponsoring any schedules in support of your Direct Testimony?

A. Yes. My analyses and recommendations are supported by the data presented in **Confidential Schedule RVM-1** entitled "New Jersey-American Water Company – 2023 General Rate Case Total Compensation Study" which was prepared by me or under my direction.

7. Q. What were the results of your study?

A. Based on a review of the robust compensation data available, I concluded that New Jersey-American Water's compensation philosophy and performance compensation plan design were in accord with utilities specifically, and industry generally and that the levels of total direct compensation are reasonable and consistent with market-based total compensation levels, both on a regional and national level.

IV. MARKET-BASED TOTAL COMPENSATION PHILOSOPHY

8. Q. Does New Jersey-American Water have a defined compensation philosophy?

A. Yes, American Water Works Company, Inc. ("American Water") has a defined philosophy, which is applicable to New Jersey-American Water.

9. Q. How would you describe American Water's compensation philosophy?

A. American Water's market-based total compensation philosophy is generally to pay salaries that are competitive with those of comparable organizations for jobs of similar responsibility. To carry out this philosophy, American Water's objective is to target total direct compensation (base, annual-term performance compensation, and long-term performance compensation) at the median (50th percentile) of the market.

10. Q. How does this compensation philosophy compare with other utilities?

A. It is consistent both with utilities and with other employers. Willis Towers Watson examined the proxy statements for two peer groups: (1) Large Utility Peer Group, which consists of 15 publicly-traded utilities comparable in size to American Water (revenues range from ½ to 3 times American Water's 2022 revenues of $3.79 billion),

and (2) Small Utility Peer Group, which consists of 11 publicly-traded utilities comparable in size to New Jersey-American Water (revenues range from $563-$2,250 million, compared to New Jersey-American Water's 2022 revenues of $908 million). Based on our review, we believe American Water's market-based total compensation philosophy is well-aligned with utility peers, as a majority of both Large Utility Peer Group companies (13 of 15, 87%) and Small Utility Peer Group companies (9 of 11, 82%) target the market median (50th percentile) for some or all pay elements. Our consulting experience also suggests that American Water's median (50th percentile) pay philosophy is comparable to typical market practice found in general industry.

V. SUMMARY OF WILLIS TOWERS WATSON'S TOTAL COMPENSATION STUDY

11. Q. Did you conduct a study of New Jersey-American Water's compensation program?

A. Yes, and a copy of the Study is included as the aforementioned **Confidential Schedule RVM-1** to my testimony.

12. Q. Please describe how the study was conducted.

A. Willis Towers Watson utilized three data sources to assess New Jersey-American Water's compensation program: As we did in assessing American Water's market-based total compensation philosophy, we assessed the design of its annual performance compensation and long-term performance compensation programs using proxy disclosures of groups of public utilities referred to as the (1) Large Utility Peer Group and (2) Small Utility Peer Group. The competitive market positioning of New Jersey-

American Water's target total direct compensation levels was compared to (3) Willis Towers Watson published compensation surveys.

13. Q. How did you define "competitive" for the purposes of your compensation study?

A. Willis Towers Watson and typical market practice define total compensation as being competitive with the market if it falls in a range that extends between 10% below to 10% above the market median level of total compensation.

14. Q. Please describe how you assessed the competitiveness of New Jersey-American Water's target total direct compensation levels.

A. Willis Towers Watson assessed the competitiveness of target total direct compensation provided by New Jersey-American Water to its employees based on a selection of New Jersey-American Water jobs ("benchmark jobs"). Benchmark jobs are those positions that are common across comparable organizations and for which compensation data are available from published surveys. To conduct this analysis we reviewed compensation data provided to us by New Jersey-American Water and examined Willis Towers Watson's compensation surveys in our Compensation Databank. These surveys are composed of compensation data from over 1,000 U.S. based companies, and Willis Towers Watson has been conducting these surveys for over 30 years. New Jersey-American Water's current compensation levels were compared to the market 50th percentile (market median) for two different market perspectives to determine the competitiveness of pay and to validate the alignment with American Water's current market-based total compensation philosophy (targeting compensation at the 50th percentile of market). Willis Towers Watson's assessment of benchmark jobs

represents approximately 65% of the population of New Jersey-American Water employees as of June 30, 2023. Specific details regarding our study, which includes a detailed description of the study methodology, are included in **Confidential Schedule RVM-1**.

15. Q. How did you derive 50th percentile (median) market values?

A. To derive 50th percentile (median) market values, Willis Towers Watson benchmarked non-industry specific positions (e.g., accounting, human resources, legal) against both energy services (primarily utilities) and general industry survey data, weighted 60% and 40% respectively. This places a greater weight on the energy services market data since this includes regulated entities most similar to New Jersey-American Water. This ensures that non-industry specific positions are being compensated competitively given that these positions can be recruited or lost to companies in any industry. For positions requiring industry experience, only energy services industry data were used since these positions are generally not found outside of the utility industry.

16. Q. Please describe how you determined the competitiveness of New Jersey-American Water's target total direct compensation?

A. Two different market perspectives were examined to validate the competitiveness of New Jersey-American Water's target total direct compensation. A national market perspective was examined which consisted of the entire population of survey participants in Willis Towers Watson's Energy Services and General Industry databases. This perspective represents a U.S. national compensation perspective and is aligned with American Water's compensation philosophy. A Mid-Atlantic regional

perspective including Delaware, New Jersey, New York, and Pennsylvania labor markets was also examined, which consisted of the same entire survey participant population from Willis Towers Watson's Energy Services Industry and General Industry databases but was customized to identify a Mid-Atlantic-specific geographic dataset. This dataset identified employees that work in the four states listed above for companies headquartered anywhere in the United States.

17. Q. What were the compensation study results from the national perspective?

A. Using a weighted average of all positions reviewed, New Jersey-American Water's target total direct compensation is within the range of the competitive market median on a national basis by being 3% below market median.

18. Q. What were the compensation study results from the Mid-Atlantic Regional perspective?

A. From a Mid-Atlantic Regional Perspective, New Jersey-American Water's target total direct compensation is within the competitive market median range because it is also 3% below market median.

19. Q. In your opinion and based on the results of the study, are New Jersey-American Water employees appropriately compensated with market based total compensation?

A. Yes, recognizing that this comparison includes the market-based total compensation New Jersey-American Water's employees receive; meaning that performance compensation is included in the compensation comparison. In that case, New Jersey-

American Water employees are generally within the range of the market median. Removing performance compensation, however, would drop New Jersey-American Water's compensation below the competitive market median on average and outside the median range for positions the competitive market indicates that performance compensation is a meaningful portion of total direct compensation. Therefore, performance compensation is required to ensure compensation remains at reasonable, competitive levels.

VI. SUMMARY OF WILLIS TOWERS WATSON'S PERFORMANCE COMPENSATION PROGRAM ASSESSMENT

20. Q. Did you conduct an assessment of American Water's performance compensation programs?

A. Yes, I assessed American Water's annual and long-term performance compensation programs.

21. Q. What was the purpose of your assessment?

A. This assessment was completed to compare the design of American Water's performance compensation program (that is applicable to New Jersey-American Water) and its various elements to market practice.

22. Q. What were the findings of the assessment?

A. Overall, our review indicates that American Water's performance compensation program is comparable to and competitive with designs of utility peers, based on a review of the Large Utility Peer Group and the Small Utility Peer Group referenced

earlier. Like American Water, every company reviewed has a performance compensation program which is used to help attract, motivate, and retain critically skilled employees needed to successfully run the business. Companies design their performance compensation programs to align with their business strategies and circumstances, so there tends to be a range of practices regarding how the programs are designed. American Water's performance compensation programs complement each other by assessing performance holistically using a balanced scorecard approach, incorporating growth, customer, safety, environmental leadership, people based metrics, and stock performance. American Water's program designs are consistent with market practices of utilities. Specific details regarding our assessment are included in **Confidential Schedule RVM-1**.

23. Q. Why is performance compensation appropriate for a utility?

A. As our competitive assessment shows, the inclusion of performance pay plans, both annual and long-term focused plans, is an essential part of a market competitive compensation mix. As noted earlier in my testimony, all of the companies in the Large and Small Utility Peer Groups have short-term and long-term performance compensation plans in place. In order to attract, retain and motivate the talent needed to successfully run the Company, New Jersey-American Water needs to provide a market competitive total compensation program, which includes both short-term and long-term performance compensation plans.

VII. OVERALL FINDINGS REGARDING NEW JERSEY-AMERICAN WATER'S COMPENSATION PROGRAMS

24. Q. What are the overall conclusions of your analysis?

A. Overall, our analysis indicates that New Jersey-American Water's total direct compensation programs are comparable to and competitive with market practices of other similarly-sized utilities and are therefore reasonable. New Jersey-American Water, like the companies it competes with for talent, has to provide a competitive total direct compensation opportunity delivered via programs that benefit employees, customers and investors. New Jersey-American Water attempts to achieve this goal with its balanced and competitive base salary and annual and long-term performance compensation programs. My experience working with both utilities and general industry companies, and the results of the study included as **Confidential Schedule RVM-1**, indicate the programs at New Jersey-American Water are within a broad range of market norms and design and produce an appropriate and competitive level of compensation.

25. Q. Are there other ways that New Jersey-American Water's compensation programs benefit customers?

A. Yes. Customers receive a benefit when a utility retains a talented workforce, because a stable workforce avoids the costs of hiring and training new employees and loss of productivity. Because New Jersey-American Water's performance compensation program makes New Jersey-American Water's employees' total compensation reasonable, the Company's performance compensation helps ensure a stable

workforce. New Jersey-American Water's LTPP program is particularly intended to reduce attrition at the higher ranks of the organization. Senior management turnover and the loss of expertise can degrade the continuity of strategy and execution, which is why these types of compensation programs are well accepted in the industry. Importantly, the LTPP achieves its goals of reducing leadership attrition at a lower cost to customers than simply increasing leadership's base pay, because employees must remain with the organization to realize the full vesting of their stock awards over a three-year period.

26. Q. Describe the benefits of New Jersey-American Water's current compensation program compared to a base salary/wage-only approach.

A. A key benefit of New Jersey-American Water's use of performance compensation plans is that they align with competitive market practice and thereby enable New Jersey-American Water to compete in the market for talent. A shift to an all base salary program for New Jersey-American Water could have unintended consequences. If all or part of the annual and/or long-term performance compensation at New Jersey-American Water were eliminated, the Company would likely be forced to increase fixed pay (i.e., base salary) to above market competitive levels of base salary in order to provide total compensation at the market level to attract and retain talent. This would be counter to the pay-for-performance approach New Jersey-American Water currently employs, which is in line with the compensation philosophy that is common to most other utilities and American business generally.

27. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES
AND CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

Harold Walker, III

Exhibit P-13

NEW JERSEY-AMERICAN WATER COMPANY, INC.

INTRODUCTION

1. Q. Please state your name and address.

A. My name is Harold Walker, III. My business address is 1010 Adams Avenue, Audubon, Pennsylvania, 19403.

2. Q. By whom are you employed?

A. I am employed by Gannett Fleming Valuation and Rate Consultants, LLC as Manager, Financial Studies.

3. Q. What is your educational background and employment experience?

A. My educational background, business experience and qualifications are provided at the end of Exhibit P-13 as Appendix A.

SCOPE OF TESTIMONY

4. Q. What is the purpose of your testimony?

A. The purpose of my testimony is to recommend appropriate working capital allowances that New Jersey-American Water Company, Inc. ("New Jersey-American Water," "NJAWC" or the "Company") should be afforded an opportunity to earn on as part of its rate base. My recommendation is based upon the results of a lead-lag study of NJAWC that was performed under my direct supervision.

5. Q. Have you prepared an exhibit presenting the results of your study?

A. Yes. I have prepared 27 Schedules identified as Schedule HW-1 through Schedule HW-27 summarizing the Company's working capital requirement in this proceeding.

PRINCIPLES OF WORKING CAPITAL

6. Q. Please explain the ratemaking principles concerning the inclusion of working capital as an element of rate base?

A. The working capital allowance is a component of rate base. A utility's need for working capital was first recognized in the noted Supreme Court case, *Smyth v. Ames*.[1] Among the many benchmarks established in the case was the "property devoted to public use" doctrine as a basis for fixing rates. The case recognized that among the matters to be considered in determining the value of property used was "the sum required to meet operating expenses."[2] Since that time working capital has generally been recognized as a proper item to be included in the rate base on which a utility is entitled to earn a return.

The rationale for the inclusion of working capital in rate base is to compensate investors for the use of that amount of their funds needed by the business over and above the investment in plant and other tangible assets. Working capital bridges the gap between the time funds are provided by investors to provide service to the customer and the time the revenue requirement is received from the customer as reimbursement for these services.

[1] *Smyth v. Ames*, 169 U.S. 466 (1898), overruled on other grounds by *Fed Power Comm'n v. Nat. Gas Pipeline Co. of Am.*, 315 U.S. 575, 586 (1942). Specifically, *Fed. Power Comm'n* departed from the holding in *Smyth* that fair market value in cost of service ratemaking must be used and instead concluded that "[t]he Constitution does not bind rate-making bodies to the service of any single formula or combination of formulas."
[2] *Id*. at 547.

The lead-lag study in this case represents the level of funding required to operate on a day-to-day basis in providing for the cost of service. This is measured by calculating the net lag between (1) the provision of the cost of service and the receipt of the revenue requirement from the Company's customers and (2) the receipt of goods and services used by the Company in providing service and the payment by the Company for those cost of service items.

The net lag is multiplied by the average daily cost of service or revenue requirement to determine the working capital requirement. That requirement is included in rate base to provide investors with a return on the funds required by the Company for daily operations.

RESULTS OF THE LEAD-LAG STUDY

7. Q. What time period does your lead-lag study encompass?

A. The lead-lag study in this case analyzed the revenues and the associated cost of service during the 12 months ended June 30, 2023 to derive the appropriate lag (lead) days. The appropriate lag (lead) days were then used to develop the pro forma 12-months ending June 30, 2024 weighted revenue requirement and associated weighted cost of service to calculate the Company's working capital requirement.[3]

[3] The Company's working capital requirement and the pro forma 12-months ending June 30, 2024 weighted revenue requirement and associated weighted cost of service schedules will be updated as needed throughout the proceeding.

8. Q. What are the results of the lead-lag study?

A. The lead-lag schedules are set forth in Schedule HW-1 through Schedule HW-27. Schedule HW-1 summarizes New Jersey-American Water's working capital requirement of $116,300,000.

9. Q. Please describe Schedule HW-1.

A. Schedule HW-1 calculates the net lag days and applies the result to the average daily cost of service or revenue requirement. The weighted lag days for the receipt of the revenue requirement is developed at the top of the schedule, with supporting detail shown in Schedule HW-2. Lag days are then computed for cost of service items. The cost of service represents the sum of annual operating and maintenance expenses, depreciation expense, taxes other than income, income taxes, and the operating income (*i.e.*, product of the rate base times the recommended rate of return). The supporting detail of the cost of service items is provided in Schedule HW-3.

10. Q. How did you calculate the working capital requirement shown on Schedule HW-1?

A. The working capital requirement shown on Schedule HW-1 was calculated by subtracting the weighted lag days for the cost of service of 16.5 from the weighted average lag days for the revenue requirement of 53.7 to determine the net lag days of 37.2. The 37.2 net lag days is multiplied by the average adjusted daily cost of service or revenue requirement of $3,125,634. The result is a working capital requirement of approximately $116,300,000.

11. Q. Please explain the procedures used to determine the lag days for the revenue requirement for the Company.

A. Schedule HW-2 of the exhibit summarizes the development of the 53.7 lag days for revenue requirement for the Company. The lag days for revenue requirement are comprised of service period lag, billing lag, and collection lag.

12. Q. Please explain the procedures used to determine the service period lag days for the revenue requirement.

A. The lag days for NJAWC's service period and the billing lag are developed on page 2 of Schedule HW-2. The service period lag is the average time between actual meter readings, roughly 29.6 days, based on monthly billing. The average time between meter readings, roughly 29.6 days, is divided by two to produce a midpoint for the service period lag of 14.8 days.

The next period to be measured is from the meter reading date to the time the customer is billed. The customer billing date is the day when the total billing amount for a cycle is recorded to accounts receivable. The bills are prepared, mailed, and posted to accounts payable 4.3 days after meters are read and the billed amount is recorded to accounts receivable. Adding the midpoint for the service period lag to the billing lag produces a combined 19.1 day service period and billing lag.

13. Q. Please describe the procedure used to calculate the collection lag portion of the revenue lag.

A. The collection lag is the average number of days from the date the bills were mailed to the date payments are received. This was determined by summing the daily accounts receivable balance during the test year and dividing by the sum of the daily test year receipts. This results in an average collection lag of 34.6 days for NJAWC as shown on page 3 of Schedule HW- 2.

14. Q. Please summarize the total revenue lag.

A. The total revenue lag of 53.7 days is the sum of the service period and billing lag of 19.1 days and the collection lag of 34.6 days as shown on page 1 of Schedule HW-2.

15. Q. Please explain the revenue adjustment line item shown on Schedule HW-1 for the Company.

A. The revenue adjustment line item adds back the purchased water adjustment clause ("PWAC") and the purchased wastewater treatment adjustment clause ("PSTAC") that the Company collects as a surcharge and subtracts insurance other than group and property tax expense. The PWAC and PSTAC are included as part of the lead-lag study because the Company has working capital requirements associated with the lag between the payment for the expenses related to the services provided by the PWAC and the PSTAC and receipt of revenues. Insurance other than group and property tax expense are excluded because these two items are included in the prepaid line in rate base.

16. Q. Please explain the calculation of lag days for the cost of service expenses shown on Schedule HW-1.

A. On Schedule HW-1 the cost of service expenses are separated into three major sub-accounts based upon the Company's cost of service. The three major sub accounts include: operating expenses; taxes other than income taxes; and income taxes and utility operating income. For each cost of service expense item that is shown, the lag days were calculated for each invoice or account based on the midpoints of the service periods to the dates the Company paid the invoices or accounts. Schedule HW-3 summarizes the lag days for each cost of service expense item and identifies the source schedule.

17. Q. How were the lag days determined for the operating expenses sub account line items shown on Schedule HW-1?

A. For most of the operating expenses sub account line items shown, the lag days were determined for each invoice or account sampled based on the midpoints of the service periods to the dates NJAWC paid the invoices or accounts based on varying levels of sampling of data.[4] The exceptions were the depreciation and amortization line item and three other expenses line items.[5] The lag days for the three other expenses line items were assumed to be 30 days, which is equal to the weighted average lag days found for operating expenses (excluding depreciation and amortization) that were sampled. Sampling for the line-item dollars (or expenses) averaged 83% reflecting a

[4] It should be noted that the number of expense line items sampled were consistent with the number sampled in the 2021 rate case to avoid concerns raised by other parties in rate cases prior to 2021 regarding expense line items not being sampled.

[5] The three other expenses line items include regulatory expense, engineered coating of steel structures and property sales.

range of sampling from 21% to 100% of the total line-item dollars (or expenses) being sampled.

For example, the weighted average lag days for purchased water equal 58.6 days (see Schedule HW-4). The lag days for purchased water expense were calculated for each invoice examined based on the midpoints of the service periods to the dates NJAWC paid the invoices. In total, 86% of the purchased water expenses were sampled. Similar analyses were conducted for sewage treatment (see Schedule HW-5), power (see Schedule HW-6), chemicals (see Schedule HW-7), waste disposal (see Schedule HW-8), salaries and wages (see Schedule HW-9), pensions (see Schedule HW-10), group insurance (see Schedule HW-11), other benefits (see Schedule HW-12), support services costs (see Schedule HW-13), rents (see Schedule HW-14), transportation (see Schedule HW-15), customer accounting (see Schedule HW-16), other operating expenses (see Schedule HW-17), contracted services (see Schedule HW-18), building maintenance and services (see Schedule HW-19), telecommunication expenses (see Schedule HW-20), office supplies and services (see Schedule HW-21), employee related expense travel & entertainment (see Schedule HW-22), miscellaneous expenses (see Schedule HW-23), and maintenance service & supplies (see Schedule HW-24).

For uncollectables expense, a zero lag has been assigned to recognize the full revenue lag related to this expense. For the depreciation and amortization line item, a zero lag has been assigned because these are deducted from rate base when the expense is recorded. In total, NJAWC's operating expenses sub account line items have a weighted average 17.9 lag days as shown on Schedule HW-1.

18. Q. Please explain in more detail why a zero lag day should be assigned to the depreciation and amortization line item.

A. A zero lag has been assigned because accumulated depreciation, the contra account for the depreciation expense, has been deducted from rate base. The accumulated depreciation account balance always includes an uncollected amount of depreciation expense that is equal to the revenue requirement lag days (i.e., 53.7 days). Assigning a zero lag recognizes that investor funding occurred but it has not yet been recovered from customers.

19. Q. How were the lag days determined for the taxes other than income tax sub account line items shown on Schedule HW-1?

A. For most of the taxes other than income tax sub account line items shown, the lag days were calculated based on the midpoint of the tax period to the payment date, weighted by the actual amount paid. The exception being the excise tax and Gross Receipts and Franchise Tax ("GRFT") on "proposed increase" line items and the "taxes – other" line item. The taxes other than income tax sub account line items that were calculated based upon the actual amounts paid are shown on Schedule HW-25 for excise tax payments at present rates and GRFT payments at present rates and Schedule HW-26 for payroll taxes. As is evident from reviewing Schedule HW-25, many taxes are paid before the mid-point of the tax period, thus resulting in negative lag days or lead days from the service period.

20. Q. How were the lag days determined for the excise tax on the proposed increase, GRFT on the proposed increase, the payroll taxes and taxes - other line item?

A. The lag days assigned to the excise tax and GRFT on the proposed increase line items represent the incremental increase in these taxes resulting from the full approval of the Company's rate request. That is, assuming full approval of the Company's rate request increase will result in an incremental increase in the level of excise tax and GRFT over that which was paid during the test year. This incremental increase in excise tax and GRFT on proposed increase has a lag that is 365 days greater than the excise tax payment at present rates and the GRFT at present rates that are developed on Schedule HW-25. The logic for adding the additional 365 days is to account for the difference between the test year and the year following rate implementation.

The lag days used for the payroll taxes, Schedule HW-26, reflect the 11.5 lag days determined for the payroll taxes. The lag days for the taxes - other line item were calculated based on an assumed midpoint of a monthly service period, or 15 days, plus an estimated 30 days to pay such expenses. In total, the taxes other than income tax sub account line items have a weighted average 52.6 lag days as shown on Schedule HW-1.

21. Q. Can you please explain in more detail how you calculated the lag days for excise tax on present rates and GRFT on present rates in your study?

A. The Company's actual individual payments of the excise tax on present rates and GRFT on present rates and the actual service periods are shown on Schedule HW-25. Based on a review of the Company's 2022 excise tax and GRFT tax forms or worksheets, each of these taxes is composed of a prepayment portion and a current year portion. However, all the payments for these taxes were made during the 2022 base tax year

and are, in fact, 2022 taxes. The prepayment portion represents a future year's liability that the State of New Jersey requires to be prepaid in the current year (i.e., 2022). As shown on Schedule HW-25, the excise tax on present rates has a weighted average lag, or negative lag, of -237.0 days. This is composed of -62.0 lag days, or negative lag, of the current year's portion and -427.5 lag days, or negative lag, of the prepayment portion. Similarly, the GRFT on present rates has a weighted average lag of 29.0 days. This is composed of 31.8 lag days of the current year's portion and -414.5 lag days, or negative lag, of the prepayment portion.

22. Q. How were the lag days determined for the income taxes and operating income sub account line items shown on Schedule HW-1?

A. For the federal taxes (current) sub account line item shown, the lag days were calculated based on the midpoint of the tax period to the payment date, weighted by the percent of the payment required. The derivation of the federal taxes (current) 36.5 lag days is shown on Schedule HW-27.

For both deferred taxes and utility operating income line items, a zero lag has been assigned. Deferred taxes have been assigned a zero lag because they are deducted from rate base, as they are recorded as part of accumulated deferred taxes. A zero lag has been assigned to utility operating income because it is the property of investors. In total, the income taxes and operating income sub account line items have a weighted average of 3.1 lag days as shown on Schedule HW-1.

23. Q. Please explain in more detail why a zero lag day should be assigned to the deferred taxes and utility operating income line items?

A. Concerning deferred taxes, a zero lag has been assigned because accumulated deferred taxes have been deducted from rate base as a source of cost-free funds. As is the case with accumulated depreciation, the deferred taxes account balance always includes an uncollected amount of deferred taxes expense that is equal to the revenue requirement lag days (i.e., 53.7 days). Therefore, the recorded amount of accumulated deferred taxes, deducted from rate base, overstates the actual amount of available cost-free capital by an amount equal to the revenue requirement lag days. Assigning a zero lag recognizes that a portion of these cost-free funds have not been recovered from customers.

A zero lag has been assigned to utility operating income, or return on invested capital, because operating income is the property of investors when it is earned.[6] Further, operating income is earned when service is provided. However, when service is provided, the operating income is not collected simultaneously as is evidenced by the existence of the revenue requirement lag days. This situation is remedied by assigning a zero lag to operating income in recognition that these earnings have not been recovered from customers.[7]

[6] *Bluefield Water Works v. Public Service Comm'n*, 262 U.S. 679 (1923) ("Rates which are not sufficient to yield a reasonable return on the value of the property used at the time it is being used to render the service of the utility to the public are unjust, unreasonable, and confiscatory, and their enforcement deprives the public utility company of its property, in violation of the Fourteenth Amendment." 262 U. S. at 690).

[7] Atlantic City Electric Company, Board Docket No. 8310-883, August 17, 1984 ("The return on investment is the property of investors when service is provided. Payment from operating income for long and short term debt,

24. Q. Please summarize your determination of the working capital requirement shown on Schedule HW-1?

A. NJAWC's working capital requirement shown on Schedule HW-1 was calculated by subtracting the weighted average lag days for the cost of service of 16.5 from the weighted average lag days for the revenue requirement of 53.7 to determine the net lag days of 37.2. The 37.2 net lag days is multiplied by the average daily cost of service or revenue requirement of $3,125,634. The result is a working capital requirement of $116,300,000.

25. Q. Does this conclude your direct testimony?

A. Yes, it does.

preferred stock and common stock dividends require a zero payment lag because the funds used to render these payments are the property of investors of a utility."); Re Public Service Electric and Gas Company, Docket No. 837-620, Decision and Order dated March 23, 1984 (Ex. P-106, P.3); Accounting for Public Utilities, § 5.04[5] ("From a theoretical standpoint, operating income is earned when service is provided, and the operating income is the property of the investors in the company when earned.")

Professional Qualifications
of
Harold Walker, III
Manager, Financial Studies
Gannett Fleming, Inc.

EDUCATION

Mr. Walker graduated from Pennsylvania State University in 1984 with a Bachelor of Science Degree in Finance. His studies concentrated on securities analysis and portfolio management with an emphasis on economics and quantitative business analysis. He has also completed the regulation and the rate-making process courses presented by the College of Business Administration and Economics Center for Public Utilities at New Mexico State University. Additionally, he has attended programs presented by The Institute of Chartered Financial Analysts (CFA).

Mr. Walker was awarded the professional designation "Certified Rate of Return Analyst" ("CRRA") by the Society of Utility and Regulatory Financial Analysts. This designation is based upon education, experience and the successful completion of a comprehensive examination. He is also a member of the Society of Utility and Regulatory Financial Analysts ("SURFA") and has attended numerous financial forums sponsored by the Society. The SURFA forums are recognized by the Association for Investment Management and Research ("AIMR") and the National Association of State Boards of Accountancy for continuing education credits.

Mr. Walker also obtained a license as a Municipal Advisor Representative (Series 50) by Municipal Securities Rulemaking Board ("MSRB") and Financial Industry Regulatory Authority (FINRA).

BUSINESS EXPERIENCE

Prior to joining Gannett Fleming Valuation and Rate Consultants, LLC., Mr. Walker was employed by AUS Consultants - Utility Services. He held various positions during his eleven years with AUS, concluding his employment there as a Vice President. His duties included providing and supervising financial and economic studies on behalf of investor owned and municipally owned water, wastewater, electric, natural gas distribution and transmission, oil pipeline and telephone utilities as well as resource recovery companies.

In 1996, Mr. Walker joined Gannett Fleming Valuation and Rate Consultants, LLC. In his capacity as Manager, Financial Studies and for the past twenty years, he has continuously studied rates of return requirements for regulated firms. In this regard, he supervised the preparation of rate of return studies in connection with his testimony and in the past, for other individuals. He also assisted and/or developed dividend policy studies, nuclear prudence studies, calculated fixed charge rates for avoided costs involving cogeneration projects, financial decision studies for capital budgeting purposes and developed financial models for determining future capital requirements and the effect of those requirements on investors and ratepayers, valued utility property and common stock for acquisition and divestiture, and assisted in the private placement of fixed capital securities for public utilities.

Mr. Walker headed Gannett Fleming's GASB 34 Task Force which was esponsible for developing Governmental Accounting Standards Board (GASB) 34 services and educating Gannett Fleming personnel and Gannett Fleming clients on GASB 34 and how it may affect them. The GASB 34 related services include inventory of assets, valuation of assets, salvage estimation, annual depreciation rate determination, estimation of depreciation reserve, asset service life determination, asset condition assessment, condition assessment documentation, maintenance estimate for asset preservation, establishment of condition level index, geographic information system ("GIS") and data management services, management discussion and analysis ("MD&A") reporting, required supplemental information ("RSI") reporting, auditor interface, and GASB 34 compliance review.

In 2004, Mr. Walker was elected to serve on the Board of Directors of SURFA. Previously, he served as an ex-officio director as an advisor to SURFA's existing President. In 2000, Mr. Walker was elected President of SURFA for the 2001-2002 term. Prior to that, he was elected to serve on the Board of Directors of SURFA during the period 1997-1998 and 1999-2000. Currently, he also serves on the Pennsylvania Municipal Authorities Association, Electric Deregulation Committee.

EXPERT TESTIMONY

Mr. Walker has submitted testimony or been deposed on various topics before regulatory commissions and courts in 27 states including: Alaska, Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Idaho, Illinois, Indiana, Kentucky, Maryland, Massachusetts, Michigan, Missouri, New Hampshire, Nevada, New Jersey, New York, North Carolina, Oklahoma, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, and West Virginia. His testimonies covered various subjects including lead-lag studies, fair rate of return, fair market value, the taking of natural resources, benchmarking, appropriate capital structure and fixed capital cost rates, depreciation, purchased water adjustments, synchronization of interest charges for income tax purposes, valuation, cash working capital, financial analyses of investment alternatives, and fair value. The following tabulation provides a listing of the electric power, natural gas distribution, telephone, wastewater, and water service utility cases in which he has been involved as a witness.

Client	Docket No.
Alpena Power Company	U-10020

Client	Docket No.
Armstrong Telephone Company - Northern Division	92-0884-T-42T
Armstrong Telephone Company - Northern Division	95-0571-T-42T
Artesian Water Company, Inc.	90 10
Artesian Water Company, Inc.	06 158
Aqua Illinois Consolidated Water Divisions and Consolidated Sewer Divisions	11-0436
Aqua Illinois Hawthorn Woods Wastewater Division	07 0620/07 0621/08 0067
Aqua Illinois Hawthorn Woods Water Division	07 0620/07 0621/08 0067
Aqua Illinois Kankakee Water Division	10-0194
Aqua Illinois Kankakee Water Division	14-0419
Aqua Illinois Vermilion Division	07 0620/07 0621/08 0067
Aqua Illinois Willowbrook Wastewater Division	07 0620/07 0621/08 0067
Aqua Illinois Willowbrook Water Division	07 0620/07 0621/08 0067
Aqua Pennsylvania, Inc	A-2022-3034143
Aqua Pennsylvania Wastewater Inc	A-2016-2580061
Aqua Pennsylvania Wastewater Inc	A-2017-2605434
Aqua Pennsylvania Wastewater Inc	A-2018-3001582
Aqua Pennsylvania Wastewater Inc	A-2019-3008491
Aqua Pennsylvania Wastewater Inc	A-2019-3009052
Aqua Pennsylvania Wastewater Inc	A-2019-3015173
Aqua Pennsylvania Wastewater Inc	A-2021-3024267
Aqua Pennsylvania Wastewater Inc	A-2021-3026132
Aqua Pennsylvania Wastewater Inc	A-2021-3027268
Aqua Pennsylvania Wastewater Inc	A-2023-3041695
Aqua Virginia - Alpha Water Corporation	Pue-2009-00059
Aqua Virginia - Blue Ridge Utility Company, Inc.	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Wastewater)	Pue-2009-00059
Aqua Virginia - Caroline Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Earlysville Forest Water Company	Pue-2009-00059
Aqua Virginia - Heritage Homes of Virginia	Pue-2009-00059
Aqua Virginia - Indian River Water Company	Pue-2009-00059
Aqua Virginia - James River Service Corp.	Pue-2009-00059
Aqua Virginia - Lake Holiday Utilities, Inc.	

Client	Docket No.
(Wastewater)	Pue-2009-00059
Aqua Virginia - Lake Holiday Utilities, Inc. (Water)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Wastewater)	Pue-2009-00059
Aqua Virginia - Lake Monticello Services Co. (Water)	Pue-2009-00059
Aqua Virginia - Lake Shawnee	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Wastewater)	Pue-2009-00059
Aqua Virginia - Land'or Utility Company (Water)	Pue-2009-00059
Aqua Virginia - Mountainview Water Company, Inc.	Pue-2009-00059
Aqua Virginia - Powhatan Water Works, Inc.	Pue-2009-00059
Aqua Virginia - Rainbow Forest Water Corporation	Pue-2009-00059
Aqua Virginia - Shawnee Land	Pue-2009-00059
Aqua Virginia - Sydnor Water Corporation	Pue-2009-00059
Aqua Virginia - Water Distributors, Inc.	Pue-2009-00059
Atlantic City Sewerage Company	WR21071006
Berkshire Gas Company	18-40
Berkshire Gas Company	22-20
Bermuda Water Company, Inc	W-01812A-22-0256
Borough of Brentwood	A-2021-3024058
Borough of Hanover	R-2009-2106908
Borough of Hanover	R-2012-2311725
Borough of Hanover	R-2014-242830
Borough of Hanover	R-2021-3026116
Borough of Hanover	P-2021-3026854
Borough of Royersford	A-2020-3019634
Butler Area Sewer Authority	A-2020-3019634
Chaparral City Water Company	W 02113a 04 0616
California-American Water Company	CIVCV156413
Connecticut-American Water Company	99-08-32
Connecticut Water Company	06 07 08
Citizens Utilities Company	
Colorado Gas Division	-
Citizens Utilities Company	
Vermont Electric Division	5426
Citizens Utilities Home Water Company	R 901664

Client	Docket No.
Citizens Utilities Water Company of Pennsylvania	R 901663
City of Beaver Falls	A-2022-3033138
City of Bethlehem - Bureau of Water	R-00984375
City of Bethlehem - Bureau of Water	R 00072492
City of Bethlehem - Bureau of Water	R-2013-2390244
City of Bethlehem - Bureau of Water	R-2020-3020256
City of Dubois – Bureau of Water	R-2013-2350509
City of Dubois – Bureau of Water	R-2016-2554150
City of Lancaster Sewer Fund	R-00005109
City of Lancaster Sewer Fund	R-00049862
City of Lancaster Sewer Fund	R-2012-2310366
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Sewer Fund	R-2019-3010955
City of Lancaster Water Fund	R-00984567
City of Lancaster Water Fund	R-00016114
City of Lancaster Water Fund	R 00051167
City of Lancaster Water Fund	R-2010-2179103
City of Lancaster Water Fund	R-2014-2418872
City of Lancaster Water Fund	R-2021-3026682
City of Lancaster Water Fund	P-2022-3035591
Coastland Corporation	15-cvs-216
Consumers Pennsylvania Water Company Roaring Creek Division	R-00973869
Consumers Pennsylvania Water Company Shenango Valley Division	R-00973972
Country Knolls Water Works, Inc.	90 W 0458
East Resources, Inc. - West Virginia Utility	06 0445 G 42T
Elizabethtown Water Company	WR06030257
ENSTAR Natural Gas Company	U-22-081
Falls Water Company, Inc.	FLS-W-23-01
Forest Park, Inc.	19-W-0168 & 19-W-0269
Hampton Water Works Company	DW 99-057
Hidden Valley Utility Services, LP	R-2018-3001306
Hidden Valley Utility Services, LP	R-2018-3001307
Illinois American Water Company	16-0093

Client	Docket No.
Illinois American Water Company	22-0210
Indian Rock Water Company	R-911971
Indiana Natural Gas Corporation	38891
Jamaica Water Supply Company	-
Kane Borough Authority	A-2019-3014248
Kentucky American Water Company, Inc.	2007 00134
Kentucky American Water Company, Inc.	2023-00191
Middlesex Water Company	WR 89030266J
Millcreek Township Water Authority	55 198 Y 00021 11
Missouri-American Water Company	WR 2000-281
Missouri-American Water Company	SR 2000-282
Missouri-American Water Company	WR-2022-0303
Mount Holly Water Company	WR06030257
Nevada Power Company d/b/a NV Energy	20-06003
Nevada Power Company d/b/a NV Energy	23-06007
New Jersey American Water Company	WR 89080702J
New Jersey American Water Company	WR 90090950J
New Jersey American Water Company	WR 03070511
New Jersey American Water Company	WR-06030257
New Jersey American Water Company	WR08010020
New Jersey American Water Company	WR10040260
New Jersey American Water Company	WR11070460
New Jersey American Water Company	WR15010035
New Jersey American Water Company	WR17090985
New Jersey American Water Company	WR19121516
New Jersey American Water Company	WR22010019
New Jersey Natural Gas Company	GR19030420
New Jersey Natural Gas Company	GR21030679
Newtown Artesian Water Company	R-911977
Newtown Artesian Water Company	R-00943157
Newtown Artesian Water Company	R-2009-2117550
Newtown Artesian Water Company	R-2011-2230259
Newtown Artesian Water Company	R-2017-2624240
Newtown Artesian Water Company	R-2019-3006904
North Maine Utilities	14-0396
Northern Indiana Fuel & Light Company	38770
Oklahoma Natural Gas Company	PUD-940000477

Client	Docket No.
Palmetto Utilities, Inc.	2020-281-S
Palmetto Wastewater Reclamation, LLC	2018-82-S
Pennichuck Water Works, Inc.	DW 04 048
Pennichuck Water Works, Inc.	DW 06 073
Pennichuck Water Works, Inc.	DW 08 073
Pennsylvania-American Water Company	A-2023-3039900
Pennsylvania Gas & Water Company (Gas)	R-891261
Pennsylvania Gas & Water Co. (Water)	R 901726
Pennsylvania Gas & Water Co. (Water)	R-911966
Pennsylvania Gas & Water Co. (Water)	R-22404
Pennsylvania Gas & Water Co. (Water)	R-00922482
Pennsylvania Gas & Water Co. (Water)	R-00932667
Philadelphia Gas Works	R-2020-3017206
Philadelphia Gas Works	R-2023-3037933
Public Service Company of North Carolina, Inc.	G-5, Sub 565
Public Service Electric and Gas Company	ER181010029
Public Service Electric and Gas Company	GR18010030
Presque Isle Harbor Water Company	U-9702
Sierra Pacific Power Company d/b/a NV Energy	19-06002
Sierra Pacific Power Company d/b/a NV Energy	22-06014
St. Louis County Water Company	WR-2000-844
Suez Water Delaware, Inc.	19-0615
Suez Water Idaho, Inc.	SUZ-W-20-02
Suez Water New Jersey, Inc.	WR18050593
Suez Water New Jersey, Inc.	WR20110729
Suez Water Owego-Nichols, Inc.	17-W-0528
Suez Water Pennsylvania, Inc.	R-2018-3000834
Suez Water Pennsylvania, Inc.	A-2018-3003519
Suez Water Pennsylvania, Inc.	A-2018-3003517
Suez Water Rhode Island, Inc.	Docket No. 4800
Suez Water Owego-Nichols, Inc.	19-W-0168 & 19-W-0269
Suez Water New York, Inc.	19-W-0168 & 19-W-0269
Suez Westchester, Inc.	19-W-0168 & 19-W-0269
Town of North East Water Fund	9190
Township of Exeter	A-2018-3004933
United Water New Rochelle	W-95-W-1168
United Water Toms River	WR-95050219

Client	Docket No.
Upper Pottsgrove Township	A-2020-3021460
Valley Township (water)	A-2020-3019859
Valley Township (wastewater)	A-2020-3020178
Valley Water Systems, Inc.	06 10 07
Veolia Water Idaho, Inc.	VEO-W-22-02
Veolia Water Delaware, Inc.	23-0598
Veolia Water New York, Inc.	23-W-0111
Virginia American Water Company	PUR-2018-00175
Virginia American Water Company	PUR-2021-00255
Virginia American Water Company	PUR-2023-00194
West Virginia-American Water Company	15-0676-W-42T
West Virginia-American Water Company	15-0675-S-42T
Wilmington Suburban Water Corporation	94-149
York Water Company	R-901813
York Water Company	R-922168
York Water Company	R-943053
York Water Company	R-963619
York Water Company	R-994605
York Water Company	R-00016236
Young Brothers, LLC	2019-0117

Schedules

BEFORE THE
NEW JERSEY BOARD OF PUBLIC UTILITIES

Docket No. WR2401_____

New Jersey-American Water Company, Inc.

Lead-Lag Schedules

Schedule HW-1 Through Schedule HW-27

To Accompany the

Direct Testimony of Harold Walker, III

On Working Capital

NEW JERSEY AMERICAN WATER

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2023

INDEX TO SCHEDULES

TOTAL COMPANY

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2023

Description	Pro Forma 12 Mos Ended 3/31/2025	(Lead)/Lag Days Schedule Reference	Days	Weighted Amount
(1)	(2)	(3)	(4)	(5)
Operating Revenues				
Water, Sewer, & Other	$1,094,795,156			
Revenue Adjustments *	46,061,347			
Subtotal Operating Revenues	1,140,856,503	2	53.7	$61,263,994,211
Operating Expenses				
Purchased Water	38,777,532	3	58.6	$2,272,363,375
Sewage Treatment	19,798,634	3	23.7	469,227,626
Power	22,419,807	3	28.4	636,722,519
Chemicals	24,784,099	3	35.2	872,400,285
Waste Disposal	8,938,989	3	54.1	483,599,305
Salaries and Wages	57,970,616	3	11.5	666,662,084
Pensions	1,816,722	3	-2.5	-4,541,805
Group Insurance	3,654,481	3	10.5	38,372,051
Other Benefits	4,792,897	3	10.5	50,325,419
Support Services Costs	53,108,669	3	-3.1	-164,636,874
Rents	526,503	3	-19.9	-10,477,410
Transportation	3,707,974	3	50.3	186,511,092
Uncollectible Accounts Expense	3,851,643	3	0.0	0
Customer Accounting	7,994,485	3	63.5	507,649,798
Regulatory Expense	418,950	3	30.0	12,568,500
Engineered Coating of Steel Structures	9,253,000	3	30.0	277,590,000
Property Sales	(9,750)	3	30.0	-292,500
Other Operating Expenses	44,993,529	3	62.6	2,816,594,915
Acquisition Expenses	3,271,859	3	18.0	58,893,462
Depreciation & Amortization	201,929,746	3	0.0	0
Subtotal Operating Expenses	512,000,385		17.9	9,169,531,842

TOTAL COMPANY

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2023

Description	Pro Forma 12 Mos Ended 3/31/2025	(Lead)/Lag Days Schedule Reference	Days	Weighted Amount
(1)	(2)	(3)	(4)	(5)
Taxes Other Than Income				
Excise Tax at Present Rates	13,885,257	3	-237.0	-3,290,805,909
GRFT at Present Rates	111,082,054	3	29.0	3,221,379,566
Excise Tax on Proposed Increase	2,444,367	3	128.0	312,878,976
GRFT on Proposed Increase	19,554,934	3	394.0	7,704,643,996
Payroll Taxes	4,555,005	3	11.5	52,382,558
Taxes - Other	3,686,926	3	45.0	165,911,670
Subtotal Taxes Other Than Income	155,208,543		52.6	8,166,390,857
Income Taxes & Utility Operating Income				
Federal Taxes	40,492,835	3	36.5	1,477,988,478
Deferred Taxes	26,580,612	3	0.0	0
Total Income Taxes	67,073,447		22.0	1,477,988,478
Utility Operating Income	406,574,128		0.0	0
Subtotal Income Taxes and Return	473,647,575		3.1	1,477,988,478
Total Expenses, Taxes & Income	$1,140,856,503		16.5	$18,813,911,177
Cash Working Capital Requirement (53.7 - 16.5) = 37.2 Days			37.2	
Pro Forma Daily Operating Expenses ($1,140,856,503 divided by 365 days) =	$3,125,634			
Cash Working Capital Requirement ($3,125,634 x 37.2 Days = $116,273,585)				$116,273,585
			Rounded =	$116,300,000

* - Revenue Adjustments

ADD: Purchased Water	$44,515,022
ADD: Sewage Treatment	18,996,468
LESS: Insurance Other Than Group	10,728,733
LESS: Property Taxes	6,721,410
Total Revenue Adjustments	$46,061,347

TOTAL COMPANY

CALCULATION OF CASH WORKING CAPITAL REQUIREMENTS
BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Description	Amount	Weighted Amount	(Lead)/ Lag Days
(1)	(2)	(3)	(4)=(3)/(2)
Operating Revenues - Water, Sewer, & Other:			
Service Period & Billing Lag: (From mid-point of service period to posting date. See page 2 of this Schedule)	$894,990,292	$17,094,314,577	19.1
Collection Lag: (Sum of daily accounts receivable balance divided by the sum of daily receipts. See page 3 of this Schedule)	894,990,292	30,957,510,126	34.6
Total Revenue Lag Days			53.7

TOTAL COMPANY

CALCULATION OF SERVICE PERIOD AND BILLING LAG

Description	Calcultion of Lag
(1)	(2)
Sampled Weighted Service Lag (Jun 2023)	$2,424,655
Sampled Billing Total (Jun 2023)	163,575
Midpoint Service Period Lag Days	14.8
Sampled Weighted Billing Lag (Jun 2023)	702,029
Sampled Billing Total (Jun 2023)	163,575
Billing Lag Days	4.3
Total Service Period & Billing Lag Days	19.1

TOTAL COMPANY

CALCULATION OF COLLECTION LAG

Description		Amount
(1)		(1)
Beginning Accounts Receivable on 7/1/22		$ 84,983,459
Minus Ending Accounts Receivable on 6/30/23	-	82,837,423
Change in Accounts Receivables for 12-Months		$ 2,146,037
The Sum of Daily Revenue, 7/1/22 to 6/30/23		$ 892,844,255
Plus Change in A/R for 12-Months	+	2,146,037
The Sum of 12-Months Daily Receipts		$ 894,990,292
Sum of Net Daily Accounts Receivable Balance in a Year		$ 30,957,510,126
Divided By The Sum of Daily Receipts in a Year	÷	894,990,292
Total Service Period Collection Lag		34.6

TOTAL COMPANY

SUMMARY OF OPERATING EXPENSES AND TAXES LAG DAYS
BASED ON LEAD-LAG STUDY AS OF JUNE 30, 2023

Description	Schedule Reference	Amount	Weighted Amount	(Lead)/ Lag Days
(1)	(2)	(3)	(4)	(5)=(4)/(3)
Operating Expenses & Taxes*				
Purchased Water	Schedule HW-4	34,703,068	2,033,599,759	58.6
Sewage Treatment	Schedule HW-5	17,692,149	419,303,929	23.7
Power	Schedule HW-6	13,161,837	373,796,175	28.4
Chemicals	Schedule HW-7	10,335,202	363,799,096	35.2
Waste Disposal	Schedule HW-8	6,004,746	324,856,743	54.1
Salaries and Wages	Schedule HW-9	122,733,598	1,411,436,379	11.5
Pensions	Schedule HW-10			-2.5
Group Insurance	Schedule HW-11	13,841,877	145,339,712	10.5
Other Benefits	Schedule HW-12	4,473,012	46,966,627	10.5
Support Services Costs	Schedule HW-13	56,908,033	-176,414,903	-3.1
Rents	Schedule HW-14	374,643	-7,455,395	-19.9
Transportation	Schedule HW-15	2,434,280	122,444,274	50.3
Uncollectible Accounts Expense**				0.0
Customer Accounting	Schedule HW-16	348,929	22,156,995	63.5
Regulatory Expense***				30.0
Engineered Coating of Steel Structures***				30.0
Property Sales***				30.0
Other Operating Expenses	Schedule HW-17	30,867,973	1,932,335,140	62.6
Contracted Services	Schedule HW-18	1,470,688	134,862,074	91.7
Building Maintenance and Services	Schedule HW-19	507,374	30,036,557	59.2
Telecommunication Expenses	Schedule HW-20	749,648	18,666,238	24.9
Office Supplies and Services	Schedule HW-21	347,129	17,877,129	51.5
Employee Related Expense Travel & Entertainment	Schedule HW-22	269,526	12,452,095	46.2
Miscellaneous Expenses	Schedule HW-23	2,074,839	137,354,354	66.2
Maintenance Service & Supplies	Schedule HW-24	1,067,367	42,481,203	39.8
Acquisition Expenses****				18.0
Depreciation & Amortization**				0.0
Excise Tax	Schedule HW-25	13,766,111	-3,262,168,005	-237.0
GRFT	Schedule HW-25	99,299,240	2,879,677,960	29.0
Excise Tax Increase*****				128.0
GRFT Increase*****				394.0
Payroll Taxes	Schedule HW-26	7,014,322	80,664,708	11.5
Taxes - Other******				45.0
Federal Income Taxes (Current)	Schedule HW-27			36.5
Deferred Taxes**				0.0

* Lag days for expenses are calculated from the mid-point of the service period to the payment date. (See Schedules 4 - 27.)

** Lag days are assumed to be 0.

*** Lag days are assumed to be equal to the weighted average lag days found for operating expenses excluding depreciation.

**** Lag days are assumed to be equal to the weighted average lag days found for operating expenses.

***** Represent the incremental increase in these taxes resulting from the full approval of the Company's rate request. The incremental increase in excise tax and GRFT on proposed increase is 365 days greater than the excise tax payment and the GRFT at present rates.

****** Lag days for other expenses and other taxes are estimated based on 15 days for the midpoint of the previous month (service period) plus 30 days to the payment date.

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR PURCHASED WATER

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	49.4	$2,619,100.67	$129,339,102.16
August-22	63.5	3,934,757.43	249,833,500.03
September-22	52.0	1,493,762.52	77,675,651.04
October-22	50.4	5,638,766.57	284,119,819.26
November-22	65.4	3,539,651.53	231,448,073.37
December-22	44.7	3,526,678.02	157,480,224.91
January-23	44.9	1,826,507.44	82,008,481.93
February-23	123.5	3,284,395.51	405,736,394.51
March-23	47.5	1,890,823.75	89,809,522.97
April-23	49.8	3,015,290.59	150,018,643.74
May-23	44.0	1,875,561.45	82,534,432.51
June-23	45.3	2,057,772.08	93,289,367.68
Total Purchased Water	58.6	$34,703,067.56	$2,033,293,214.08

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR SEWAGE TREATMENT

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	43.5	$6,756.86	$293,923.41
August-22	4.8	4,158,369.57	19,846,018.40
September-22	44.5	38,591.25	1,717,257.06
October-22	44.7	50,850.90	2,274,128.45
November-22	8.4	4,157,690.79	34,791,002.80
December-22	42.4	51,982.18	2,202,761.36
January-23	44.3	25,938.65	1,147,787.70
February-23	42.4	36,196.93	1,533,824.97
March-23	29.9	2,225,884.62	66,545,293.88
April-23	45.4	44,637.22	2,025,180.23
May-23	52.4	4,277,348.12	223,924,099.44
June-23	24.3	2,617,901.80	63,599,798.40
Total Sewage Treatment	23.7	$17,692,148.89	$419,901,076.08

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR POWER

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	26.4	$1,194,710.28	$31,556,620.12
August-22	29.7	1,465,933.94	43,523,720.47
September-22	29.5	1,466,594.62	43,322,901.88
October-22	33.5	1,153,447.43	38,678,327.59
November-22	30.5	1,226,013.20	37,343,635.34
December-22	28.3	964,271.69	27,270,786.13
January-23	25.0	1,184,205.58	29,576,216.55
February-23	26.7	823,804.22	21,992,438.37
March-23	30.4	1,106,218.77	33,645,871.66
April-23	24.6	884,702.36	21,757,929.61
May-23	25.6	796,041.96	20,366,217.09
June-23	27.3	895,893.10	24,445,099.93
Total Power	28.4	$13,161,837.15	$373,479,764.72

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR CHEMICALS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	29.4	$83,074.40	$2,440,752.40
August-22	33.0	612,067.30	20,215,576.32
September-22	39.8	1,082,878.80	43,138,509.66
October-22	42.1	1,191,644.48	50,216,409.42
November-22	39.3	982,971.61	38,638,573.94
December-22	35.0	825,954.74	28,870,517.64
January-23	37.9	771,373.97	29,215,221.56
February-23	31.3	899,809.63	28,124,958.95
March-23	35.7	1,039,165.15	37,148,554.54
April-23	32.9	813,770.39	26,810,650.63
May-23	30.8	962,040.59	29,655,801.25
June-23	27.3	1,070,450.52	29,217,346.71
Total Chemicals	35.2	$10,335,201.58	$363,692,873.02

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR WASTE DISPOSAL

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	77.1	$145,963.34	$11,253,968.88
August-22	26.7	342,871.16	9,150,636.60
September-22	60.5	475,723.58	28,793,668.58
October-22	54.8	632,071.77	34,617,451.71
November-22	48.2	632,569.20	30,520,426.47
December-22	44.6	271,964.05	12,133,323.38
January-23	56.7	559,858.26	31,723,911.66
February-23	55.9	711,804.16	39,823,375.23
March-23	109.0	435,675.98	47,479,841.37
April-23	48.2	450,174.91	21,694,568.30
May-23	36.9	870,373.32	32,129,609.19
June-23	53.8	475,695.98	25,577,722.82
Total Waste Disposal	54.1	$6,004,745.71	$324,898,504.17

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR SALARIES AND WAGES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Facts	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)

All company employees are paid for a two week period (i.e., Days 1 through 14).

Pay date is five days following the end of the payroll period
(i.e., Day 19, where 19 = 14 + 5).

Lag days are 11.5 days [19 - 7.5 = 11.5; where 7.5 = (1 + 14 = 15 ÷ 2 = 7.5)]

	11.5	$122,733,598.21	$1,411,436,379.42
Total Salaries and Wages	11.5	$122,733,598.21	$1,411,436,379.42

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR PENSIONS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Service Period		Payment	(Lead)/		Weighted
From	To	Date	Lag Days	Amount	Amount
(1)	(2)	(3)	(4)	(5)	(6)
1/1/2022	12/31/2022	8/15/2022	44.0	25%	11.0
1/1/2022	12/31/2022	11/10/2022	131.0	25%	32.8
1/1/2023	12/31/2023	2/15/2023	(137.0)	25%	(34.3)
1/1/2023	12/31/2023	5/15/2023	(48.0)	25%	(12.0)
Total Pensions			(2.5)	100%	(2.5)

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR GROUP INSURANCE

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	10.5	$1,340,473.95	$14,074,976.48
August-22	10.5	1,338,937.74	14,058,846.27
September-22	10.5	1,327,763.80	13,941,519.90
October-22	10.5	1,322,745.19	13,888,824.50
November-22	10.5	1,984,366.48	20,835,848.04
December-22	10.5	1,335,531.18	14,023,077.39
January-23	10.5	799,030.21	8,389,817.21
February-23	10.5	793,424.05	8,330,952.53
March-23	10.5	802,294.66	8,424,093.93
April-23	10.5	806,745.68	8,470,829.64
May-23	10.5	1,189,943.08	12,494,402.34
June-23	10.5	800,621.31	8,406,523.76
Total Group Insurance	10.5	$13,841,877.33	$145,339,711.97

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR OTHER BENEFITS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	11.0	$382,012.42	$4,201,259.38
August-22	10.3	579,124.32	5,984,709.40
September-22	10.0	381,299.45	3,812,994.50
October-22	10.5	376,323.35	3,951,823.22
November-22	10.5	377,002.97	3,959,113.11
December-22	10.0	375,086.01	3,750,860.10
January-23	11.5	380,040.45	4,366,576.20
February-23	10.0	590,961.00	5,905,458.89
March-23	11.0	423,336.95	4,672,680.25
April-23	10.5	405,049.63	4,251,703.31
May-23	11.0	202,775.58	2,230,531.38
Total Other Benefits	10.5	$4,473,012.13	$47,087,709.74

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR SUPPORT SERVICES COSTS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	(5.0)	$5,469,627.96	-$27,348,139.80
August-22	(5.0)	3,959,653.41	-19,798,267.05
September-22	(3.5)	4,437,848.34	-15,532,469.19
October-22	(5.0)	5,353,540.54	-26,767,702.70
December-22	7.0	9,008,493.85	63,059,456.95
January-23	(4.0)	5,849,028.23	-23,396,112.92
February-23	(5.5)	4,395,191.46	-24,173,553.03
March-23	(7.0)	4,301,731.64	-30,112,121.48
April-23	(3.5)	5,378,938.55	-18,826,284.93
May-23	(6.0)	4,206,860.86	-25,241,165.16
June-23	(6.5)	4,547,118.44	-29,556,269.86
Total Support Services Costs	(3.1)	$56,908,033.28	-$177,692,629.17

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR RENTS

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	(21.8)	$31,507.12	-$686,699.36
August-22	(24.5)	31,507.12	-771,217.16
September-22	(8.0)	32,269.00	-259,130.78
October-22	(21.6)	32,269.00	-697,338.36
November-22	(15.9)	32,269.00	-513,401.66
December-22	(21.3)	44,530.88	-949,350.92
January-23	(27.5)	20,007.12	-550,195.80
February-23	(18.4)	32,269.00	-593,430.14
March-23	(15.5)	32,269.00	-500,495.76
April-23	(21.6)	32,269.00	-696,694.34
May-23	(21.7)	32,869.29	-714,359.17
June-23	(26.0)	20,607.41	-535,792.66
Total Rents	(19.9)	$374,642.94	-$7,468,106.11

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR TRANSPORTATION

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	30.5	$318,490.67	$9,713,965.44
August-22	76.5	$222,759.18	$17,041,077.27
September-22	29.0	361,120.68	10,472,499.72
October-22	(137.5)	60,872.21	-8,369,928.88
December-22	46.0	247,935.47	11,405,031.62
January-23	72.0	583,189.66	42,000,418.49
February-23	75.0	255,358.11	19,151,858.25
March-23	54.5	384,553.82	20,958,183.19
Total Transportation	50.3	$2,434,279.80	$122,373,105.10

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR CUSTOMER ACCOUNTING

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	58.0	$29,389.33	$1,704,581.14
August-22	73.0	29,226.35	2,133,534.63
September-22	62.9	27,634.35	1,738,043.50
October-22	71.0	33,537.67	2,381,174.57
November-22	60.6	27,400.30	1,661,411.15
December-22	59.5	32,434.16	1,928,645.84
January-23	57.7	28,683.51	1,655,902.83
February-23	28.0	1,551.55	43,443.40
March-23	51.6	29,591.97	1,527,741.46
April-23	87.2	52,276.72	4,559,280.15
May-23	47.0	32,505.86	1,526,613.18
June-23	52.8	24,697.28	1,302,796.01
Total Customer Accounting	63.5	$348,929.05	$22,163,167.85

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR OTHER OPERATING EXPENSES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Account	Test Year Amount	(Lead)/ Lag Days	Schedule Ref. For (Lead)/ Lag Days	Weighted Amount
(1)	(2)	(3)	(4)	(5)
Contracted Services	$11,882,209.74	91.7	18	$1,089,598,632.81
Building Maintenance and Services	4,147,627.93	59.2	19	245,539,573.20
Telecommunication Expenses	2,518,750.85	24.9	20	62,716,896.17
Office Supplies and Services	1,503,169.85	51.5	21	77,413,247.17
Advertising & Marketing Expenses	0.00	NA	NA	0.00
Employee Related Expense Travel & Entertainment	467,070.52	46.2	22	21,578,658.15
Miscellaneous Expenses	878,987.75	66.2	23	58,188,988.85
Maintenance Service & Supplies	9,470,156.85	39.8	24	376,912,242.50
Total Other Operating Expenses	$30,867,973.48	62.6		$1,931,948,238.85

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR CONTRACTED SERVICES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	36.9	$47,981.26	$1,768,642.58
August-22	96.4	95,636.76	9,220,475.37
September-22	86.4	126,858.23	10,958,615.38
October-22	85.7	75,814.38	6,500,203.34
November-22	68.5	57,310.76	3,926,758.01
December-22	55.2	206,028.07	11,378,978.39
January-23	124.0	197,779.05	24,527,574.01
February-23	53.9	62,277.54	3,358,466.84
March-23	108.4	93,471.32	10,133,635.12
April-23	51.1	83,758.05	4,276,894.39
May-23	43.3	140,199.45	6,068,588.21
June-23	150.5	283,572.96	42,675,383.57
Total Contracted Services	91.7	$1,470,687.83	$134,794,215.19

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR BUILDING MAINTENANCE AND SERVICES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	82.5	$26,893.67	$2,217,605.86
August-22	39.4	53,293.28	2,097,944.19
September-22	54.4	34,415.35	1,871,729.31
October-22	55.3	55,216.33	3,052,404.43
November-22	88.7	74,541.92	6,612,575.67
December-22	50.9	39,141.97	1,993,173.22
January-23	43.9	44,599.41	1,958,718.55
February-23	44.8	30,033.90	1,344,606.24
March-23	54.3	34,181.08	1,854,683.23
April-23	73.4	36,456.73	2,675,299.47
May-23	79.3	24,719.35	1,959,027.03
June-23	45.0	53,881.28	2,424,105.08
Total Building Maintenance and Services	59.2	$507,374.27	$30,061,872.26

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR TELECOMMUNICATION EXPENSES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	19.5	$61,971.30	$1,208,453.55
August-22	16.6	55,797.36	926,579.57
September-22	25.6	75,312.47	1,930,590.91
October-22	18.5	45,735.21	846,219.52
November-22	18.2	43,583.84	795,304.65
December-22	34.4	136,853.21	4,701,810.10
January-23	21.0	55,287.62	1,160,170.33
February-23	26.7	55,877.18	1,491,417.41
March-23	30.9	89,322.35	2,761,236.14
April-23	11.2	37,542.20	421,827.63
May-23	32.4	46,633.84	1,509,605.24
June-23	19.4	45,731.54	885,995.26
Total Telecommunication Expenses	24.9	$749,648.12	$18,639,210.30

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR OFFICE SUPPLIES AND SERVICES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	58.0	$29,389.33	$1,704,581.14
August-22	75.5	27,620.75	2,085,366.63
September-22	65.0	25,971.80	1,688,167.00
October-22	71.0	31,740.67	2,253,587.57
November-22	62.5	25,874.70	1,617,168.75
December-22	3.5	47,615.37	165,005.28
January-23	57.5	26,803.01	1,541,173.08
February-23	53.0	26,547.59	1,407,022.27
March-23	53.0	27,825.32	1,474,741.96
April-23	50.5	24,170.98	1,220,634.49
May-23	48.0	30,635.41	1,470,499.68
June-23	54.5	22,933.78	1,249,891.01
Total Office Supplies and Services	51.5	$347,128.71	$17,877,838.85

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR EMPLOYEE RELATED EXPENSE TRAVEL & ENTERTAINMENT

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	58.0	$18,867.81	$1,093,944.56
August-22	55.2	19,734.14	1,088,916.54
September-22	38.9	16,000.95	622,916.96
October-22	38.2	22,494.29	858,362.03
November-22	55.3	22,185.44	1,226,209.63
December-22	35.5	38,440.15	1,363,378.64
January-23	46.4	16,728.86	775,602.43
February-23	42.8	13,091.07	559,983.03
March-23	44.1	20,849.02	918,880.90
April-23	46.8	38,283.64	1,790,069.40
May-23	51.1	24,002.64	1,226,764.78
June-23	48.6	18,847.85	915,698.39
Total Employee Related Expense Travel & Entertainment	46.2	$269,525.86	$12,440,727.29

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR MISCELLANEOUS EXPENSES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	51.9	$36,884.83	$1,914,631.61
August-22	60.3	60,820.89	3,666,157.02
September-22	81.7	224,276.18	18,326,503.44
October-22	63.6	142,172.91	9,038,926.17
November-22	57.5	186,917.02	10,753,922.50
December-22	54.2	360,915.74	19,566,350.21
January-23	114.8	369,370.24	42,417,510.32
February-23	14.7	127,420.78	1,866,852.25
March-23	82.1	104,978.38	8,621,662.57
April-23	61.3	226,145.95	13,870,218.31
May-23	22.8	131,583.91	2,996,591.47
June-23	41.4	103,352.35	4,274,565.20
Total Miscellaneous Expenses	66.2	$2,074,839.18	$137,313,891.06

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR MAINTENANCE SERVICE & SUPPLIES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Month of Payment	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)
July-22	61.0	$45,119.71	$2,751,443.91
August-22	(70.5)	65,571.79	-4,621,994.18
September-22	47.6	135,882.36	6,473,171.29
October-22	52.7	63,924.35	3,369,312.47
November-22	61.2	134,083.68	8,208,676.73
December-22	43.9	25,746.43	1,129,748.28
January-23	49.8	48,212.43	2,403,256.14
February-23	41.7	141,222.99	5,886,364.04
March-23	55.1	221,169.19	12,181,287.53
April-23	30.5	102,877.51	3,133,359.27
May-23	18.5	12,043.01	223,152.78
June-23	19.3	71,513.47	1,381,986.55
Total Maintenance Service & Supplies	39.8	$1,067,366.92	$42,519,764.81

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR EXCISE TAX

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

	Service Period From (1)	Service Period To (2)	Payment Date (3)	(Lead)/ Lag Days (4)	Amount (5)	Weighted Amount (6)
Excise Tax Payments (Used for present rates calculation)(1)						
PRE - W - EX	1/1/24	12/31/24	5/1/23	(427.5)	$6,348,910.00	-$2,714,159,025.00
PRE - S - EX	1/1/24	12/31/24	5/1/23	(427.5)	202,983.00	-86,775,232.50
PRE - - EX	1/1/24	12/31/24	5/1/23	(427.5)	38,173.00	-16,318,957.50
Curr - W - EX	1/1/23	12/31/23	5/1/23	(62.0)	6,918,012.00	-428,916,744.00
Curr - S - EX	1/1/23	12/31/23	5/1/23	(62.0)	221,209.00	-13,714,958.00
Curr - - EX	1/1/23	12/31/23	5/1/23	(62.0)	36,824.00	-2,283,088.00
Total Excise Tax Payments for State Use				(237.0)	$13,766,111.00	-$3,262,168,005.00
GRFT Tax Payments (Used for present rates calculation)(1)						
PRE - W - FR & GR	1/1/24	12/31/24	5/14/23	(414.5)	$574,419.00	-$238,096,675.50
PRE - S - FR & GR	1/1/24	12/31/24	5/14/23	(414.5)	40,822.00	-16,920,719.00
PRE - - FR & GR	1/1/24	12/31/24	5/14/23	(414.5)	3,821.00	-1,583,804.50
PRE - W - FR & GR	1/1/23	12/31/23	8/14/22	(322.0)	845,535.00	-272,262,270.00
PRE - S - FR & GR	1/1/23	12/31/23	8/14/22	(322.0)	16,175.00	-5,208,350.00
PRE - - FR & GR	1/1/23	12/31/23	8/14/22	(322.0)	12.00	-3,864.00
PRE - W - FR & GR	1/1/23	12/31/23	11/14/22	(230.0)	724,745.00	-166,691,350.00
PRE - S - FR & GR	1/1/23	12/31/23	11/14/22	(230.0)	20,268.00	-4,661,640.00
PRE - - FR & GR	1/1/23	12/31/23	11/14/22	(230.0)	10.00	-2,300.00
Curr - W - FR & GR	1/1/23	12/31/23	5/14/23	(49.0)	34,358,359.00	-1,683,559,591.00
Curr - S - FR & GR	1/1/23	12/31/23	5/14/23	(49.0)	1,140,337.00	-55,876,513.00
Curr - - FR & GR	1/1/23	12/31/23	5/14/23	(49.0)	213,752.00	-10,473,848.00
Curr - W - FR & GR	1/1/22	12/31/22	8/14/22	43.0	31,295,512.00	1,345,707,016.00
Curr - S - FR & GR	1/1/22	12/31/22	8/14/22	43.0	989,459.00	42,546,737.00
Curr - - FR & GR	1/1/22	12/31/22	8/14/22	43.0	220,544.00	9,483,392.00
Curr - W - FR & GR	1/1/22	12/31/22	11/14/22	135.0	26,824,727.00	3,621,338,145.00
Curr - S - FR & GR	1/1/22	12/31/22	11/14/22	135.0	841,703.00	113,629,905.00
Curr - - FR & GR	1/1/22	12/31/22	11/14/22	135.0	189,040.00	25,520,400.00
Curr - - FR & GR	1/1/22	12/31/22	12/29/22	180.0	1,000,000.00	180,000,000.00
Total GRFT Tax Payments				29.0	$99,299,240.00	$2,882,884,670.00
Summary - GRFT Tax Payments (Used for present rates calculation)						
Total GRFT Tax Payments - Current Year				31.8	$98,680,178.00	$3,139,485,869.00
Total GRFT Tax Payments - Future Year				(414.5)	619,062.00	-256,601,199.00
Total GRFT Tax Payments				29.0	$99,299,240.00	$2,882,884,670.00

Notes: (1) The abbreviation used are: Pre - Future Year; Curr - Current Year; W - Water; S - Sewer; EX - Excise Tax Payments; GR - Gross Receipts; and FT - Franchise Payment.

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR PAYROLL TAXES

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Facts	(Lead)/ Lag Days	Amount	Weighted Amount
(1)	(2)	(3)	(4)

All company employees are paid for a two week period (i.e., Days 1 through 14).

Pay date is five days following the end of the payroll period
(i.e., Day 19, where 19 = 14 + 5).

Lag days are 11.5 days [19 - 7.5 = 11.5; where 7.5 = (1 + 14 = 15 ÷ 2 = 7.5)]

	11.5	$7,014,322.40	$80,664,707.60
Total Payroll Taxes	11.5	$7,014,322.40	$80,664,707.60

TOTAL COMPANY

CALCULATION OF LEAD DAYS FOR FEDERAL INCOME TAXES (CURRENT)

BASED ON LEAD-LAG STUDY FOR THE TWELVE MONTHS ENDED JUNE 30, 2023

Service Period		Payment	(Lead)/		Weighted
From	To	Date	Lag Days	Amount	Amount
(1)	(2)	(3)	(4)	(5)	(6)
Federal Income Taxes (Current)					
1/1/2022	12/31/2022	9/15/2022	75.0	25%	18.8
1/1/2022	12/31/2022	12/15/2022	166.0	25%	41.5
1/1/2023	12/31/2023	4/15/2023	(78.0)	25%	(19.5)
1/1/2023	12/31/2023	6/15/2023	(17.0)	25%	(4.3)
Total Federal Income Taxes (Current)			36.5	100%	36.5

BEFORE THE
STATE OF NEW JERSEY
BOARD OF PUBLIC UTILITIES

IN THE MATTER OF THE PETITION OF
NEW JERSEY-AMERICAN WATER COMPANY, INC.
FOR APPROVAL OF INCREASED TARIFF RATES AND
CHARGES FOR WATER AND WASTEWATER SERVICE,
CHANGE IN DEPRECIATION RATES,
AND OTHER TARIFF MODIFICATIONS

BPU Docket No. WR2401____

Direct Testimony of

LARRY E. KENNEDY

January 19, 2024

Exhibit P-14

NEW JERSEY-AMERICAN WATER COMPANY, INC.

TABLE OF CONTENTS

PAGE

NEW JERSEY-AMERICAN WATER COMPANY, INC.

INTRODUCTION, SUMMARY AND PRESENTATION OF WITNESSES

1. Q. Please state your name and business address.

A. My name is Larry E. Kennedy. My business address is 200 Rivercrest Drive SE, Suite 277, Calgary, Alberta, T2C 2X5.

2. Q. By whom are you employed and in what capacity?

A. I am employed by Concentric Energy Advisors, Inc.

3. Q. What is your position with Concentric Energy Advisors, Inc. ("Concentric")?

A. I am employed by Concentric as a Senior Vice President.

4. Q. On whose behalf are you submitting this Direct Testimony?

A. I am submitting this Direct Testimony before the New Jersey Board of Public Utilities (the "Board" or "BPU") on behalf of New Jersey-American Water Company, Inc. ("NJAWC" or the "Company").

5. Q. Are you sponsoring any exhibits to your testimony?

A. Yes. I am sponsoring the following Schedules:

Schedule LEK-1_2023 Depreciation Study – Water Assets

Schedule LEK-2_2023 Depreciation Study - Wastewater Assets

6. Q. Please describe your education and experience.

A. I am a Certified Depreciation Professional, with over 40 years of regulatory plant accounting and depreciation experience, and 22 years of depreciation and plant accounting consulting to the regulated utility industry. I have advised numerous energy

and utility clients on a wide range of accounting, property tax and utility depreciation matters. Many of these assignments have included the determination of appropriate annual depreciation accrual rates. I have included my resume and a summary of testimony that I have filed in other proceedings as Appendix A.

7. Q. Please describe Concentric's activities in energy and utility engagements.

A. Concentric provides financial and economic advisory services to many and various energy and utility clients across North America. Our regulatory, economic, and market analysis services include utility ratemaking and regulatory advisory services; energy market assessments; market entry and exit analysis; corporate and business unit strategy development; demand forecasting; resource planning; and energy contract negotiations. Our financial advisory activities include buy and sell-side merger, acquisition and divestiture assignments; due diligence and valuation assignments; project and corporate finance services; and transaction support services. In addition, we provide litigation support services on a wide range of financial and economic issues on behalf of clients throughout North America.

PURPOSE AND OVERVIEW OF DIRECT TESTIMONY

8. Q. What is the purpose of your Direct Testimony?

A. The purpose of my Direct Testimony is to set forth the results of the full and comprehensive depreciation studies, performed by me and under my direction, of the water and wastewater plant in service of the Company, as of December 31, 2022. My detailed reports, including my analyses and recommendations, are provided in Schedule LEK-1_2023 Depreciation Study – Water Assets and Schedule LEK-2_2023

Depreciation Study – Wastewater Assets. The detailed depreciation study reports were prepared by me or under my direction**.**

9. Q. Please provide a brief overview of the analyses that led to your depreciation recommendations.

A. In preparing the depreciation study reports, I analyzed the historic plant account data of NJAWC to prepare an analysis of the Company's past retirement experience. I met with the Company's management and operations representatives to determine the extent to which the historic indications would be reflective of the future retirement patterns. Additionally, I completed site tours of the Canal Road Water Treatment Plant and the Environmental Disposal Corporation Wastewater Treatment Plant to observe the assets in service. I also reviewed the average service life and net salvage indications of many North American based water and wastewater utilities to test the results of my analysis against the water industry peers.

10. Q. How is the remainder of your Direct Testimony organized?

A. Section III provides a background on utility depreciation, depreciation methods and procedures. Next, Section IV provides the scope of my study and a summary of my analyses and conclusions. This section also includes a discussion of the major causes of changes in the depreciation accrual rate and amounts as compared to the last study. Finally, Section V provides concluding comments.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

DEPRECIATION METHODS AND PROCEDURES

11. Q. How is depreciation defined for a rate regulated utility?

A. Depreciation defined – "Depreciation, as applied to depreciable water plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of water plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities".[1] When considering the action of the elements, my average service life recommendations have considered large catastrophic events that have occurred and impacted the life estimates of utility assets across North America through our use of peer analysis. The average service life of utilities has been influenced by events including forest fires, earthquakes, tornadoes, ice storms, wind storms, large scale flooding, fires, actions of third parties and other natural forces of nature. These forces of retirement should be included in the determination of the average service life.

Depreciation, as used in accounting, is a method of distributing fixed capital costs, less net salvage, over a period of time by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing water and wastewater system utility service. Normally, the period of time over which the

[1] Federal Energy Regulatory Commission, Part 101, Uniform System of Accounts Prescribed for Public Utilities and Licensees Subject to the Provisions of the Federal Power Act, Definitions.

fixed capital cost is allocated to the cost of service is equal to the period of time over which an item renders service, that is, the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the Straight-Line Method of depreciation, which was adopted for use in my studies.

12. Q. Please outline the depreciation methods and procedures used in your depreciation studies.

A. The calculation of annual and accrued depreciation, based on the Straight-Line Method, requires the estimation of survivor curves and the selection of group depreciation procedures, as discussed below.

Depreciation Grouping Procedures - When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of the items within a group do not have identical service lives but have lives that are dispersed over a range of time. There are two primary group procedures, namely, the Average Life Group and Equal Life Group procedures.

In the Average Life Group Procedure, the rate of annual depreciation is based on the average service life of the group. This rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to the average life is more than fully recouped. Over the entire life

cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

In the Equal Life Group Procedure, also known as the Unit Summation Procedure, the property group is subdivided according to service life. That is, each equal life group includes that portion of the property which experiences the life of that specific group. The relative size of each equal life group is determined from the property's life dispersion curve. The calculated depreciation for the property group is the summation of the calculated depreciation based on the service life of each equal life unit. In the determination of the depreciation rates in these studies, the use of the Average Service Life Procedure has been continued.

Amortization accounting is used for certain general plant accounts because of the disproportionate plant accounting effort required in these accounts. Many regulated utilities in North America have received approval to adopt amortization accounting for these accounts. The water and wastewater studies both calculate the annual and accrued depreciation using the Straight-Line Method and Average Life Group Procedure for most accounts. For certain general plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages and estimates of service lives. Variances between the calculated accrued depreciation and the book accumulated depreciation are amortized over the composite remaining life of each account within the remaining life calculations. Amortization accounting has been continued in these studies in a manner largely consistent with the prior studies.

A detailed account by account analysis of the factors considered in the selection of my recommended average service life estimates is provided in Section 3.1.6 of the Water and Wastewater depreciation study reports.

13. Q. Please outline any changes that you made in the depreciation method, grouping procedures or remaining life calculations as compared to previous depreciation studies.

A. The depreciation rates calculated in these studies were calculated on the same manner as used in the prior full depreciation studies – i.e. using the Straight-Line Method, the Average Life Group Procedure was applied on a remaining life basis. Further, the underlying calculations related to the annual accrual amounts for all accounts have not changed in these depreciation studies. However, the calculation of the composite remaining life for the account as a whole has been slightly modified in these depreciation studies. This does not impact the annual depreciation accrual amount or rate calculations.

The previous depreciation studies calculated the composite remaining life by dividing the sum of all annual accrual amounts by the net book value for the account as a whole. As such, the composite remaining life was an output of the depreciation calculations not an input into the depreciation formula. These depreciation studies calculate the remaining life of the account through the weighted average original cost amount.

The differences in the remaining life can be seen in a simple example. The former method calculates the composite remaining life in the following manner:

NEW JERSEY-AMERICAN WATER COMPANY, INC.

	Original Cost	Accumulated Depreciation	Net Book Value	Remaining Life	Annual Accrual
2018	2,857,428	1,191,301	1,666,127	6.43	259,044
2019	478,978	162,500	316,478	7.10	44,597
2020	9,760,197	2,478,973	7,281,224	7.83	930,362
2021	3,366,596	538,766	2,827,830	8.63	327,661
2022	1,596,419	89,778	1,506,641	9.52	158,282
Total	18,059,618	4,461,318	13,598,300		1,719,946

The previous depreciation studies would have calculated the remaining life to be equal to $13,598,300/$1,719,946 = 7.91 years.

The current depreciation studies require a more detailed calculation for the remaining life. The original cost for each vintage is multiplied by remaining life for that vintage. This number is then summed and divided by the total original cost for the account as a whole. In the above example, the remaining life calculations are as follows:

	Original Cost	Accumulated Depreciation	Net Book Value	Remaining Life	Annual Accrual	Weighted Remaining Life
2018	2,857,428	1,191,301	1,666,127	6.43	259,044	18,373,263
2019	478,978	162,500	316,478	7.10	44,597	3,400,742
2020	9,760,197	2,478,973	7,281,224	7.83	930,362	76,422,342
2021	3,366,596	538,766	2,827,830	8.63	327,661	29,053,723
2022	1,596,419	89,778	1,506,641	9.52	158,282	15,197,909
Total	18,059,618	4,461,318	13,598,300		1,719,946	142,447,978

The Concentric model calculates the remaining life to be $142,447,978/$18,059,618 = 7.89 years. As in the example, the difference in composite remaining life is generally very small between the two methods and there is no difference in the underlying annual accrual calculation. Both methods use the same depreciation formulas to calculate the annual accrual amount.

14. Q. Was there any change to the remaining life by vintage as used in the depreciation studies?

A. Yes. The previous depreciation studies utilized a minimum remaining life of one year for all vintage accrual calculations. I recommend the use of a three-year minimum remaining life for these studies to ensure there is no over-recovery related to vintages at the very end of their life.

15. Q. Are there any other changes to the procedure used in these depreciation studies?

A. Yes. Historically the depreciation accruals for a number of water accounts at the following locations have been depreciated using the Units of Production procedure:

- DR Pipe
- DR Treatment
- Logan Beckett
- Logan Purelands
- How Ground
- Logan Birch Creek
- How Surf

The remainder of the NJAWC system has historically calculated depreciation accrual amounts based on straight line depreciation, as discussed above. The straight line method provides greater generational equity to all users of the system when long term throughput is relatively consistent and is widely approved throughout North America. The Units of Production procedure calculates the annual depreciation accrual amount by dividing the expected annual throughput of a location by the total expected

throughput that a location will experience over its total expected life. As the annual throughput may be higher or lower than average in any given year, the Units of Production procedure is known to result in either accelerated or decelerated depreciation accrual amounts. Further, the depreciation calculations are based upon both estimates of annual throughput and total future throughput. Consequently, effective use of the Unit of Production procedure, requires a high degree of certainty in the reliability of estimates for throughput many years in the future. Given that the future estimates for future demand are difficult to forecast with a high degree of reliability, continued use of the Units of Production procedure may result in a less accurate depreciation estimate than using a more traditional straight line approach.

Concentric recommends that NJAWC utilize the straight-line depreciation method and the Average Life Group procedure for all assets going forward. This change will result in greater accounting efficiency, improved generational equity, and more reliable depreciation accrual amounts. It is anticipated that there will be minimal impact to customers from this change.

SCOPE AND SUMMARY RESULTS OF THE DEPRECIATION STUDIES

16. Q. Please outline the Scope of the Depreciation Studies.

A. Concentric's depreciation study reports set forth the results of the depreciation studies for the water and wastewater assets of NJAWC, to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of investment, as of December 31, 2022. The rates and amounts are based on the Straight-Line Method, incorporating the Average Life Group Procedure applied on a Remaining

Life Basis. These studies also describe the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to the NJAWC water and wastewater assets in service, as of December 31, 2022.

17. Q. Please outline the information included in your depreciation study reports.

A. Both the Water and Wastewater depreciation study reports are presented in nine (9) sections outlined as follows:

- Section 1 Study Highlights, presents a summary of the depreciation study and results.
- Section 2 Introduction, contains statements with respect to the plan and the basis of the study.
- Section 3 Development of Depreciation Parameters, presents descriptions of the methods used and factors considered in the service life study.
- Section 4 Calculation of Annual and Accrued Depreciation presents the methods and procedures used in the calculation of depreciation.
- Section 5 Results of Study, presents summaries by depreciable group of annual and accrued depreciation in Table 1.
- Section 6 Retirement Rate Analysis
- Section 7 Net Salvage Calculations
- Section 8 Detailed Depreciation Calculations
- Section 9 Estimation of Survivor Curves, is an overview of Iowa curves and the Retirement Rate Analysis.

18. Q. Were the depreciation studies prepared using generally accepted standard methods and practices?

A. Yes. Previous depreciation studies completed for NJAWC utilized a widely accepted method for the studies of the Company's historic data, known as the Retirement Rate Analysis Method. The Retirement Rate Analysis Method is generally accepted as the correct method to use when aged data is available for review. The aged data used in the last studies, through December 31, 2016, was available to be incorporated into our database.

Additional reliable aged data, for the period January 1, 2017 through to December 31, 2022, was provided by the Company and incorporated in our database. Given the availability of reliable aged data, we prepared the historic studies of mortality history using the retirement rate method. A detailed discussion of the retirement rate analysis is presented in Section 9 of our depreciation study reports.

Additionally, the service life studies included:

- a review of NJAWC company practice and outlook, as they relate to plant operation and retirement;
- consideration of current practice in the water or wastewater system industry, including knowledge of service life estimates used for other regulated water and wastewater system companies; and
- informed professional judgment which incorporated analyses of all of the above factors.

My studies of the net salvage percentages were based on detailed studies prepared under the standard approach, which has commonly become known as the "Traditional Method". Within this method, the net salvage transactions (gross salvage proceeds, re-use salvage and costs of removal or retirement) are compared to the original cost of the item being retired. The analysis is prepared on an actual transaction year basis, for as many years as reliable data is available. The analysis then includes a series of 3-year rolling average bands, 5-year rolling average bands, and life to date bands covering all years of transactional data.

As described later, the depreciation accrual rates presented herein are based on generally accepted methods and procedures for calculating depreciation.

19. Q. Please provide a summary of the results of the depreciation studies.

The water study results in a depreciation rate related to Structures and Improvements of 1.93%, Purification, Transmission, and Distribution of 2.27%, and a depreciation rate related to general plant of 8.50% for a total composite depreciation rate of 2.58%. The wastewater study results in a depreciation rate related to Structures and Improvements of 2.33%, and a depreciation rate related to Collecting, Treatment, and General Plant of 2.17% for a total composite depreciation rate of 2.19%.

20. Q. How do the above depreciation rates compare to the currently approved depreciation rates?

A. The following chart outlines the proposed changes by functional group for water assets:

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Functional Group For Water	Currently Used	Proposed
Structures and Improvements	2.07 %	1.93%
Collection, Transmission and Distribution	2.24%	2.27%
General Plant	7.38%	8.50%
Total	2.50%	2.58%

The following chart outlines the proposed changes by functional group for wastewater assets:

Functional Group For Wastewater	Currently Used	Proposed
Structures and Improvements	2.36%	2.33%
Collection, Transmission and Distribution	1.93%	2.17%
Total	1.98%	2.19%

21. Q. Please outline the reasons for the change in the composite depreciation rate.

A. Depreciation rates are composed of the return of initial investment and the return of future net salvage. One significant cause of the change in depreciation rates is the change in average service life of many accounts. As the previous depreciation studies were approved in a negotiated settlement agreement, which approved depreciation rates instead of depreciation parameters, it is unknown what the average service life estimates underlying the depreciation rates were. The following is a summary of the proposed average service life estimates compared to the previously proposed average service life estimates. This demonstrates a shortening of the average service life estimate in 16 accounts, a lengthening in 23 accounts, and no change in 58 accounts.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Account	Water Accounts Account Description	2016 Proposed Curves	Recommended
304.1	Source of Supply	60-R2	55-S0
304.2	Pumping	75-S1	70-R2
304.3	Water Treatment	75-S1	70-R2
304.31	Structures and Improvements - Treatment - Handl	N/A	70-R2
304.4	Transmission & Distribution	50-R1.5	45-S0.5
304.5	General	35-R1.5	30-R1.5
304.6	Offices	50-R1	45-S0
304.61	HVAC	N/A	45-S0
304.7	Stores, Shop, & Garage	50-R2.5	50-R2.5
304.8	Miscellaneous	40-S1.5	40-S1.5
305	Collecting and Impounding Reservoirs	90-S3	90-S1
306	Lake, Rivers, and Other Intakes	55-R3	55-R3
307	Wells and Springs	50-R1.5	50-R3
308	Infiltration Galleries and Tunnels	70-R2.5	70-R2.5
309	Supply Mains	85-S1.5	82-S1.5
310.1	Power Generation Equipment	45-R3	47-R4
310.2	Boiler Plant Equipment	25-R2.5	30-R2.5
311.2	Pumping Equipment - Electric	43-R1.5	45-R3
311.3	Pumping Equipment - Diesel	43-R1.5	45-R3
311.4	Pumping Equipment - Hydraulic	43-R1.5	45-R3
311.5	Pumping Equipment - Other	43-R1.5	45-R3
311.53	Pumping Equipment - Water Treatment	N/A	45-R3
311.54	Pumping Equipment - T&D	N/A	45-R3
320.1	Water Treatment Equipment -Non-Media	60-S0	60-S0
320.2	Water Treatment Equipment -Filter Media	9-S1	10-S0.5
330	Distribution Reservoirs and Standpipes	70-R2.5	72-R2
331.01	Mains	120-R2.5	105-R3
332	Fire Mains	70-R2.5	65-S0.5
333	Services	75-R2.5	70-R2.5
334.1	Meters	15-S1	12-S0
334.2	Meter Installations	20-R3	60-R3
334.3	Meter Vaults	20-R3	40-S0.5
335	Fire Hydrants	70-R3	60-R2
336	Backflow Prevention Devices	40-S2.5	40-S2.5
339.1	Other P/E - Intangible	30-R3	30-R3

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Account	Water Accounts Account Description	2016 Proposed Curves	Recommended
339.2	Other P/E - Supply	30-R3	30-R3
339.3	Other P/E - Treatment	50-R2.5	50-R2.5
339.4	Other P/E - WT Res Hand Equip	40-R3	45-R3
339.5	Other P/E - Transmission and Distribution	35-R3	20-R3
339.6	Comprehensive Planning Studies	5-SQ	5-SQ
340.1	Office Furniture	20-SQ	20-SQ
340.2	Computer & Peripheral Equipment	5-SQ	8-SQ
340.3	Computer Software	10-SQ	10-SQ
340.31	Computer Software - Mainframe	8-SQ	8-SQ
340.5	Other Office Equipment	15-SQ	15-SQ
341.001	Transportation Equipment - Not Classified		15-L2
341.1	Light Trucks	10-L2	10-L2
341.2	Heavy Trucks	13-L2.5	15-L2
341.3	Cars	10-S0.5	10-S0.5
341.4	Other	20-S2.5	20-S2.5
342	Stores Equipment	25-SQ	25-SQ
343	Tools, Shop, and Garage Equipment	25-SQ	25-SQ
344	Laboratory Equipment	20-SQ	20-SQ
345	Power Operated Equipment	20-R2	25-R2.5
346	Communication Equipment	15-SQ	15-SQ
346.1	Communication Equipment - Non-Telephone	15-SQ	15-SQ
346.19	Remote Control & Instrument	15-SQ	15-SQ
346.2	Communication Equipment - Telephone	15-SQ	15-SQ
347	Miscellaneous Equipment	25-SQ	25-SQ
348	Other Tangible Property	25-SQ	25-SQ

1

Account	Wastewater Accounts Account Description	2016 Proposed Curves	Recommended
354.2	Collection	35-S0	40-R2.5
354.3	Pumping	35-S0	40-R2.5
354.4	Treatment	35-S0	40-R2.5
354.5	General	35-S0	35-R2
354.51	General – Capital Lease	35-S0	35-R2

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Account	Wastewater Accounts Account Description	2016 Proposed Curves	Recommended
355.2	Power Generation Equipment – Collection	25-R2.5	25-R2.5
355.4	Power Generation Equipment - Treatment	25-R2.5	25-R2.5
360	Collection Sewers – Force Mains	65-R2.5	60-R2.5
361.1	Collection Sewers – Gravity Mains	80-R2.5	80-R3
362	Special Collecting Structures	50-R3	50-R3
363	Services – Sewer	65-R2.5	60-R1
364	Flow Measuring Devices	35-S1	35-S1
370	Receiving Wells	30-R1.5	35-R1.5
371.1	Pumping Equipment – Electric	20-S0.5	25-S0.5
371.2	Pumping Equipment – Other	20-S0.5	25-S0.5
371.3	Pumping Equipment – Miscellaneous	20-S0.5	25-S0.5
380.0	Treatment and Disposal Equipment	27-R1.5	27-R1.5
380.05	T&D Equipment – Grit Removal	27-R1.5	27-R1.5
380.1	T&D Equipment – Sedimentation Tanks & Access.	27-R1.5	27-R1.5
380.2	T&D Equipment – Sludge & Effluent Removal	27-R1.5	27-R1.5
380.25	T&D Equipment – Sludge Dig Tank	27-R1.5	27-R1.5
380.3	T&D Equipment – Sludge Drying & Filtering	27-R1.5	27-R1.5
380.35	T&D Equipment – Secondary Treatment Filters	27-R1.5	27-R1.5
380.4	T&D Equipment – Aux. Effluent Treatment	27-R1.5	27-R1.5
380.45	T&D Equipment – Other Sewer Removal	27-R1.5	27-R1.5
380.5	T&D Equipment – Chemical Treatment Plant	27-R1.5	27-R1.5
380.6	T&D Equipment – Other	27-R1.5	27-R1.5
381	Plant Sewers	50-R2.5	50-R2.5
382	Outfall Sewer Lines	40-R3	40-R3
389.1	Other Plant and Miscellaneous Equipment – Intangibles	20-S3	20-S3
389.2	Other Plant and Miscellaneous Equipment – Collection	30-R2.5	25-R3
389.6	Other Plant and Miscellaneous Equipment – CPS	10-S5	10-S5
390	Office Furniture and Equipment	20-SQ	20-SQ
390.2	Office Furniture and Equipment – Computers and Periphery Equipment	5-SQ	5-SQ
391	Transportation Equipment	11-L3	11-L2

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Account	Wastewater Accounts Account Description	2016 Proposed Curves	Recommended
391.2	Transportation Equipment – Heavy Duty Trucks	15-L3	18-L3
393	Tools, Shop, and Garage Equipment	25-SQ	25-SQ
394	Laboratory Equipment	20-SQ	20-SQ
395	Power Operated Equipment	23-L2.5	25-L3
396	Communication Equipment	15-SQ	15-SQ
397	Miscellaneous Equipment	25-SQ	25-SQ
398	Other Tangible Property	25-SQ	25-SQ

The specific reasons for the average service life changes for each of the large accounts are discussed in Section 3.6 of our reports. Additionally, the results of the statistical mortality study are presented for each account, in Section 6 of our reports.

22. Q. Are the average service life changes, as noted above, typical for utility assets?

A. Yes. In a number of recent depreciation studies that I have completed, I have noted that the average service life of many asset classes is lengthening throughout North America. While there are a number of factors causing this lengthening of life estimates, the most prevalent reason is the increased focus of utilities in maintaining and life extending the infrastructure. Likewise, I have noted that the life of water line assets has also benefited from enhanced technology and the pro-active maintenance programs undertaken by water utilities.

At the same time that there has been a trend towards lengthening average service lives for some asset classes, it has been common throughout North America for there to be a shortening in other asset classes. The quickening pace of technological change in some industries results in a trend towards average service life decreases. For example,

the pace of technological change in metering assets has resulted in the life of metering classes to be shortened industry wide. The move from analogue meters to digital meters using first generation communication technology, and now to modern two-way communication technology has resulted in meters having a significantly shorter life now than they did historically.

As such, the average service life changes as observed in these studies are consistent with my observations in a number of other water utilities. Again, although my Direct Testimony does not discuss the changes in depreciation rates in detail, the water and wastewater depreciation studies denoted Sch. LEK-1 and Sch. LEK-2 do so and explain fully the assumptions behind the changes in those rates.

CONCLUDING REMARKS

23. Q. What is your conclusion with respect to NJAWC's proposed Depreciation expense?

A. My conclusion is that the Company's requested depreciation rates, resulting in a composite depreciation rate of 2.58% for water assets and 2.19% for wastewater assets, reasonably reflects the annual consumption of the undepreciated service value of the utility plant in service. The use of the depreciation rates as presented in my report, by account, will provide for an appropriate amount of depreciation expense in the Company's revenue requirement. Therefore, I recommend that the proposed depreciation rates set forth in the depreciation studies that I prepared for this proceeding, be adopted by the Commission for regulatory purposes as well as by the Company for financial reporting purposes.

24. Q. Does this conclude your Direct Testimony?

A. Yes, it does.

LARRY E. KENNEDY, CDP
Senior Vice President

Mr. Kennedy has been in the pipeline, electric, gas utility and municipal infrastructure business for 40 years. As Senior Vice President, Concentric Advisors, ULC, Mr. Kennedy has provided professional consulting services to gas and electric utilities including generation facilities (including nuclear facilities), and high voltage transmission lines, large diameter transmission pipelines, railway systems and municipally owned utility systems. Previously, Mr. Kennedy was with Gannett Fleming Canada ULC, for over 17 years, where he was responsible for completing depreciation studies and provided advice related to large capital program spending and controls for many regulated North American utilities. Mr. Kennedy was also employed by Interprovincial Pipelines Limited (now Enbridge Pipelines) for 15 years in several plant accounting and regulatory positions and with Nova Gas Transmission Pipelines (now TC Energy) for three years as a Depreciation Specialist.

Mr. Kennedy has provided expert witness testimony related to depreciation, stranded costs, capital accounting issues, utility valuation, and property tax issues before several North American regulatory bodies. Mr. Kennedy has completed numerous seminars and all courses offered by Depreciation Programs, Inc. Mr. Kennedy is a member of the teaching faculty of the Society of Depreciation Professionals ("SDP") and has presented depreciation, stranded cost, and capital accounting related topics to the SDP, Canadian Electric Association, Canadian Gas Association, Canadian Property Taxpayers Association, Alberta Utilities Commission, British Columbia Utilities Commission and the Canadian Energy Pipeline Association. Mr. Kennedy is a past Society of Depreciation Professionals President.

PERSONAL INFORMATION

- Diploma, Applied Arts - Business Administration, Northern Alberta Institute of Technology, 1978
- Member, Society of Depreciation Professionals
- Certified Depreciation Professional

EXPERIENCE

Representative Project Experience

- Alliance Pipeline L.P. A number of depreciation studies have been completed by Mr. Kennedy for both the Canadian and US assets of Alliance Pipelines. The most recent studies completed in 2012 for Submission to the National Energy Board of Canada and in 2015 for submission to the FERC (Docket No. RP15-1022-000) to the Federal Energy Regulatory included operational discussions related to the gas transmission plant, the service life analysis for all accounts using the retirement rate analysis, discussion with management regarding outlook, and the inclusion of an Economic Planning Horizon.

- Viking Gas Transmission Company - The assignment included working with the company to develop the appropriate depreciation policy to align with the organization's overall goals and objectives. The resulting depreciation study, which was submitted to the Federal Energy and

Regulatory Commission, incorporated the concepts of time-based depreciation for gas transmission accounts and development of Economic Planning Horizons, including discussion related to the long demand of natural gas.

- Midwestern Gas Transmission Company: The assignment included development of a detailed depreciation study and Testimony to develop the appropriate depreciation policy to align with the organization's overall goals and objectives. The resulting depreciation study, which was submitted to the Federal Energy and Regulatory Commission, incorporated the concepts of time-based depreciation for gas transmission accounts and development of Economic Planning Horizons. The Direct Testimony included significant discussion related to the topics of Decarbonization and changing political climate towards removal of fossil fuel demand forecasts.
- Enbridge Lakehead System: A Technical Update to a 2016 full depreciation study was prepared and filed with the FERC in 2021 in support of updating depreciation rate and resultant depreciation expense. The technical update also included an analysis and recommendation of a 20-year Economic Planning Horizon (Economic Life).
- Consolidated Edison Company of New York, Inc.: Mr. Kennedy co-authored a study and report which presented the results of research focusing on prior periods of transformative change and more recent discussions of policy tools that could address the impacts of climate change on the Company's electric, steam, and natural gas businesses.
- Montana-Dakota Utilities Co.: A study was developed to determine the appropriate depreciation parameters for all electric generation, transmission and distribution assets. The study and associated expert testimony were submitted to the Montana Public Service Commission in 2018 and to the North Dakota Public Service Commission in 2022. Elements of the study included a field review of electric generation and transmission plant, the service life analysis for all accounts using the retirement rate analysis, discussion with management regarding outlook and the estimation of the retirement of generation facilities due to environmental legislation and estimation of net salvage requirements.
- Commonwealth Edison Company: Mr. Kennedy sponsored extensive Rebuttal Testimony related to the average service life, net salvage estimations, and appropriate depreciation practices in a 2020 rate proceeding.
- Great Plains Natural Gas Co.: Annual updates of depreciation rates and net salvage requirements were calculated and submitted to the Minnesota Department of Commerce annually since 2017.
- National Grid USA Service Company Limited: A depreciation study was completed in 2020 for the National Grid High Voltage Direct Current (HVDC) electric interstate transmission line. The study included consideration of the average service life of the system components, the level of components of the system and the compliance of the recommended componentization to the FERC Uniform System of Accounts. The resultant study was used by the company in filings with the Federal Energy and Regulatory Commission (FERC)
- Society of Depreciation Professionals (SDP): Mr. Kennedy has presented at the annual conferences on the topic of the erosion of the regulatory compact throughout North America, the Future of Energy transition and its impacts on recovery of investment. Additionally, Mr. Kennedy is a member of the SDP teaching faculty and has lead a number of workshops on various aspects of decarbonization and has co-instructed on the topic of the future of energy.

Other Representative Project Experience

- Alberta Departments of Energy and Forestry and Agriculture: Detailed toll comparison and valuation models were developed to provide a comparison of the toll fairness of each of the Provinces Rural Electrification Associations ("REA") to the comparable Investor Owned Utilities ("IOU") for the 32 REA's currently operating in Alberta. In addition to providing a toll comparison of the REA and IOU, a fair market valuation for each of the REA's was also prepared. The final report of the toll compatibility and specific valuations were submitted to the Alberta Department of Energy and the Alberta Department of Forestry and Agriculture. Mr. Kennedy was the Responsible Officer on this project.
- Alliance Pipeline L.P. A number of depreciation studies have been completed by Mr. Kennedy for both the Canadian and US assets of Alliance Pipelines. The most recent studies completed in 2012 for Submission to the National Energy Board of Canada and to the Federal Energy Regulatory included operational discussions related to the gas transmission plant, the service life analysis for all accounts using the retirement rate analysis, discussion with management regarding outlook, and the inclusion of an Economic Planning Horizon.
- AltaGas Utilities Inc.: A number of depreciation studies have been completed, which included the assembly of basic data from the Company's accounting systems, statistical analysis of retirements for service life and net salvage indications, discussions with management regarding the outlook for property, and the calculations of annual and accrued depreciation. The studies were prepared for submission to the Alberta Energy and Utilities Board ("Board"). Mr. Kennedy has appeared before the Alberta Utilities Commission on behalf of AltaGas on a number of occasions.
- AltaLink LP: An initial study was developed for submission to the Alberta Utilities Commission ("AUC") in 2002. The study included the estimation of service life characteristics, and the estimation of net salvage requirements for all electric transmission assets. A net salvage study and technical update was also filed with the Board in 2004. Since 2004, additional depreciation studies were filed in 2005, 2010 and 2012, 2016 and 2018. The 2010, 2012, 2016 and 2018 studies included a number of provisions in order to ensure compliance to Alberta's Minimum Filing Requirements for depreciation studies and for compliance to the International Financial Reporting Standards. These studies also specifically analyzed the pace of technical change in the Alberta Electric system, and recently have specifically considered the impacts of early retirements caused by storms and forest fires.
- ATCO Electric: Studies have included the development of annual and accrued depreciation rates for the electric transmission and distribution systems for the Alberta assets of ATCO Electric, in addition to the generation, transmission, and distribution assets of Northland Utilities Inc. (NWT) and the distribution assets of Northland Utilities (Yellowknife) Inc. The ATCO Electric studies were submitted to the AUC for review, while the NWT and Northland Utilities (Yellowknife) Inc. studies were submitted to the Northwest Territories Utilities Board and Yukon Electric Company Limited (YECL) was submitted to the Yukon Public Utilities Board. These studies also specifically analyzed the pace of technical and recently

have specifically considered the impacts of early retirements caused by storms and forest fires.

- ATCO Gas: Studies were prepared in 2010 and 2018 which were the subject of a review by the AUC. Elements of all of the studies included the service life analysis for all accounts using the retirement rate analysis, discussion with management regarding outlook, and the estimation of net salvage requirements. These studies also specifically analyzed the pace of technical change in the Alberta Gas system, and recently have specifically considered the impacts of early retirements caused by storms and forest fires.
- Centra Gas Manitoba, Inc.: The study included development of annual and accrued depreciation rates for all gas plant in service. Elements of the study included a field inspection of metering and compression facilities, service buildings and other gas plant; service life analysis for all accounts using the retirement rate analysis on a combined database developed from actuarial data and data developed through the computed method; discussions with management regarding outlook; and the estimation of net salvage requirements. A similar study was completed in 2006, 2011, and 2015. The 2011 and 2015 studies were the subject of a review by the Manitoba Public Utilities Board in 2012 and 2016. Mr. Kennedy has also consulted on issues regarding International Financial Reporting Standards ("IFRS") compliance and required componentization.
- Enbridge Gas Distribution Inc.: Full and comprehensive depreciation studies have been completed in 2009 and 2011. The 2009 study also included review of the company's gas storage operations. Both studies included the development of annual and accrued depreciation rates for all depreciable natural gas distribution, transmission and general plant assets. Elements of the studies included the service life analysis for all accounts using the computed mortality method of analysis, discussion with management regarding outlook and the estimation of net salvage requirements. Studies were prepared for submission to the Ontario Energy Board.
- Mr. Kennedy has also completed an allocation of the accumulated depreciation accounts into the amounts related to the recovery of original cost and the amounts recovered in tolls for the future removal of assets currently in service. The allocations were determined as of December 31, 2009 and were deemed by the company's external auditors to be in conformance with proper accounting standards and procedures. In 2013, a review of the reserve required for the future removal of assets currently in service was undertaken by Mr. Kennedy. The results of the review were summarized in evidence presented by Mr. Kennedy to the Ontario Energy Board.
- ENMAX Power Corporation: Studies have included the development of annual and accrued depreciation rates for all depreciable electric transmission assets. Elements of the studies included the service life analysis for all accounts using the retirement rate analysis, discussion with management regarding outlook, and the estimation of net salvage requirements. Studies were prepared for submission to the Alberta Department of Energy and more recently for submission to the Alberta Energy and Utilities Board. Similar studies have also been completed for submission for the ENMAX Electric Distribution assets for

submission to the AUC. The ENMAX distribution asset assignments also included an extensive asset verification project where the plant accounting and operational asset records were verified to the field assets actually in service.

- Fortis Group of Companies: Studies have included the development of annual and accrued depreciation rates for the electric distribution assets in Alberta and for the generation, transmission, and distribution assets in British Columbia. The FortisBC Inc. studies were completed and filed with the British Columbia Utilities Commission ("BCUC") in 2005, 2010, 2011 and 2018 encompassing both the FortisBC electric and natural gas companies. FortisAlberta Inc. studies were completed in 2004 (updated in 2005), 2009 and 2010. Elements of the studies included the development of average service lives using the retirement rate method of analysis, development of net salvage estimates, compliance with IFRS, and the determination of appropriate annual accrual and accrued depreciation rates. The most recent studies also specifically analyzed the pace of technical change in the Electric systems, and specifically considered the impacts of retirements, system modernization and technical enchantments to the assets.
- International Financial Reporting Standards ("IFRS"): Mr. Kennedy has been retained by numerous clients encompassing most Canadian Provinces and Territories. The assignments included the review of company's assets and depreciation practices to provide opinion on the compliance to the IFRS. The assignments have also included the issuance of opinion to the External Auditors of Utilities to comment on the manner in which the Utilities can minimize differences in the regulatory ledgers and the accounting records used for financial disclosure purposes. Mr. Kennedy has also presented to the Canadian Electric Association, the Society of Depreciation Professionals, the Canadian Energy Pipeline Association and to the BCUC on this topic.
- Mackenzie Valley Pipeline Project: This assignment included the review of the proposed depreciation schedule for the proposed Mackenzie Valley Pipeline. The review included a discussion of the policies used by the company and the depreciation concepts to be included in a depreciation schedule for a Greenfield pipeline. The review was supported through appearance at the oral public hearings before the National Energy Board of Canada ("NEB").
- Manitoba Hydro: A study was developed to determine the appropriate depreciation parameters for all electric generation, transmission and distribution assets. The study was submitted to the Manitoba Public Utilities Board. Elements of the study included a field review of electric generation and transmission plant, the service life analysis for all accounts using the retirement rate analysis, discussion with management regarding outlook and the estimation of net salvage requirements. A similar study was also completed in 2006 and in 2011. The 2011 depreciation study was the subject of a review by the Manitoba Public Utilities Board in 2012. Mr. Kennedy has also consulted with Manitoba Hydro on issues regarding IFRS compliance and required componentization.
- New Brunswick Power: Mr. Kennedy completed a comprehensive depreciation review of the electric generation (including the nuclear facilities), transmission, distribution and general plant assets. The review, which was prepared for submission to the New Brunswick Public

Utilities Board, included a significant amount of discussion regarding the development of depreciation policy for the company. The study also included development of procedures to extract data from the company databases, tours of the company facilities, interviews with operational and management representatives, development of appropriate net salvage rates, development of average service life estimates, and the compilation of the report.

- Newfoundland and Labrador Hydro (NALCOR): Mr. Kennedy developed comprehensive depreciation studies that included the development of depreciation policy and rates for NALCOR. The studies provided a significant review of the previous depreciation policy, which included use of a sinking fund depreciation method and provided justification for the conversation to the straight-line depreciation method. The study, which was prepared for submission to the Newfoundland and Labrador Utilities Commission, included a significant amount of discussion regarding the development of depreciation policy for the company. The study also included development of procedures to extract data from the company databases, tours of the company facilities, interviews with operational and management representatives, development of appropriate net salvage rates, development of average service life estimates, and the compilation of the report for submission in a General Tariff Application. Additional studies were also completed in 2008 and 2010. The 2010 and 2017 studies were the subject of Regulatory Review in 2012 and 2019.
- Ontario Power Generation: Assignments have included a review of the Depreciation Review Committee process completed in 2007. This review provided recommendations for enhanced internal processes and controls in order to ensure that the depreciation expense reflects the annual consumption of service value. Additionally, full assessments of the lives of the regulated assets of the company's electric generation hydro and nuclear plants were completed in 2011 and 2013 and were submitted to the Ontario Energy Board for review.
- TransCanada Pipelines Limited - Alberta Facilities: The assignment included working with the company to develop the appropriate depreciation policy to align with the organization's overall goals and objectives. The resulting depreciation study, which was submitted to the Alberta Energy and Utilities Board, incorporated the concepts of time-based depreciation for gas transmission accounts and unit-based depreciation for gathering facilities. The data was assembled from two different accounting systems and statistical analysis of service life and net salvage were performed. For gathering accounts, the assignment included the oversight of the development of appropriate gas production and ultimate gas potential studies for specific areas of gas supply. Field inspections of gas compression, metering and regulating, and service operations were conducted. Studies were completed in 2002 and 2004, 2007, 2009 and 2012, 2015, and 2018.
- TransCanada Pipelines Limited - Mainline Facilities: The study prepared for submission to the NEB included the development of annual and accrued depreciation rates for gas transmission plant east of the Alberta - Saskatchewan border. Elements of the study included a field inspection of compression and metering facilities, service life and net salvage analysis for all accounts. The study was completed in 2002 and was supported through an appearance before the NEB. Study updates have been completed in 2005, 2007, 2009 and an additional

full and comprehensive study was completed in 2011, and 2017. The 2011 study was fully supported through an appearance before the NEB in 2012.

Designations and Professional Affiliations

- Society of Depreciation Professionals -Certified Depreciation Professional
- Society of Depreciation Professionals (former President)

EVIDENCE ENTERED INTO PROCEEDINGS IN THE UNITED STATES

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2015	Alliance Pipeline LP	Alliance Pipeline LP	Federal Energy and Regulatory Commission	Docket No. RP15-1022
2019	Viking Gas Transmission Company	Viking Gas Transmission Company	Federal Energy Regulatory Commission	RP19-1340
2020	National Grid USA Service Company Limited	National Grid USA Service Company Limited	Federal Energy Regulatory Commission	Settled through Negotiation
2018	Great Plains Natural Gas Co.	Great Plains Natural Gas Co.	Minnesota Department of Commerce	Annual Depreciation Filing
2018	Montana-Dakota Utilities	Montana-Dakota Utilities	Montana Public Service Commission	Docket D2019.9
2019	Great Plains Natural Gas Co	Great Plains Natural Gas Co	Minnesota Department of Commerce	Annual Depreciation Filing
2020	Cascade Natural Gas Corporation	Cascade Natural Gas Corporation	Oregon Public Utility Commission	UM - 2073
2020	Missouri-American Water Company	Missouri-American Water Company	Missouri Public Service Commission	WR-2020-0344
2020	Great Plains Natural Gas Co	Great Plains Natural Gas Co	Minnesota Department of Commerce	Annual Depreciation Filing
2020	Commonwealth Edison Company	Commonwealth Edison Company	State of Illinois – Illinois Commerce Commission	Docket 20-0393
2021	Intermountain Gas Company	Intermountain Gas Company	Idaho Public Utilities Commission	Case No. INT-21-01
2021	Midwestern Gas Transmission Company	Midwestern Gas Transmission Company	Federal Energy Regulatory Commission	RP21-525-000
2021	Enbridge Lakehead System	Enbridge Lakehead System	Federal Energy Regulatory Commission	DO21-15-000
2021	Consolidated Edison of New York	Consolidated Edison of New York	New York State Public Service Commission	19-G-0066
2022	United Illuminating Company	United Illuminating Company	Connecticut Public Utilities Regulatory Authority	22-08-08
2022	Montana-Dakota Utilities	Montana-Dakota Utilities	North Dakota Utilities Commission	Case No. PU-22-194
2022	Evergy Missouri West	Evergy Missouri West	Evergy Missouri West	ER-2022-0130
2022	Evergy Missouri West	Evergy Missouri West	Evergy Missouri West	ER-2022-0155

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2022	Northern Natural Gas Company	Northern Natural Gas Company	Federal Energy Regulatory Commission	RP22-1033-0000
2023	Indiana American Water Company	Indiana American Water Company	Indiana Utility Regulatory Commission	Cause No. 45870
2023	Kentucky American Water Company	Kentucky American Water Company	Commonwealth of Kentucky Public Service Commission	Case No. 2022-00299
2023	Kentucky American Water Company	Kentucky American Water Company	Commonwealth of Kentucky Public Service Commission	Case No. 2023-00191
2023	DCR Transmission, L.L.C.	DCR Transmission, L.L.C	Federal Energy Regulatory Commission	ER23-2309-000
2023	Montana-Dakota Utilities	Montana-Dakota Utilities	Public Service Commission of the State of Montana	2022.11.099
2023	Montana-Dakota Utilities	Montana-Dakota Utilities	South Dakota Public Utilities Commission	NG23
2023	Virgina American Water Company	Kentucky American Water Company	Commonwealth of Kentucky Public Service Commission	Case No. 2023-Pending

EVIDENCE ENTERED INTO PROCEEDINGS IN CANADA

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
1999	ENMAX Power Corporation	Edmonton Power Corporation	Alberta Energy and Utilities Board	980550
2000	AltaGas Utilities Inc.	AltaGas Utilities Inc.	Alberta Energy and Utilities Board	Decision 2002-43
2001	City of Calgary	ATCO Pipelines South	Alberta Energy and Utilities Board	2000-365
2001	City of Calgary	ATCO Gas South	Alberta Energy and Utilities Board	2000-350
2001	City of Calgary	ATCO Affiliate Proceeding	Alberta Energy and Utilities Board	1237673
2001	ENMAX Power Corporation	ENMAX Power Corporation - Transmission	Alberta Department of Energy	N/A
2002	Centra Gas British Columbia	Centra Gas British Columbia	British Columbia Utilities Commission	N/A
2002	ENMAX Power Corporation	ENMAX Power Corporation - Transmission	Alberta Department of Energy	N/A

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2003	AltaLink LP	AltaLink LP	Alberta Energy and Utilities Board	1279345
2003	Centra Gas Manitoba	Centra Gas Manitoba	Manitoba Public Utilities Board	N/A
2003	City of Calgary	ATCO Pipelines	Alberta Energy and Utilities Board	1292783
2003	City of Calgary	ATCO Electric-ISO Issues	Alberta Energy and Utilities Board	N/A
2003	City of Calgary	ATCO Gas	Alberta Energy and Utilities Board	1275466
2003	City of Calgary	ATCO Electric	Alberta Energy and Utilities Board	1275494
2003	Manitoba Hydro	Manitoba Hydro	Manitoba Public Utilities Board	N/A
2003	TransCanada Pipelines Limited	TransCanada Pipelines Limited	National Energy Board of Canada	RH-1-2002
2004	AltaGas Utilities Inc.	AltaGas Utilities Inc.	Alberta Energy and Utilities Board	1305995
2004	AltaLink LP	AltaLink LP	Alberta Energy and Utilities Board	1336421
2004	Central Alberta Midstream	Central Alberta Midstream	Municipal Government Board of Alberta	N/A
2004	Central Alberta Midstream	Central Alberta Midstream	Municipal Government Board of Alberta	N/A
2004	ENMAX Power Corporation	ENMAX Power Corporation	Alberta Energy and Utilities Board	1306819
2004	Heritage Gas Ltd.	Heritage Gas Ltd.	Nova Scotia Utility and Review Board	N/A
2004	NOVA Gas Transmission Limited	NOVA Gas Transmission Limited	Alberta Energy and Utilities Board	1315423
2004	Westridge Utilities Inc.	Westridge Utilities Inc.	Alberta Energy and Utilities Board	1279926
2005	AltaGas Utilities Inc.	AltaGas Utilities Inc.	Alberta Energy and Utilities Board	1378000
2005	ATCO Electric	ATCO Electric	Alberta Energy and Utilities Board	1399997
2005	ATCO Power	ATCO Power	Municipal Government Board of Alberta	N/A
2005	British Columbia Transmission Corporation	British Columbia Transmission Corporation	British Columbia Utilities Commission	N/A
2005	Centra Gas Manitoba	Centra Gas Manitoba	Manitoba Public Utilities Board	N/A

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2005	ENMAX Power Corporation	ENMAX Power Corporation – Transmission	Alberta Energy and Utilities Board	N/A
2005	ENMAX Power Corporation	ENMAX Power Corporation – Distribution Assets	Alberta Energy and Utilities Board	1380613
2005	FortisAlberta Inc.	FortisAlberta Inc.	Alberta Energy and Utilities Board	1371998
2005	FortisAlberta Inc.	FortisAlberta Inc.	Alberta Energy and Utilities Board	N/A
2005	FortisBC, Inc.	FortisBC, Inc.	British Columbia Utilities Commission	N/A
2005	Manitoba Hydro	Manitoba Hydro	Manitoba Public Utilities Board	N/A
2005	New Brunswick Board of Commissioners of Public Utilities	New Brunswick Power Distribution and Customer Service Company	New Brunswick Board of Commissioners of Public Utilities	N/A
2005	Northland Utilities (NWT) Inc.	Northland Utilities (NWT) Inc.	Northwest Territories Utilities Board	N/A
2005	Northland Utilities (Yellowknife) Inc.	Northland Utilities (Yellowknife) Inc.	Northwest Territories Utilities Board	N/A
2005	NOVA Gas Transmission Ltd.	NOVA Gas Transmission Ltd.	Alberta Energy and Utilities Board	1375375
2005	City of Red Deer	City of Red Deer Electric System	Alberta Energy and Utilities Board	1402729
2005	Yukon Energy Corporation	Yukon Energy Corporation	Yukon Utilities Board	N/A
2006	AltaLink LP	AltaLink LP	Alberta Energy and Utilities Board	1456797
2006	BC Hydro	BC Hydro	British Columbia Utilities Commission	N/A
2006	Imperial Oil Resources Ventures Limited	McKenzie Valley Pipeline Project	National Energy Board of Canada	GH-1-2004
2007	Enbridge Pipelines Limited	Enbridge Pipelines Limited	National Energy Board of Canada	RH-2-2007
2007	FortisAlberta Inc.	Fortis Alberta Inc.	Alberta Energy and Utilities Board	1514140
2007	Kinder Morgan	Terasen (Jet fuel) Pipeline Limited	British Columbia Utilities Commission	N/A
2008	ATCO Electric	Yukon Electrical Company Limited	Yukon Utilities Board	N/A
2008	ATCO Gas	ATCO Gas	Alberta Utilities Commission	1553052
2008	City of Lethbridge Electric System	City of Lethbridge	Alberta Utilities Commission	N/A
2008	ENMAX Power Corporation	ENMAX Power Corporation	Alberta Utilities Commission	1512089

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2008	Heritage Gas Ltd.	Heritage Gas Ltd.	Nova Scotia Utility and Review Board	N/A
2009	AltaGas Utilities Inc.	AltaGas Utilities Inc.	Alberta Utilities Commission	N/A
2009	Fortis Alberta Inc.	Fortis Alberta, Inc.	Alberta Utilities Commission	1605170
2010	ATCO Electric	ATCO Electric	Alberta Utilities Commission	1606228
2010	Enbridge Pipelines Limited· Line 9	Enbridge Pipelines Limited - Line 9	National Energy Board of Canada	N/A
2010	Gazifere	Gazifere	La Regie de L'Energie	R-3724-2010
2010	Kinder Morgan	Kinder Morgan	National Energy Board of Canada	N/A
2010	Pacific Northern Gas	Pacific Northern Gas	British Columbia Utilities Commission	N/A
2011	AltaGas Utilities Inc.	AltaGas Utilities Inc.	Alberta Utilities Commission	1606694
2011	AltaLink LP	AltaLink LP	Alberta Utilities Commission	1606895
2011	ATCO Electric	Northland Utilities (NWT) Inc.	Northwest Territories Utility Board	N/A
2011	ATCO Gas	ATCO Gas	Alberta Utilities Commission	1606822
2011	FortisAlberta Inc.	Fortis Alberta Inc.	Alberta Utilities Commission	1607159
2011	FortisBC Energy, Inc.	FortisBC Energy, Inc.	British Columbia Utilities Commission	3698627
2011	GazMetro	GazMetro	La Regie de L'Energie	R-3752-2011
2011	Heritage Gas Ltd.	Heritage Gas Ltd.	Nova Scotia Utility and Review Board	N/A
2011	Qulliq	Qulliq	Utilities Rates Review Council	N/A
2011	SaskPower	SaskPower	Internal Review Committee	N/A
2011	TransAlta Utilities Corporation	TransAlta Utilities Corporation	Municipal Government Board of Alberta	N/A
2012	City of Red Deer	City of Red Deer	Alberta Utilities Commission	1608641
2012	Enbridge Gas Distribution Inc.	Enbridge Gas Distribution Inc.	Ontario Energy Board	EB 2011-0345
2012	FortisBC, Inc.	FortisBC, Inc.	British Columbia Utilities Commission	3698620
2012	Manitoba Hydro	Manitoba Hydro	Manitoba Public Utilities Board	2013/2013 GRA

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2012	Newfoundland and Labrador Hydro	Newfoundland and Labrador Hydro	Newfoundland and Labrador Board of Commissioners of Public Utilities	N/A
2012	Northwest Territories Power Corporation	Northwest Territories Power Corporation	Northwest Territories Public Utilities Board	N/A
2012	TransCanada Pipelines Limited	TransCanada Pipelines Limited	National Energy Board of Canada	RH-003 -2011
2013	AltaLink LP	AltaLink LP	Alberta Utilities Commission	1608711
2013	lntraGaz Incorporated	lntraGaz Incorporated	La Regie de L'Energie	R-3807-2012
2013	Yukon Electrical Company Limited (YECL)	Yukon Electrical Company Limited (YECL)	Yukon Utilities Board	2013-2015 GRA
2014	Enbridge Gas Distribution	Enbridge Gas Distribution	Ontario Energy Board	EB-2012-0459
2014	ENMAX Power Corporation	ENMAX Power Corporation	Alberta Utilities Commission	1609674
2015	AltaLink LP	AltaLink LP	Alberta Utilities Commission	Proceeding 3524
2015	EPCOR Distribution & Transmission	EPCOR Distribution & Transmission	Alberta Utilities Commission	Proceeding 20407
2015	FortisBC Energy, Inc.	FortisBC Energy, Inc.	British Columbia Utilities Commission	N/A
2015	FortisBC, Inc.	FortisBC, Inc.	British Columbia Utilities Commission	N/A
2015	GazMetro	GazMetro	La Regie de L'Energie	N/A
2015	Manitoba Hydro	Manitoba Hydro	Manitoba Public Utilities Board	2014/15 & 2015/16 GRA
2015	Newfoundland and Labrador Hydro	Newfoundland and Labrador Hydro	Newfoundland and Labrador Board of Commissioners of Public Utilities	N/A
2016	ATCO Electric	ATCO Electric	Alberta Utilities Commission	Proceeding 20272
2017	NALCOR	NALCOR	Newfoundland Public Utilities Board	Settled
2017	TransCanada Pipelines Limited – Mainline Facilities	TransCanada Pipelines Limited – Mainline Facilities	National Energy Board of Canada	RH-1-2018
2017	TransCanada Pipelines Limited – NGTL Facilities	TransCanada Pipelines Limited – NGTL Facilities	National Energy Board of Canada	RH-001-2019
2018	WestCoast Transmission System	WestCoast Transmission System	National Energy Board of Canada	Settled

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2018	ATCO Electric	ATCO Electric	Alberta Utilities Commission	Proceeding 24195
2018	ATCO Gas	ATCO Gas	Alberta Utilities Commission	Proceeding 24188
2018	SaskEnergy Inc.	SaskEnergy Inc.	Saskatchewan Review Board	N/A
2018	SaskPower	SaskPower	Saskatchewan Review Board	N/A
2018	AltaGas Utilities Inc.	AltaGas Utilities Inc.	Alberta Utilities Commission	Proceeding 24161
2018	AltaLink LP	AltaLink LP	Alberta Utilities Commission	Proceeding 23848
2018	FortisBC Energy Inc.	FortisBC Energy Inc.	British Columbia Utilities Commission	N/A
2018	FortisBC Inc.	FortisBC Inc.	British Columbia Utilities Commission	N/A
2019	Capital Power Corporation	Capital Power Corporation	Municipal Government Board of Alberta	N/A
2019	TransAlta Corporation	TransAlta Corporation	Municipal Government Board of Alberta	N/A
2019	Trans Mountain Pipeline ULC	Trans Mountain Pipeline ULC	Canadian Energy Regulator	T260-2019-04-01
2019	NB Power	NB Power	New Brunswick Energy Utility Regulator	Pending
2019	ATCO Electric	ATCO Electric Transmission	Alberta Utilities Commission	Proceeding 24964
2020	Enbridge Pipelines Inc.	Enbridge Pipelines Inc.	Canada Energy Regulator (CER)	RH-001-2020
2021	Ontario Power Generation	Ontario Power Generation	Ontario Energy Board	N/A
2021	AltaLink L.P	AltaLink L.P	Alberta Utilities Commission	Proceeding 26059
2022	Enbridge Gas Inc.	Enbridge Gas Inc.	Ontario Energy Board	EB-2022-0200
2022	IntraGaz LP	IntraGaz LP	La Regie de L'Energie	R-4189-2022
2022	BC Hydro	BC Hydro	British Columbia Utilities Commission	Project 1599243
2022	Manitoba Hydro	Manitoba Hydro	Manitoba Public Utilities Board	Manitoba Hydro 2023/24 & 2024/25 General Rate Application
2023	Pacific Northern Gas	Pacific Northern Gas	British Columbia Utilities Commission	Application No. PNG NE2023 to 2024 RRA

YEAR	CLIENT	APPLICANT	REGULATORY BOARD	PROCEEDING NUMBER
2023	ENMAX Power Corporation	ENMAX Power Corporation	Alberta Utilities Commission	Proceeding 27581

2022 DEPRECIATION STUDY

Prepared for New Jersey American Water Company

Prepared December, 2023

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TABLE OF CONTENTS

SECTION 1

1 STUDY HIGHLIGHTS

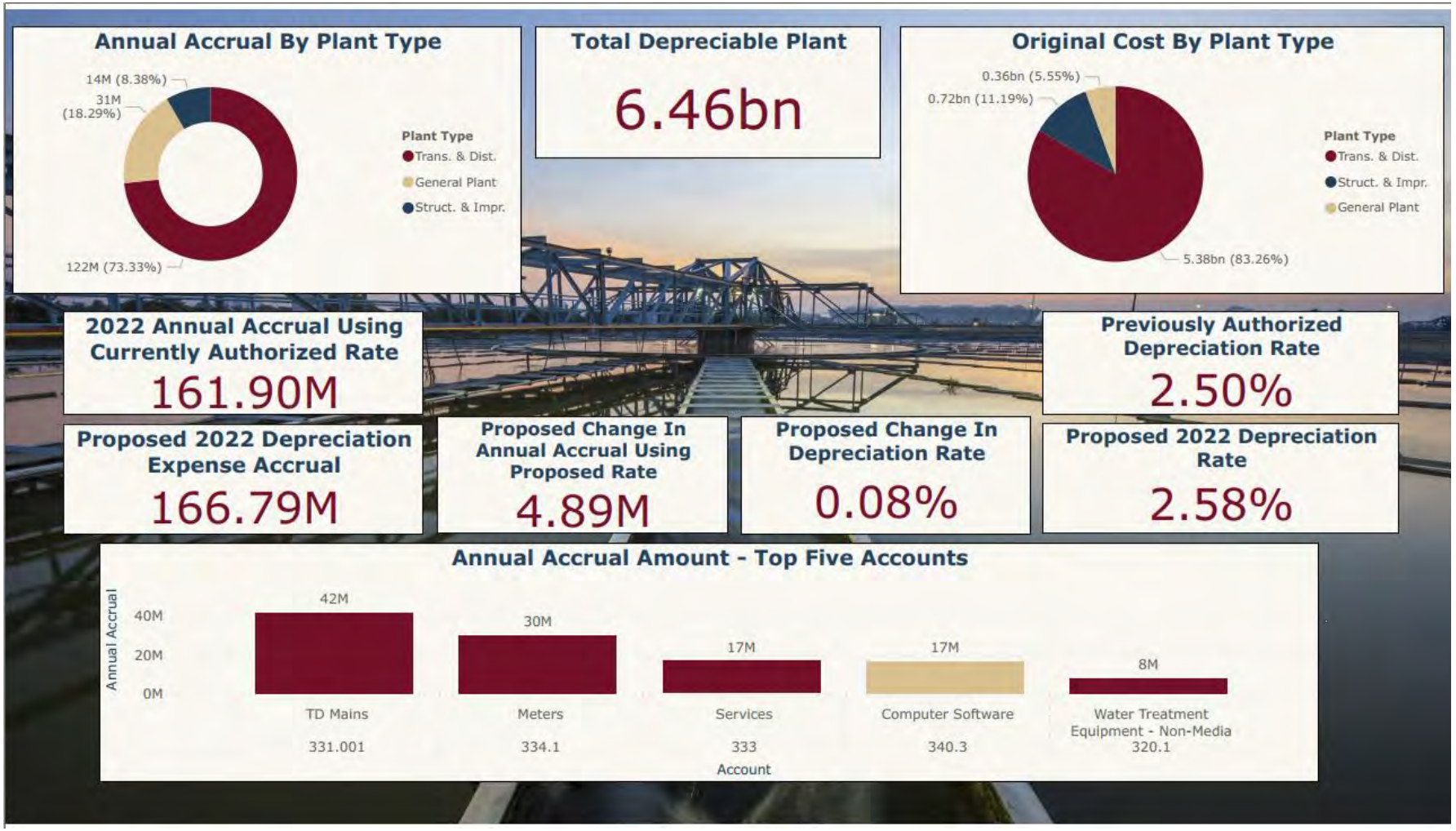
Pursuant to New Jersey American Water's ("NJAWC" or the "Company") request, Concentric Advisors, ULC ("Concentric") conducted a depreciation study related to the Company's Water Treatment, Distribution, Transmission and General Plant accounts. The purpose of the study is to determine the annual depreciation accrual rates and amounts applicable to the original cost of water utility plant, as of December 31, 2022.

The depreciation rates are based on the Straight-Line method using the Average Life Group procedure and were applied on a Remaining Life basis. The calculations were based on attained ages, estimated average service life and forecasting net salvage characteristics for each depreciable group of assets.

Concentric recommends the calculated annual depreciation accrual rates set forth herein apply specifically to Water Treatment, Distribution, Transmission, and General Plant assets in service, as of December 31, 2022, summarized in Table 1 on pages 5-2. Supporting data and calculations are also provided within this report.

Concentric's study results in an annual depreciation expense accrual of $166.8 million when applied to depreciable plant balances of $6.5 billion, as of December 31, 2022. The report study results are summarized at an aggregate functional group level as follows:

1.1 Executive Summary (Power BI)



SECTION 2

2 BASIS OF THE STUDY

2.1 Scope

This study sets forth the results of the depreciation study for the treatment, distribution, transmission, and general water plant assets of NJAWC, to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of investment as of December 31, 2022. The rates and amounts are based on the Straight-Line Method, incorporating the ALG Procedure applied on a Remaining Life Basis. This study also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to the NJAWC assets in service, as of December 31, 2022.

The service life estimates resulting from the study were based on:

- informed professional judgment which incorporated analyses of historical plant retirement data recorded through December 31, 2022;
- a review of NJAWC company practice and outlook, as they relate to plant operation and retirement; and
- consideration of current practice in the Water system industry, including knowledge of service life estimates used for other Water system companies.

The depreciation accrual rates presented herein are based on generally-accepted methods and procedures for calculating depreciation. The estimated survivor curves used in this study are based on studies incorporating actual data through 2022 for most accounts.

2.2 Plan of Study

The report is presented in the following order:

SECTION 1	Study Highlights presents a brief summary of the depreciation study and results
SECTION 2	Basis of the Update contains statements with respect to the plan and the basis of the study
SECTION 3	Development of the Required Depreciation Rates presents descriptions of the methods used and factors considered in the service life study
SECTION 4	Calculation of Annual and Accrued Depreciation presents the methods and procedures used in the calculation of depreciation
SECTION 5	Results of Study presents summaries by depreciable group of annual and accrued depreciation in Table 1
SECTION 6	Presents the results of the Retirement Rate Analysis
SECTION 7	Presents the results of the Net Salvage Study
SECTION 8	Presents the results of the Detailed Depreciation Calculations
SECTION 9	Estimation of Survivor Curves is an overview of Iowa curves and the Retirement Rate Analysis

2.3 Depreciation

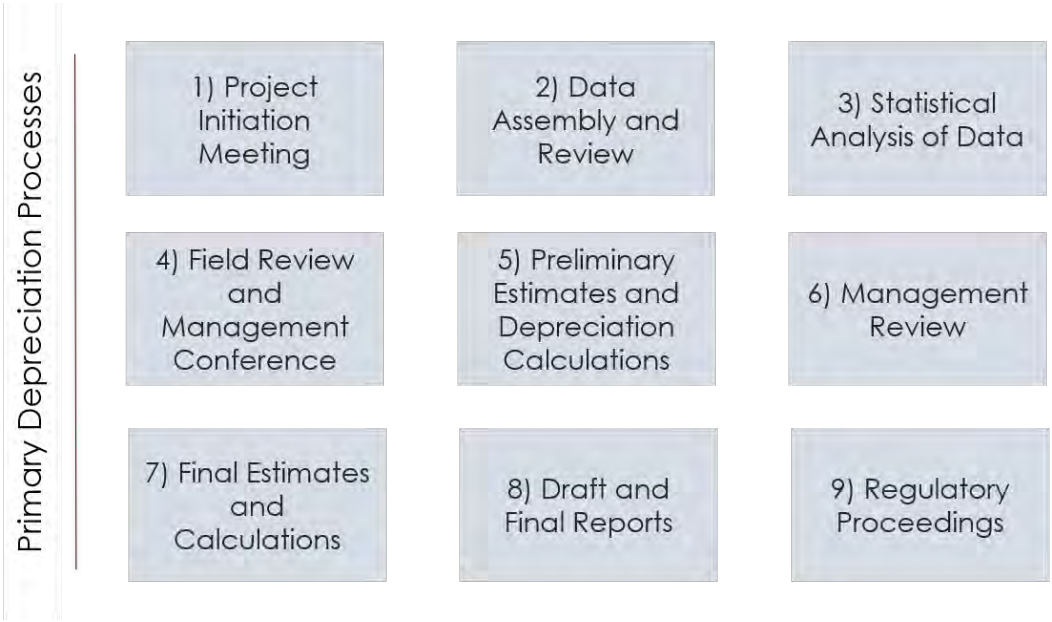
A full and comprehensive depreciation study includes the following components:

1. supported recommendations regarding Average Service Life estimates for each account;
2. supported recommendations regarding estimated Net Salvage requirements for each account;
3. selection of an appropriate grouping procedure;
4. detailed calculation of the depreciation rate utilizing the estimated Average Service Life and Net Salvage requirements; and
5. a document explaining the procedures followed and justifying the results in a format suitable for submission to senior management and regulatory authorities.

A diagram of the nine primary processes followed by Concentric in the development of the depreciation study is provided below. Each of the steps is undertaken by Concentric using proprietary software.

For most accounts, the annual and accrued depreciation were calculated by the Straight-Line Method using the ALG Procedure. For certain general plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages and an estimate of service lives.

Consistent with the current NJAWC practice, amortization accounting continues to be recommended for certain general plant accounts because of the disproportionate plant accounting effort required in these accounts. Many regulated utilities in North America have received approval to adopt amortization accounting for these accounts.



2.4 Information Provided by NJAWC

NJAWC has provided Concentric with the required information, as of December 31, 2022 for all accounts being studied. This information has been compiled from the plant accounting records and includes the following:

- current balances by vintage year for each account (aged balances). The balances provide the amount of investment sorted by installation year currently in operation. This file is only inclusive of current plant in service and does not include any retirement information;
- detailed retirement transactions for all accounts. The transactions include information regarding the transaction year of the retirement, the installation year of the asset being retired, and the original cost of the asset being retired; and
- detailed cost of removal and gross salvage transactions for all accounts requiring the recovery of net salvage. The transactions include information regarding the transaction year of the retirement, the costs associated with the retirement, and any gross salvage proceeds from the sale or reuse of the property; and
- Accumulated Depreciation balances as of December 31, 2022 for accounts studied.

2.5 Data Reconciliation

The above data was reviewed and reconciled to Company control schedules to ensure accuracy and reasonableness in use of the calculations developed in this study. These checks include:

- that the surviving investment by account equals (or can be reconciled to) the Company's gross plant in service and accumulated depreciation ledger balances;
- that the surviving investment in each vintage is not negative. In other words, this check confirms that the sum of retirements from any given vintage have not exceeded the amount of plant additions to the vintage; and
- that any adjusting transactions are properly accounted for within the databases.

SECTION 3

3 DEVELOPMENT OF THE REQUIRED DEPRECIATION RATES

3.1 Depreciation

The development of the depreciation calculations requires the input of an Average Service Life, a retirement dispersion curve ("Survivor Curve" or "Iowa curve"), Net Salvage estimates, and Life Span dates for a number of accounts. (the "depreciation parameters"). Additionally, to complete the depreciation calculations, the calculation methods must be established. Specifically, the selection of the depreciation method must establish three types of additional input:

1. the choice of a depreciation method;
2. a basis upon which to apply the method, and
3. in the case of group assets, a procedure to use in grouping the assets.

In this study, the depreciation rates for NJAWC have been calculated in accordance with the Straight-Line method, the ALG procedure and applied using the Remaining Life technique, with any accumulated depreciation variances trued-up over the composite remaining life of each account.

Depreciation, as applied to depreciable plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of water plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art and changes in demand and requirements of public authorities.[1]

When considering the action of the elements, the average service life and net salvage calculations have considered large catastrophic events that have occurred and impacted the life estimates of utilities across North America. The average service life of utilities has been influenced by events including:

- forest fires;
- earthquakes;
- tornadoes;
- ice storms;
- wind-storms;
- large scale flooding;
- fires;
- lightning;
- intentional actions of third parties;
- hoar frost; and
- other natural forces of nature.

[1] The National Association of Railroad and Utilities Commissioners, Uniform System of Accounts for Gas Utilities.

Depreciation, as used in accounting, is a method of distributing fixed capital costs, less net salvage, over a time period by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing water utility service. Normally, the time over which the fixed capital cost is allocated to the cost of service, is equal to the time over which an item renders service - that is the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the Straight-Line method of depreciation.

The calculation of annual and accrued depreciation based on the Straight-Line method when applied to utility group accounts requires the estimation of survivor curves and is described in the following sections of this study. The development of the proposed depreciation rates also requires the selection of group depreciation procedures, as discussed below.

3.1.1 Study Depreciation Methods and Procedures

When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of the items within a group do not have identical service lives but have lives that are dispersed over a range of time. There are two primary group procedures, namely, the Average Life Group (ALG) and Equal Life Group (ELG) procedures.

In the ALG Procedure, the rate of annual depreciation is based on the average service life of the group. This rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to the average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

In the Equal Life Group Procedure, also known as the Unit Summation Procedure, the property group is subdivided according to service life. That is, each equal life group includes that portion of the property which experiences the life of that specific group. The relative size of each equal life group is determined from the property's life dispersion curve. The calculated depreciation for the property group is the summation of the calculated depreciation based on the service life of each equal life unit.

For most accounts, the annual and accrued depreciation were calculated by the Straight-Line Method using the ALG Procedure. For certain Structures & Improvements, Transmission & Distribution, and General plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages and an estimate of service lives.

While the Equal Life Group Procedure provides an enhanced matching of depreciation expense to the consumption of service value, the Straight-Line Method, Average Life Group Procedure is a commonly used depreciation calculation that has been widely accepted in jurisdictions throughout North America including NJAWC in prior studies. Concentric recommends its continued use.

Amortization accounting is used for certain transmission and compression plant accounts because of the disproportionate plant accounting effort required in these accounts. Many regulated utilities in North America have received approval to adopt amortization accounting for these accounts. This study calculates the annual and accrued depreciation using the Straight-Line Method and ALG

Procedure for most accounts. For certain general plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages and estimates of service lives.

Continued monitoring and maintenance of the accumulated depreciation reserve at the account level is recommended. Concentric has determined an amortization amount to correct the present variance with the calculated accrued depreciation (theoretical reserve) over the composite remaining life of each account.

3.1.2 Remaining Life Calculations

The depreciation rates calculated in this study were calculated on the same manner as used in the prior full depreciation study – i.e. using the straight-line method, the ALG Procedure applied on a remaining life basis. The vintaged remaining life approach weighs the calculations of remaining life on an allocation of the actual book accumulated depreciation account by the Calculated Accumulated Depreciation (CAD) factor determined for each vintage of plant in service. This method is described as a CAD weighted calculation in the textbook Depreciation Systems by Frank K. Wolf and W. Chester Fitch, published by the Iowa State University in 1994 under the title "Adjustments" within the Broad Group Model. This approach to the calculation of remaining life has not changed since the last depreciation study.

When depreciation rates are calculated utilizing a remaining life technique, the depreciation rate is established by dividing the undepreciated value of each group of assets (after consideration to the net salvage requirements) by the composite remaining life of the group of assets. This calculation is made for each vintage surviving investment as of the date of the study (December 31, 2022), and then composited into a calculation for the account or group as a whole. This calculation requires two estimates:

1. The actual booked accumulated depreciation for each vintage within each account.

   NJAWC does not track the booked accumulated depreciation reserve by vintage within each account. Rather the depreciation expense is calculated at an account level and booked to accumulated depreciation at the same account level. Concentric notes that this is the practice employed by virtually all regulated utilities. As such, the accumulated depreciation by account is allocated within the account to each vintage, on the basis of the calculated accumulated depreciation by vintage. The calculated accumulated depreciation is a function of the estimated survivor curve, the average service life estimate, the net salvage estimates and the achieved age of each vintage.

2. The estimated remaining life of each vintage with each account. The estimated remaining life of each vintage is a direct function of the achieved age of each vintage, the estimated survivor curve and the average service life estimate.

Once the above two estimates are determined (the allocated booked reserve by vintage and the average remaining life of each vintage), an annual accrual requirement for each vintage is determined by dividing the net book value for each vintage (considering the estimated future salvage requirements) by the average remaining life of the vintage. The annual requirement for each vintage

is summed at the account level and divided into the sum of the accounts original cost surviving as of December 31, 2022.

This process results in each vintage's calculated net book value to be depreciated over an appropriate remaining life. This vintage weighting on CAD approach to the remaining life calculations is widely considered to be the most accurate. Concentric agrees and views this methodology as the correct and most appropriate calculation.

3.1.3 Net Salvage Calculations

This study was conducted using the normalization approach to net salvage calculation, as is the long-standing norm within the State of New Jersey. As the last depreciation study was conducted more than 3 years ago, Concentric has used a five-year average to calculate the net salvage requirement for all accounts. However, even with this 5-year averaging, the resultant net salvage accrual amounts are still below the expected amounts of net salvage required over the next test period. This is in line with the experience of the last five years, where there has been an increase in the amount of net salvage necessary relative to the amount of original cost in the account. This has led to an increase in the regulatory account where net salvage is booked.

Concentric recommends increasing the accrual amount related to the recovery of cost of removal to account for the increase in expected cost of removal over the next five-year period. This is an accepted approach to the recovery of net salvage throughout the United States. Typically jurisdictions that mandate the use of the normalization approach, such as Connecticut, allow for an increase in the accrual amount when necessary to account for increased future costs. As such, Concentric has adjusted the accrual amount for the recovery of net salvage by a factor of 1.25 to ensure the full recovery of all costs of removal over the upcoming test period.

3.1.4 Truncation Cuts

It is commonly accepted within depreciation texts that some data points, particularly towards the end of the Iowa curve, may be less reliable due to the lower amount of exposures that the retirements are calculated on. It is widespread practice to place lesser weighting on these data points, through the use of a Truncation Cut (or "T-Cut"). This practice is described in detail in the text "Public Utility Depreciation Practices" compiled and edited by the Staff Subcommittee on Depreciation of the Finance and Technology Committee of the National Association of Regulatory Utility Commissioners on page 122 where it is stated:

"A T-cut is used to mathematically perform a function that is automatic in visual fitting (i.e., setting a point beyond which the observed data are considered irrelevant or unreliable and are, therefore, ignored).

Careful selection of a T-cut can greatly enhance the reliability of the resulting analysis. Conversely, since the use of a T-cut involves truncating the observed data, careless selection can impair the reliability of subsequent work."

Concentric has utilized T-cuts throughout the Iowa curve selection where necessary. Where a T-cut is utilized, Concentric has indicated such in the account-by-account write up below.

3.1.5 Survivor Curves

The use of an average service life or a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve plotting the number of units which survive at successive ages using the retirement rate method of analysis.

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. The Iowa curves *"…were sorted into three groups according to whether the mode was to the left, approximately coincident with, or to the right of the average-life ordinate. The curves in each of these three groups were then sub-classified in accordance with the height of the mode, taking also into consideration the distance of the mode to the left or right of the average life."* [2] The Iowa curves are described as L-type (i.e. left-moded), R-type (i.e. right-moded), and S-type (i.e. symmetrical). Further development resulted in the introduction of O-type (i.e. origin-moded curves) where the greatest frequency of retirement occurs at the origin, or immediately after age zero. Individual type curves are further depicted with numerical subscripts which represent the relative heights of the modes of the frequency curves within each family.

The program that is used by Concentric for statistical smooth curve fitting utilizes an internal "goodness-of-fit" criterion known as the Residual Measure. This Residual Measure is based on a least squares solution of the differences between the stub curve (or original data points) and smooth survivor curve which also requires a balancing of the differences above and below the stub curve.

The criterion of goodness-of-fit is the mean square of the differences between the points on the stub and fitted smooth survivor curves. The residual measure, or standard error of estimate, shown in the output format is the square root of this mean square. As such, the lower the Residual Measure the better the statistical fit between the analyzed Iowa curve and the observed data points. Concentric follows the widely used practice of fitting Iowa curves up to one percent of the maximum exposures. This standard practice is utilized to minimize the influence of typically small retirements applied to similarly small exposures which may unduly affect the Iowa curve fitting process. However, Concentric will recognize the observed data points beyond the one percent of maximum exposures if it is determined that the additional data is a valid consideration for life recommendation.

A discussion of the general concept of survivor curves and retirement rate method is presented in Section 9.

3.1.6 Survivor Curve and Net Salvage Judgments

The service life and net salvage estimates used in the depreciation and amortization calculations were based on informed professional judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the water utility industry, and comparisons of the service life and net salvage estimates from Concentric's studies of other water utilities. The use of survivor curves, to reflect the expected dispersion of retirement, provides a consistent method of

[2] Robley Winfrey, Statistical Analyses of Industrial Property Retirements, Bulletin 125 revised (Engineering Research Institute, Iowa State University, 1935) 65

estimating depreciation for water plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

The procedure for estimating service lives consisted of compiling historical data for the plant accounts or depreciable groups, analyzing this history through the use of widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of the historical data and the probable future. The forecasting of a probable future included management and operational staff interviews. The combination of the historical experience and the probable future yielded estimated survivor curves from which the average service lives were derived.

The resultant depreciation rates are summarized in the applicable tables of this study (Section 5). The depreciation rates should be reviewed periodically to reflect the changes that result from plant and reserve account activity. A depreciation reserve deficiency or surplus will develop if future capital expenditures vary significantly from those anticipated in this study.

The estimates of net salvage for the mass property accounts were based mostly in part on historical data related to actual retirement activity for the years 1975 through 2022, for most accounts. Gross salvage and cost of removal as recorded to the depreciation reserve account and related to experienced retirements were used. Concentric notes the data from the previous depreciation consultant was used and considered in the historic net salvage analysis, but more relevancy was placed on the more recent data from 2017 through 2022 provided directly to Concentric by NJAWC. Percentages of the cost of plant retired were calculated for each component of net salvage on an annual, three-year, five-year, and on a cumulative moving average basis.

The following discussion, dealing with a number of accounts which comprise the majority of the investment analyzed, presents an overview of the factors considered by Concentric in the determination of the average service life and net salvage estimates. The survivor curve estimates for the remainder of the accounts not discussed in the following sections were based on similar considerations.

ACCOUNT 304.10 – STRUCTURES AND IMPROVEMENTS – SOURCE OF SUPPLY

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$73,241,806	1.13%	60	55-S0	0.44%	0.75%

The investment in Structures and Improvements – Source of Supply is approximately $73 million representing 1.13 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 60-R2, and the approved rate in service for this account is 2.00 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1932 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $8,924,154 were recorded for the period 2008 through 2022.

The previously applied for Iowa 60-R2 has a related Residual Measure of 2.6527, while the Iowa 55-S0 has a better Residual Measure of 1.9475 as depicted on page 6-2 of this report. The largest retirement occurs at age 16, with the average age of retirements decreasing in recent years from 25 in 2008, where there were very little in retirements, down to 20.50 in 2022 and peaking at an average age of 37.84 in 2020. The weighted average age of retirement for this account is 18.24.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 55-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities studied by Concentric produced a range from 45 to 65 years and a comparison of peers used by other consultants produced a range of 45 to 60 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 55-S0 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 55-S0 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $549,785, resulting in a net salvage normalization rate of 0.75%, up from the approved net salvage normalization rate of 0.44%.

ACCOUNT 304.20 – STRUCTURES AND IMPROVEMENTS – POWER AND PUMPING

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$87,269,461	1.35%	75	70-R2	0.14%	0.10%

The investment in Structures and Improvements – Power and Pumping is approximately $87.3 million representing 1.35 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 75-S1, and the approved rate in service for this account is 1.69 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions for the combined accounts 304.20 and 304.30, for the period 1886 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $18,054,231 were recorded for the period 2007 through 2022.

As was done in previous studies, this account was analyzed for actuarial analysis in conjunction with 304.3 – Treatment. The currently applied for Iowa 75-S1 has a related Residual Measure of 0.6830, as opposed to the Iowa 70-R2 which produces a Residual Measure of 1.0236 as depicted on page 6-7 of this report. There are consistent retirements in this account from age 1 through age 67 of plant in service, and the average age of retirements has trended lower in recent years, from 35.55 in 2007 to 33.22 in 2022, with a weighted average age of retirement of 22.48 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 70-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities studied by Concentric produced a range from 65 to 75 years and a comparison of peers used by other consultants produced a range of 50 to 75 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 70-R2 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 70-R2 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $83,064, resulting in a net salvage normalization rate of 0.10%, down from the approved net salvage normalization rate of 0.14%.

ACCOUNT 304.30 – STRUCTURES AND IMPROVEMENTS – TREATMENT

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$345,213,949	5.34%	75	70-R2	0.06%	0.08%

The investment in Structures and Improvements – Treatment is approximately $345.2 million representing 5.34 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 75-S1, and the approved rate in service for this account is 1.87 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions for the combined accounts 304.20 and 304.30, for the period 1886 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $18,054,231 were recorded for the period 2007 through 2022.

As was done in previous studies, this account was analyzed for actuarial analysis in conjunction with 304.2 – Pumping. The currently applied for Iowa 75-S1 has a related Residual Measure of 0.6830, as opposed to the Iowa 70-R2 which produces a Residual Measure of 1.0236 as depicted on page 6-13 of this report. While the mathematical fit to the 70-R2 is worse, the Iowa 70-R2 has a superior visual fit particularly through age 80, at which point the exposures dip below $420,000 representing less than 0.1 percent of total exposures at age zero. There are consistent retirements in this account from age 1 through age 67 of plant in service, and the average age of retirements has trended lower in recent years, from 35.55 in 2007 to 33.22 in 2022, with a weighted average age of retirement of 22.48 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 70-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 65 to 80 years and a comparison of peers used by other consultants produced a range of 50 to 80 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 70-R2 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 70-R2 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $328,579, resulting in a net salvage normalization rate of 0.08%, up from the approved net salvage normalization rate of 0.06%.

ACCOUNT 304.50 – STRUCTURES AND IMPROVEMENTS – GENERAL

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$108,414,415	1.68%	35	30-R1.5	0.13%	0.28%

The investment in Structures and Improvements – General is approximately $108.4 million representing 1.68 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 35-R1.5, and the approved rate in service for this account is 3.45 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1932 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $15,344,045 were recorded for the period 2007 through 2022.

The currently applied for Iowa 35-R1.5 has a related Residual Measure of 1.2325, as opposed to the Iowa 30-R1.5 which produces a Residual Measure of 0.7755 as depicted on page 6-21 of this report. There are consistent retirements in this account from age 1 through age 37 of plant in service, with large dollar value retirements occurring at age 32. The average age of retirements has trended lower in recent years, from 24.50 in 2007 to 16.82 in 2022. The overall weighted average age of retirement for this account is 16.65 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 30-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric

has studied produced a range from 25 to 35 years and a comparison of peers used by other consultants produced a range of 25 to 50 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 30-R1.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 30-R1.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $302,691, resulting in a net salvage normalization rate of 0.28%, up from the approved net salvage normalization rate of 0.13%.

ACCOUNT 311.20 – PUMPING EQUIPMENT - ELECTRIC

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$154,239,438	2.39%	43	45-R3	0.25%	0.28%

The investment in Electric Pumping Equipment is approximately $154.2 million representing 2.39 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 43-R1.5, and the approved rate in service is 2.34 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1900 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $20,041,620 were recorded for the period 2007 through 2022.

The previously applied for Iowa 43-R1.5 has a related Residual Measure of 1.9334, as opposed to the Iowa 45-R3 which produces a Residual Measure of 2.1136 as depicted on page 6-78 of this report. There are consistent retirements in this account from age 1 through age 68 of plant in service, when they start to dissipate until the last recorded retirement at age 111. The average age of retirements has ebbed and flowed in recent years, from 35.71 in 2007 to 26.36 in 2022, though there are some transaction years between this band that have been lower (in 2016) and higher (in 2020). The weighted average age of retirement in this account is 21.40 years. Furthermore, the amount of surviving investment from each installation year has trended upwards since the previous depreciation study, indicating that a life extension may be appropriate.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 45-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 40 to 55 years and a comparison of peers used by other consultants produced a range of 40 to 47 years. Based on the above discussion and considerations,

and on Concentric's experience, the Iowa 45-R3 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 45-R3 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $439,141, resulting in a net salvage normalization rate of 0.28%, up from the approved net salvage normalization rate of 0.25%.

ACCOUNT 320.10 – WATER TREATMENT EQUIPMENT – NON-MEDIA

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$519,802,807	8.04%	60	60-S0	0.13%	0.30%

The investment in Water Treatment Equipment – Non-Media is approximately $519.8 million representing 8.04 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 60-S0, and the approved rate in service is 2.20 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1889 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $42,407,141 were recorded for the period 2007 through 2022.

The previously applied for and proposed Iowa 60-S0 has a related Residual Measure of 1.5971, as depicted on page 6-100 of this report. There are consistent retirements in this account from age 1 through age 67 of plant in service, and the average age of retirements has stayed fairly constant in recent years, from 3 in 2014 to 11.43 in 2022 outside of a peak of 60.54 in 2019 where the dollars retired were small relative to other transaction years. However, the overall weighted average age of retirement in this account is 22.47 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the previously applied and recommended 60-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 45 to 50 years and a comparison of peers used by other consultants produced a range of 30 to 55 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 60-S0 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 60-S0 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $1,546,681, resulting in a net salvage normalization rate of 0.30%, up from the approved net salvage normalization rate of 0.13%.

ACCOUNT 330.10 – ELEVATED TANKS & STANDPIPES

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$66,082,821	1.02%	70	72-R2	0.20%	0.32%

The investment in Elevated Tanks and Standpipes is approximately $66.1 million representing just over one percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 70-R2.5, and the approved rate in service is 1.09 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the combined accounts 330.00 through 330.40, for the period 1889 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $6,440,408 were recorded for the period 2007 through 2022.

As was done in previous studies, this account was analyzed for actuarial analysis in conjunction with 330 – Distribution Reservoirs & Standpipes, 330.002 – Tank Original Painting, 330.20 – Ground Level Tanks, 330.30 – Below Ground Tanks, and 330.40 – Clearwell. The previously applied for 70-R2.5 has a related Residual Measure of 3.1128 as opposed to the proposed Iowa 72-R2 which has a related Residual Measure of 2.7659, as depicted on page 6-108 of this report. The average age of retirements has decreased from its peak of 55.33 in 2019, where there were relatively small amounts of retirements, to 41.13 in 2022. The overall weighted average age of retirement in this account is 32.64 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the 72-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 60 to 70 years and a comparison of peers used by other consultants produced a range of 35 to 70 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 72-R2 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 72-R2 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last

several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $212,999, resulting in a net salvage normalization rate of 0.32%, up from the approved net salvage normalization rate of 0.20%.

ACCOUNT 331.001 – TRANSMISSION AND DISTRIBUTION MAINS

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$2,789,862,916	43.16%	120	105-R3	0.69%	0.50%

The investment in Transmission and Distribution Mains is approximately $2.8 billion representing over 43 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 120-R2.5, and the approved rate in service is 1.51 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1877 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $55,690,287 were recorded for the period 2007 through 2022.

The previously applied for Iowa 120-R2.5 has a related Residual Measure of 1.7420 as opposed to the proposed Iowa 105-R3 which has a related Residual Measure of 0.6684, as depicted on page 6-114 of this report. The average age of retirements has decreased since 2007, from 54.66 years in 2007 to 49.29 in 2022. The retirement dollars were the largest in 2020, where the average age of retirement was only 14.82, but since then the average age has increased back to the range of the other transaction years that have experienced retirements. The overall weighted average age of retirement in this account is 27.63 years. The proposed Iowa 105-R2 provides a better mathematical fit to the data as referenced by the Residual Measure, however it also aligns strongly with the observed data, specifically from 80 percent of plant surviving through 40 percent of plant surviving. This section is where most of the larger retirements (as a percentage of plant exposed to retirement at that age) occur for this account and thus where the Iowa curve should fit best to.

Conversations with NJAWC operational staff and subject matter experts indicated that the 105-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 83 to 105 years and a comparison of peers used by other consultants produced a range of 70 to 105 years. This indicates that the previously recommended average service life of 120 years was outside of the range used by all peers considered by Concentric. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 105-R3 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 105-R3 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $13,847,633, resulting in a net salvage normalization rate of 0.50%, down from the approved net salvage normalization rate of 0.69%.

ACCOUNT 333.00 – SERVICES

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$743,359,335	11.50%	75	70-R2.5	0.92%	0.80%

The investment in Services is approximately $743.4 million representing roughly11.5 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 75-R2.5, and the approved rate in service is 2.09 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1900 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $42,487,885 were recorded for the period 2007 through 2022.

The previously applied for Iowa 75-R2.5 has a related Residual Measure of 0.6608 as opposed to the proposed Iowa 70-R2.5 which has a related Residual Measure of 0.2753, as depicted on page 6-124 of this report. The average age of retirements has decreased since 2007, where it was 39.63, to 24.51 in 2022, with a peak of 58.59 in 2010 and a low of 10.12 in 2020. The overall weighted average age of retirement in this account is 20.64 years. The proposed Iowa 70-R2.5 provides a better mathematical fit to the data as referenced by the Residual Measure, however it also aligns strongly with the observed data, specifically the region from 100 percent to 80 percent surviving, and the region spanning from just over 60 percent of plant surviving through under 20 percent of plant surviving. The retirements within the second region (60 percent surviving through 20 percent surviving) are the most consequential, as many ages within this range have retirement ratios that are over 1 percent of exposures at the beginning of the age interval. The materiality of these retirements can be seen through the percent surviving in this account dropping from roughly 72 percent at age 61 to 5 percent at age 104.

Conversations with NJAWC operational staff and subject matter experts indicated that the 70-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 55 to 75 years and a comparison of peers used by other consultants produced a range of 45 to 75 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 70-R2.5 is a reasonable expectation for the investment in this account. As such,

Concentric recommends the Iowa 70-R2.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $5,925,522, resulting in a net salvage normalization rate of 0.80%, down from the approved net salvage normalization rate of 0.92%.

ACCOUNT 334.10 – METERS

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$316,793,625	4.90%	15	12-S0	1.42%	1.36%

The investment in Meters is approximately $316.8 million representing roughly 5 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 15-S1, and the approved rate in service is 3.96 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1921 through 2022, were analyzed by the retirement rate method. Retirements that occurred between 2007 and 2022 were utilized in the development of the depreciation parameters. In conducting the retirement rate analysis, this account included the use of a T-cut at age 30.5, when exposures remaining in service dipped below 1% of total exposures at age 0. As such, retirements of $85,890,440 were considered in the retirement rate analysis.

The previously applied for Iowa 15-S1 has a related Residual Measure of 1.5276 as opposed to the proposed Iowa 12-S0 which has a related Residual Measure of 1.8628, as depicted on page 6-130 of this report. The average age of retirements has decreased since 2007, where it was 11.29, to 6.27 in 2022, with a peak of 18.11 in 2017 and a low of 5.61 in 2021. The overall weighted average age of retirement in this account is 8.65 years. The proposed Iowa 12-S0 provides a worse mathematical fit to the data as referenced by the Residual Measure, however it aligns with company policy surrounding meter testing and replacement. Most of New Jersey American Water's meters are 5/8", and as such, are required to be tested every ten years. NJAWC policy is to replace 5/8" meters at the time of testing, which results in a maximum life of 10 years for 5/8" meters. Moving from a 15-year average service life recommendation to a 12-year average service life reflects the need to adhere to that policy.

A peer comparison of American water utilities Concentric has studied produced a range from 10 to 20 years and a comparison of peers used by other consultants produced a range of 20 to 40 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 12-S0 is

a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 12-S0 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $4,292,692, resulting in a net salvage normalization rate of 1.36%, down from the approved cost of removal rate of 1.42%.

ACCOUNT 334.20 – METER INSTALLATIONS

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$186,256,879	2.88%	20	60-R3	0.63%	0.66%

The investment in Meter Installations is approximately $186.3 million representing roughly 3 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 20-R3, and the approved rate in service is 8.32 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1900 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $11,738,523 were recorded for the period 2007 through 2022.

Concentric has noted that in the previous depreciation study this account was combined with 334.30 – Meter Vaults for the purposes of Actuarial Analysis. However, after conversations with company personnel and analyzing the data sets for both accounts, Concentric has decided the data is robust enough to analyze independently. The previously applied for Iowa 20-R3 has a related Residual Measure of 5.0638 as opposed to the proposed Iowa 60-R3 which has a related Residual Measure of 0.5735, as depicted on page 6-133 of this report. The average age of retirements has shown no true trend since 2007, with the average age being as high as 64.81 in 2017, and as low as 10.54 in 2020. The overall weighted average age of retirement in this account is 21.50 years. The proposed Iowa 60-R3 provides a much stronger mathematical fit to the data as referenced by the Residual Measure, and it aligns with company practice for replacement of these types of assets.

A peer comparison of American water utilities Concentric has studied produced a range from 30 to 60 years and a comparison of peers used by other consultants produced a range of 20 to 65 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 60-R3 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 60-R3 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last

several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $1,236,273, resulting in a net salvage normalization rate of 0.66%, up from the approved net salvage normalization rate of 0.63%.

ACCOUNT 334.30 – METER VAULTS

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$70,619,427	1.09%	20	40-S0.5	0.63%	2.12%

The investment in Meter Vaults is approximately $70.6 million representing roughly 1 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 20-R3, and the approved rate in service is 8.32 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1998 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $4,051,351 were recorded for the period 2008 through 2022.

Concentric has noted that in the previous depreciation study this account was combined with 334.20 – Meter Installations for the purposes of Actuarial Analysis. However, after conversations with company personnel and analyzing the data sets for both accounts, Concentric has decided the data is robust enough to analyze independently. The previously applied for Iowa 20-R3 has a related Residual Measure of 0.1264 as opposed to the proposed Iowa 40-S0.5 which has a related Residual Measure of 0.2865, as depicted on page 6-138 of this report. The average age of retirements has steadily increased since 2007, increasing to a peak of 11.04 in 2019, with a slight dip down to 8.44 in 2022. The overall weighted average age of retirement in this account is 9.23 years. The proposed Iowa 40-S0.5 does not have as strong of a fit to the observed data, however the historical data is not expected to be indicative of future retirement patterns. As such, Concentric has relied upon peer analysis and discussions with NJAWC operations and management to select a more appropriate life.

A peer comparison of American water utilities Concentric has studied produced a range from 40 to 60 years and a comparison of peers used by other consultants produced a range of 20 to 40 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 40-S0.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 40-S0.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $1,495,767,

resulting in a net salvage normalization rate of 2.12%, up from the approved net salvage normalization rate of 0.63%.

ACCOUNT 335.00 – HYDRANTS

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$196,483,855	3.04%	70	60-R2	1.49%	1.22%

The investment in Hydrants is approximately $196.5 million representing roughly 3 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 70-R3, and the approved rate in service is 2.92 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1900 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $18,731,385 were recorded for the period 2007 through 2022.

The previously applied for Iowa 70-R3 has a related Residual Measure of 1.5654 as opposed to the proposed Iowa 60-R2 which has a related Residual Measure of 0.5601, as depicted on page 6-140 of this report. Absent the peak in 2013 of 67.21, the average age of retirements has steadily decreased since 2007, moving from 45.44 in 2007 to 27.86 in 2022. The overall weighted average age of retirement in this account is 21.20 years. The proposed Iowa 60-R2 has both a stronger mathematical and visual fit than the previously applied for Iowa curve does. The Iowa 60-R2 fits the observed data robustly from 80 percent of plant surviving through 20 percent surviving, the part of the exposure curve that is "…relatively straight and is the portion of the curve that often best characterizes the survivor curve."[3] The proposed curve also results in a maximum life of roughly 112 years, which is extremely accurate to the observed data points on page 6-140.

A peer comparison of American water utilities Concentric has studied produced a range from 60 to 65 years and a comparison of peers used by other consultants produced a range of 62 to 70 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 60-R2 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 60-R2 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $2,394,081, resulting in a net salvage normalization rate of 1.22%, down from the approved cost of removal rate of 1.49%.

[3] Wolf, Frank K, and W. Chester Fitch, Depreciation Systems (Iowa State University Press, 1994), 47

OTHER ACCOUNTS

The above analysis provides the consideration relating to over 87 percent of the depreciable plant. Many of the accounts related to the remaining 13 percent of the depreciable plant studied as of December 31, 2022, are subjected to amortization accounting. This is proposed for a number of accounts that represent numerous units of property, but very small portions of depreciable water plant in service.

SECTION 4

4 CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

4.1 Calculation of Annual and Accrued Amortization

Amortization is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized. Normally, the distribution of the amount is in equal amounts to each year of the amortization period.

The calculation of annual and accrued amortization requires the selection of an amortization period. The amortization periods used in this report were based on judgment which incorporated a consideration of the period during which the assets will render most of their service, the amortization period and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

Amortization accounting is proposed for a number of accounts that represent numerous units of property, but a very small portion of depreciable water plant in service. The accounts and their amortization periods are as follows:

Account	Title	Amortization Period-Years
339.60	Misc. Intangible Plant - CPS	5
340.10	Office Furniture	20
340.20	Computer & Periphery - Equipment	8
340.30	Computer Software	10
340.31	Computer Software – Mainframe	8
340.50	Other Office Equipment	15
342.00	Stores Equipment	25
343.00	Tools, Shop, and Garage Equipment	25
344.00	Laboratory Equipment	25
346.00	Communication Equipment	15
346.10	Communication Equipment – Non-Telephone	15
346.19	Remote Control & Instrument	15
346.20	Communication Equipment – Telephone	15
347.00	Miscellaneous Equipment	20
348.00	Other Tangible Property	25

For the purpose of calculating annual amortization amounts, as of December 31, 2022, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost where possible. The remaining book reserve is allocated among vintages with

an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

4.2 Monitoring of Book Accumulated Depreciation

The calculated accrued depreciation or amortization represents that portion of the depreciable cost which will not be allocated to expense through future depreciation accruals, if current forecasts of service life characteristics materialize and are used as a basis for depreciation accounting. Thus, the calculated accrued depreciation provides a measure of the book accumulated depreciation. The use of this measure is recommended in the amortization of book accumulated depreciation variances to insure complete recovery of capital over the life of the property.

The composite remaining life for use in the calculation of depreciation accruals is derived by developing the composite sum of the individual remaining lives in accordance with the following equation:

$$Composite\ Remaining\ Life = \frac{\sum(\frac{Book\ Cost}{Life}\ x\ Remaining\ Life)}{\sum\frac{Book\ Cost}{Life}} \quad (1)$$

The book costs and lives of the several vintages, which are summed in the foregoing equation, are defined by the estimated future survivor curve. In as much as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

$$Composite\ Remaining\ Life = \frac{\sum Whole\ Life\ Future\ Accruals}{\sum Whole\ Life\ Annual\ Accrual} \quad (2)$$

or

$$Composite\ Remaining\ Life = \frac{\sum\ BookCost - Calc, Reserve}{\sum Whole\ Life\ Annual\ Accrual} \quad (3)$$

SECTION 5

5 RESULTS OF THE STUDY

5.1 Qualification of Results

The calculated annual and accrued depreciation are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and salvage, and for the change of the composition of property in service. The annual accrual rates and the accrued depreciation were calculated in accordance with the Straight-line method, using the ALG procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

5.2 Description of Detailed Tabulations

The following tables provides summaries by account of the original cost of investment, booked accumulated depreciation amounts, the required amount of annual depreciation expense, the required depreciation rate to be applied against the original cost of the account and the estimated composite remaining life of the surviving plant in service.

The detailed calculations of annual depreciation applicable to depreciable assets, as of December 31, 2022, are presented in account sequence starting in Section 5 – Page 5-2. The tables indicate the estimated average survivor curves used in the calculations. The tables set forth (for each installation year) the original cost, calculated accrued depreciation and the calculated annual accrual.

NEW JERSEY - AMERICAN WATER COMPANY

TOTAL SYSTEM
TABLE 1 SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN WATER PLANT BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2022
TOTAL LIFE AND NET SALVAGE

ACCOUNT	DESCRIPTION	Truncation Date	Estimated Survivor Curve	Investment Percentage	Net Salvage Percent	Surviving Original Cost as of 12/31/2022	Booked Reserve	Future Accruals	Annual Accrual Amount	Annual Accrual Rate	Composite Remaining Life	Normalization Accrual Amount	Normalization Rate	Total Annual Accrual	Total Depreciation Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
STRUCTURES AND IMPROVEMENTS															
304.100	Supply		55-S0	1.13% *	0%	$73,241,806	$2,927,021	$70,314,785	$1,446,968	1.98%	49.1	549,785	0.75%	1,996,753	2.73%
304.200	Pumping		70-R2	1.35% *	0%	$87,269,461	$38,456,099	$48,813,362	$900,049	1.03%	51.8	83,064	0.10%	983,113	1.13%
304.300	Treatment		70-R2	5.34% *	0%	$345,213,949	$109,682,056	$235,531,893	$4,086,248	1.18%	56.2	328,579	0.10%	4,414,827	1.28%
304.310	Treatment - Handl		70-R2	0.12%	0%	$7,835,773	$4,491,247	$3,344,526	$63,892	0.82%	51.7	7,458	0.10%	71,350	0.91%
304.400	Transmission and Distribution		45-S0.5	0.36%	0%	$23,167,372	$7,205,535	$15,961,837	$423,306	1.83%	35.5	60,276	0.26%	483,582	2.09%
304.500	General		30-R1.5	1.68% *	0%	$108,414,415	$12,670,460	$95,743,955	$4,022,808	3.71%	24.5	302,691	0.28%	4,325,499	3.99%
304.600	Office Buildings		45-S0	0.92%	0%	$59,604,247	$5,915,557	$53,688,690	$1,324,487	2.22%	40.5	80,489	0.14%	1,404,976	2.36%
304.610	HVAC		45-S0	0.04%	0%	$2,690,218	$33,110	$2,657,109	$61,598	2.29%	43.1	9,693	0.36%	71,291	2.65%
304.700	Store, Shop and Garage		50-R2.5	0.15%	0%	$9,926,946	$4,911,824	$5,015,122	$205,501	2.07%	24.5	7,271	0.07%	212,772	2.14%
304.800	Miscellaneous		40-S1.5	0.09%	0%	$5,942,436	$5,700,902	$241,535	$6,116	0.10%	18.7	2,041	0.03%	8,157	0.14%
TOTAL STRUCTURES AND IMPROVEMENTS						**$723,306,624**	**$191,993,810**	**$531,312,814**	**$12,540,973**	**1.73%**		**$1,431,347**		**$13,972,320**	**1.93%**
305.000	Collecting and Impounding Reservoirs		90-S1	0.34%	0%	$22,162,969	$4,238,135	$17,924,834	$310,832	1.40%	60.4	10,000	0.05%	320,832	1.45%
306.000	Lake, River and Other Intakes		55-R3	0.16%	0%	$10,355,895	$2,990,153	$7,365,742	$249,582	2.41%	30.7	9,907	0.10%	259,489	2.51%
307.000	Wells and Springs		50-R3	0.98%	0%	$63,384,222	$25,800,366	$37,583,856	$996,807	1.57%	33.8	214,111	0.34%	1,210,918	1.91%
308.000	Infiltration Galleries and Tunnels		70-R2.5	0.15%	0%	$9,745,367	$4,960,207	$4,785,160	$103,039	1.06%	46.2	-	0.00%	103,039	1.06%
309.000	Supply Mains		82-S1.5	0.50%	0%	$32,382,955	$8,678,837	$23,704,118	$380,646	1.18%	61.8	243	0.00%	380,889	1.18%
310.000	Power Generation Equipment		47-R4	0.76%	0%	$48,955,855	$14,395,099	$34,560,756	$1,002,805	2.05%	34.1	11,674	0.02%	1,014,479	2.07%
310.200	Other Power Generation Equipment		30-R2.5	0.00%	0%	$299,607	$149,833	$149,774	$9,817	3.28%	15.2	-	0.00%	9,817	3.28%
PUMPING EQUIPMENT															
311.200	Electric		45-R3	2.39% *	0%	$154,239,438	$63,366,475	$90,872,962	$3,094,617	2.01%	28.2	439,141	0.28%	3,533,758	2.29%
311.300	Diesel		45-R3	0.11%	0%	$6,813,615	$2,939,451	$3,874,164	$151,067	2.22%	25.6	11,316	0.17%	162,383	2.38%
311.400	Hydraulic		45-R3	0.23%	0%	$14,614,507	$1,507,304	$13,107,203	$328,982	2.25%	39.9	23,356	0.16%	352,338	2.41%
311.500	Other		45-R3	0.19%	0%	$12,470,707	$6,253,545	$6,217,162	$184,868	1.48%	30.4	70,196	0.56%	255,064	2.05%
311.530	Water Treatment		45-R3	0.00%	0%	$232,192	$66,571	$165,621	$4,462	1.92%	36.4	2,334	1.01%	6,796	2.93%
311.540	Transmission and Distribution		45-R3	0.00%	0%	$30,072	$8,967	$21,105	$614	2.04%	34.3	-	0.00%	614	2.04%
TOTAL PUMPING EQUIPMENT						**$188,400,530**	**$74,142,312**	**$114,258,218**	**$3,764,610**	**2.00%**		**$546,344**		**$4,310,954**	**2.29%**
PURIFICATION SYSTEM															
320.100	Water Treatment Equipment - Non-Media		60-S0	8.04% *	0%	$519,802,807	$208,641,799	$311,161,008	$6,200,755	1.19%	47.6	1,546,681	0.30%	7,747,436	1.49%
320.200	Water Treatment Equipment - Filter Media		10-S0.5	0.44%	0%	$28,333,789	$12,040,176	$16,293,612	$2,361,079	8.33%	6.5	111,107	0.39%	2,472,186	8.73%
TOTAL PURIFICATION SYSTEM						**$548,136,595**	**$220,681,975**	**$327,454,620**	**$8,561,834**	**1.56%**		**$1,657,788**		**$10,219,622**	**1.86%**
330.000	Dist Reservoirs & Standpipes		72-R2	0.63%	0%	$40,748,153	$8,421,782	$32,326,371	$595,741	1.46%	55.0	131,340	0.32%	727,081	1.78%
330.002	Tank Original Painting		72-R2	0.00%	0%	$99,272	$21,627	$77,645	$1,292	1.30%	60.1	320	0.32%	1,612	1.62%
330.100	Elevated Tanks & Standpipes		72-R2	1.02% *	0%	$66,082,821	$28,873,482	$37,209,339	$658,109	1.00%	52.0	212,999	0.32%	871,108	1.32%
330.200	Ground Level Tanks		72-R2	0.22%	0%	$14,304,505	$2,103,966	$12,200,539	$196,016	1.37%	62.1	46,107	0.32%	242,123	1.69%
330.300	Below Ground Tanks		72-R2	0.08%	0%	$5,440,221	$1,657,567	$3,782,654	$68,401	1.26%	55.3	17,535	0.32%	85,936	1.58%
330.400	Clearwell		72-R2	0.00%	0%	$85,696	$104,761	-$19,065	$0	0.00%	60.0	276	0.32%	276	0.32%
TOTAL ACCOUNT 330						**$126,760,668**	**$41,183,185**	**$85,577,483**	**$1,519,559**	**1.20%**		**$408,577**		**$1,928,136**	**1.52%**
331.001	TD Mains		105-R3	43.16% *	0%	$2,789,862,916	$305,870,225	$2,483,992,691	$27,807,313	1.00%	90.1	13,847,633	0.50%	41,654,946	1.49%
332.000	Fire Mains		65-S0.5	0.03%	0%	$2,128,522	$188,886	$1,939,636	$38,251	1.80%	51.2	123,532	5.80%	161,783	7.60%
TOTAL MAINS						**$2,791,991,437**	**$306,059,110**	**$2,485,932,327**	**$27,845,564**	**1.00%**		**$13,971,165**		**$41,816,729**	**1.50%**
333.000	Services		70-R2.5	11.50% *	0%	$743,359,335	$106,395,664	$636,963,671	$10,995,227	1.48%	58.5	5,925,522	0.80%	16,920,749	2.28%
METERS															
334.100	Meters		12-S0	4.90% *	0%	$316,793,625	$119,717,720	$197,075,905	$25,971,822	8.20%	7.4	4,292,692	1.36%	30,264,514	9.55%
TOTAL METERS						**$316,793,625**	**$119,717,720**	**$197,075,905**	**$25,971,822**	**8.20%**		**$4,292,692**		**$30,264,514**	**9.55%**
334.200	Meter Installations		60-R3	2.88% *	0%	$186,256,879	$79,185,065	$107,071,815	$2,124,454	1.14%	46.1	1,236,273	0.66%	3,360,727	1.80%
334.300	Meter Vaults		40-S0.5	1.09% *	0%	$70,619,427	$17,054,766	$53,564,661	$1,573,686	2.23%	33.8	1,495,767	2.12%	3,069,453	4.35%
335.000	Hydrants		60-R2	3.04% *	0%	$196,483,855	$16,067,036	$180,416,819	$3,736,953	1.90%	49.8	2,394,081	1.22%	6,131,034	3.12%
336.000	Backflow Preventers		40-S2.5	0.00%	0%	$231,963	$8,577	$223,386	$5,817	2.51%	38.4	-	0.00%	5,817	2.51%
339.100	Other P/E - Intangible		30-R3	0.08%	0%	$5,141,791	$732,292	$4,409,500	$283,647	5.52%	23.9	-	0.00%	283,647	5.52%
339.200	Other P/E - Supply		30-R3	0.01%	0%	$641,631	$29,070	$612,561	$37,015	5.77%	21.7	-	0.00%	37,015	5.77%
339.300	Other P/E - Treatment		50-R2.5	0.02%	0%	$1,202,555	$552,887	$649,668	$16,023	1.33%	40.0	-	0.00%	16,023	1.33%
339.400	Other P/E - WT Res Hand Equip		45-R3	0.09%	0%	$5,947,444	$1,781,528	$4,165,916	$134,084	2.25%	31.2	-	0.00%	134,084	2.25%
339.500	Other P/E - Transmission and Distribution		20-R3	0.01%	0%	$596,458	$513,197	$83,261	$5,131	0.86%	14.9	-	0.00%	5,131	0.86%
339.600	Other P/E-CPS		5-SQ	0.19%	0%	$12,514,829	$11,091,957	$1,422,872	$477,986	3.82%	1.4	159	0.00%	478,145	3.82%
OFFICE FURNITURE AND EQUIPMENT															
340.100	Office Furniture & Equip		20-SQ	0.12%	0%	$7,586,506	$3,060,392	$4,526,115	$1,160,909	15.30%	7.0	3,257	0.04%	1,164,166	15.35%
340.200	Comp & Periph Equip		8-SQ	0.09%	0%	$5,540,990	$7,491,700	-$1,950,710	$0	0.00%	5.4	10,865	0.20%	10,865	0.20%
340.300	Computer Software		10-SQ	2.14%	0%	$138,352,245	$63,610,280	$74,741,965	$16,645,789	12.03%	5.0	652	0.00%	16,646,441	12.03%
340.310	Computer Software - Mainframe		8-SQ	0.00%	0%	$195,201	$4,686,626	-$4,491,425	$0	0.00%	3.5	-	0.00%	-	0.00%
340.500	Other Office Equipment		15-SQ	0.00%	0%	$6,939	$426,146	-$419,207	$0	0.00%	11.5	-	0.00%	-	0.00%
TOTAL OFFICE FURNITURE AND EQUIPMENT						**$151,681,881**	**$79,275,144**	**$72,406,737**	**$17,806,698**	**11.74%**		**$14,774**		**$17,821,472**	**11.75%**

NEW JERSEY - AMERICAN WATER COMPANY

TOTAL SYSTEM
TABLE 1 SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN WATER PLANT BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2022
TOTAL LIFE AND NET SALVAGE

ACCOUNT		DESCRIPTION	Truncation Date	Estimated Survivor Curve	Investment Percentage	Net Salvage Percent	Surviving Original Cost as of 12/31/2022	Booked Reserve	Future Accruals	Annual Accrual Amount	Annual Accrual Rate	Composite Remaining Life	Normalization Accrual Amount	Normalization Rate	Total Annual Accrual	Total Depreciation Rate
(1)		(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
TRANSPORTATION EQUIPMENT																
341.001		Transportation Equipment - Not Classified		15-L2	0.07%	0%	$4,397,855	$1,362,288	$3,035,567	$229,355	5.22%	11.5	-	0.00%	229,355	5.22%
341.100		Light Duty Trucks		10-L2	0.29%	0%	$18,633,642	$8,413,414	$10,220,228	$1,501,670	8.06%	6.5	(10,413)	-0.06%	1,491,257	8.00%
341.200		Heavy Duty Trucks		15-L2	0.36%	0%	$23,043,914	$7,606,415	$15,437,499	$1,578,991	6.85%	9.8	(93,007)	-0.40%	1,485,984	6.45%
341.300		Autos		10-S0.5	0.07%	0%	$4,595,525	$2,400,280	$2,195,245	$276,785	6.02%	6.1	(67,412)	-1.47%	209,373	4.56%
341.400		Other		20-S2.5	0.12%	0%	$7,921,530	$2,447,892	$5,473,638	$432,114	5.45%	13.0	(18,470)	-0.23%	413,644	5.22%
TOTAL TRANSPORTATION EQUIPMENT							**$58,592,466**	**$22,230,288**	**$36,362,178**	**$4,018,915**	**6.86%**		**-$189,302**		**$3,829,613**	**6.54%**
OTHER GENERAL PLANT																
342.000		Stores Equipment		25-SQ	0.03%	0%	$1,770,617	$1,130,535	$640,082	$113,558	6.41%	7.7	(24,536)	-1.39%	89,022	5.03%
343.000		Tools, Shop, and Garage Equipment		25-SQ	0.28%	0%	$18,284,368	$6,245,370	$12,038,998	$797,506	4.36%	15.9	13,097	0.07%	810,603	4.43%
344.000		Laboratory Equipment		20-SQ	0.05%	0%	$3,476,208	$2,901,753	$574,455	$37,504	1.08%	7.4	140	0.00%	37,644	1.08%
345.000		Power Operated Equipment		25-R2.5	0.04%	0%	$2,765,847	$1,366,069	$1,399,778	$89,239	3.23%	15.3	11,418	0.41%	100,657	3.64%
346.000		Communication Equipment		15-SQ	0.47%	0%	$30,429,848	-$488,593	$30,918,441	$2,640,162	8.68%	12.7	23,962	0.08%	2,664,124	8.75%
346.100		Communication Equipment - Non-Telephone		15-SQ	0.18%	0%	$11,884,186	$2,753,808	$9,130,378	$669,588	5.63%	12.7	2,226	0.02%	671,814	5.65%
346.190		Remote Control and Instrumentation		15-SQ	0.65%	0%	$41,941,697	$18,729,657	$23,212,041	$2,748,280	6.55%	8.3	118,945	0.28%	2,867,225	6.84%
346.200		Communication Equipment - Telephone		15-SQ	0.02%	0%	$1,507,635	$1,833,106	-$325,471	$0	0.00%	4.6	1,622	0.11%	1,622	0.11%
347.000		Miscellaneous Equipment		25-SQ	0.55%	0%	$35,856,809	$5,815,274	$30,041,536	$1,472,997	4.11%	20.6	109,572	0.31%	1,582,569	4.41%
348.000	*	Other Tangible Property		25-SQ	0.01%	0%	$695,542	$231,815	$463,727	$31,983	4.60%	15.5	-	0.00%	31,983	4.60%
TOTAL OTHER GENERAL PLANT							**$148,612,757**	**$40,518,794**	**$108,093,963**	**$8,600,817**	**5.79%**		**$256,448**		**$8,857,265**	**5.96%**
Total Depreciable Plant							**$6,464,559,621**	**$1,390,427,007**	**$5,074,132,614**	**$133,074,343**	**2.06%**		**$33,687,571**		**$166,761,914**	**2.58%**
Non Depreciable Plant																
301.000		Organization					$619,324									
302.000		Franchises and Consents					$186,588									
303.200		Land and Land Rights - Source of Supply					$9,319,234									
303.300		Land and Land Rights - Pumping					$1,205,396									
303.400		Land and Land Rights - Water Treatment					$6,903,304									
303.500		Land and Land Rights - Transmission and Distribution					$17,183,822									
303.600		Land and Land Rights - General					$266,051									
Total Non Depreciable Plant							**$35,683,719**									
TOTAL PLANT							**$6,500,243,340**									

SECTION 6

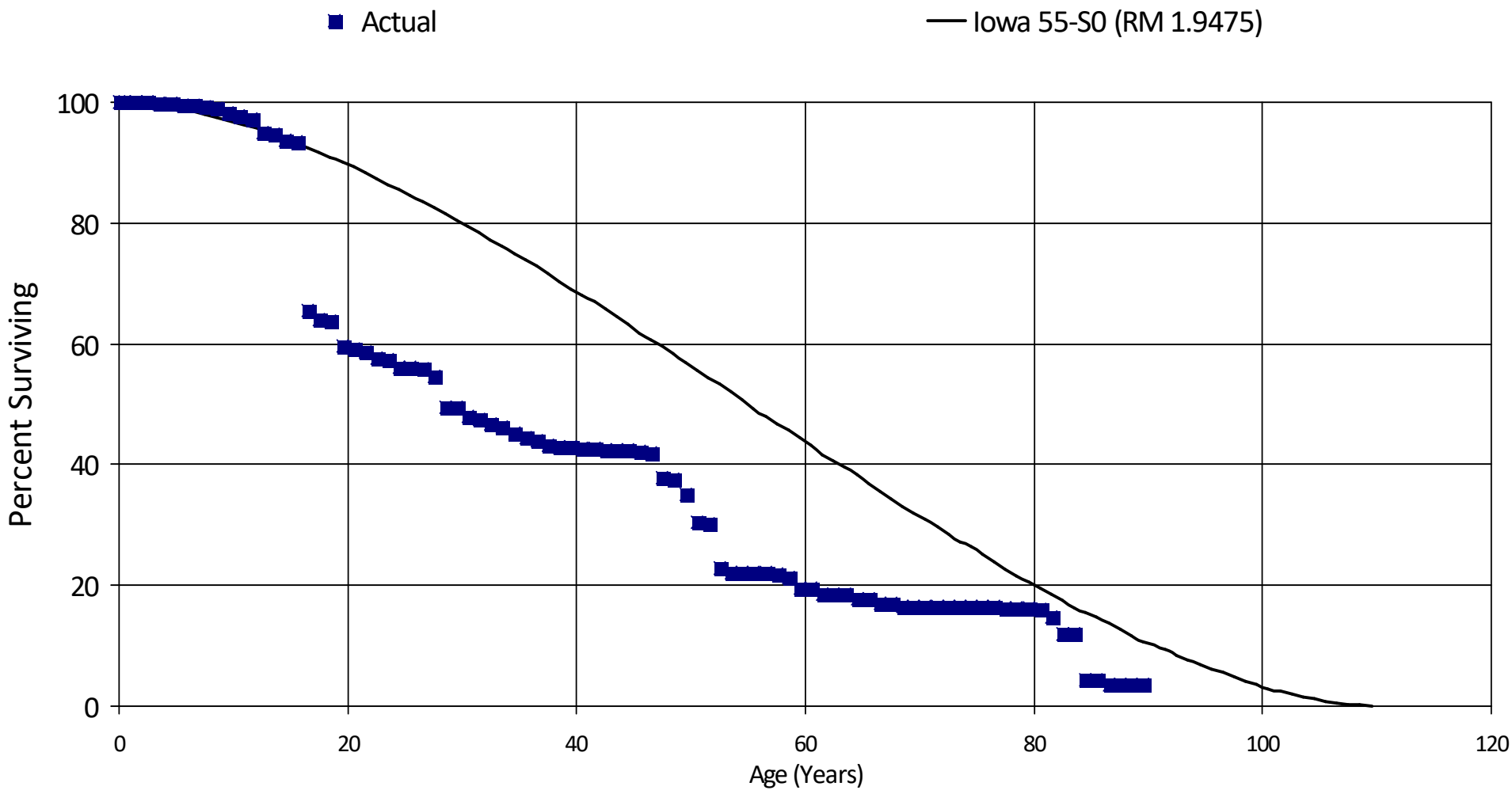
6 RETIREMENT RATE ANALYSIS

New Jersey - American Water Company

Account 304.100 - Structures and Improvements - Supply

Placement Band - 1932 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.100 - Structures and Improvements - Supply

Placement Band - 1932 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	82,165,959	1,200	0.00001	0.99999	100.00
0.5	72,475,025	8,637	0.00012	0.99988	100.00
1.5	70,060,565	62,708	0.00090	0.99910	99.99
2.5	48,381,822	32,346	0.00067	0.99933	99.90
3.5	45,248,765	51,366	0.00114	0.99886	99.83
4.5	42,430,986	58,098	0.00137	0.99863	99.72
5.5	39,602,626	17,788	0.00045	0.99955	99.58
6.5	37,824,182	114,753	0.00303	0.99697	99.54
7.5	33,598,057	65,194	0.00194	0.99806	99.24
8.5	29,880,820	246,799	0.00826	0.99174	99.05
9.5	23,742,467	131,748	0.00555	0.99445	98.23
10.5	22,873,901	109,295	0.00478	0.99522	97.68
11.5	21,816,121	504,482	0.02312	0.97688	97.21
12.5	21,182,564	56,911	0.00269	0.99731	94.96
13.5	19,900,866	242,309	0.01218	0.98782	94.70
14.5	16,869,555	39,704	0.00235	0.99765	93.55
15.5	16,764,163	5,020,801	0.29950	0.70050	93.33
16.5	11,113,025	256,169	0.02305	0.97695	65.38
17.5	8,953,362	20,562	0.00230	0.99770	63.87
18.5	7,683,554	479,643	0.06242	0.93758	63.72
19.5	5,705,539	48,781	0.00855	0.99145	59.74
20.5	5,643,428	62,725	0.01111	0.98889	59.23
21.5	5,527,248	100,378	0.01816	0.98184	58.57
22.5	5,380,057	15,319	0.00285	0.99715	57.51
23.5	3,932,171	82,960	0.02110	0.97890	57.35
24.5	3,577,313	5,843	0.00163	0.99837	56.14
25.5	3,531,091	14,804	0.00419	0.99581	56.05
26.5	3,359,949	80,547	0.02397	0.97603	55.82

New Jersey - American Water Company

Account 304.100 - Structures and Improvements - Supply

Placement Band - 1932 - 2022 Experience Band - 2008 - 2022

27.5	3,266,099	301,311	0.09225	0.90775	54.48
28.5	2,507,551	2,524	0.00101	0.99899	49.45
29.5	2,499,414	72,051	0.02883	0.97117	49.40
30.5	2,359,993	24,410	0.01034	0.98966	47.98
31.5	2,281,070	33,690	0.01477	0.98523	47.48
32.5	1,101,436	11,816	0.01073	0.98927	46.78
33.5	1,074,486	25,687	0.02391	0.97609	46.28
34.5	1,027,568	14,796	0.01440	0.98560	45.17
35.5	979,352	12,059	0.01231	0.98769	44.52
36.5	931,745	14,788	0.01587	0.98413	43.97
37.5	881,862	6,462	0.00733	0.99267	43.27
38.5	864,712	0	0.00000	1.00000	42.95
39.5	860,682	6,184	0.00719	0.99281	42.95
40.5	821,955	0	0.00000	1.00000	42.64
41.5	819,909	4,689	0.00572	0.99428	42.64
42.5	815,220	825	0.00101	0.99899	42.40
43.5	814,395	826	0.00101	0.99899	42.36
44.5	813,474	2,798	0.00344	0.99656	42.32
45.5	810,677	3,743	0.00462	0.99538	42.17
46.5	806,929	80,080	0.09924	0.90076	41.98
47.5	726,738	2,770	0.00381	0.99619	37.81
48.5	723,968	50,799	0.07017	0.92983	37.67
49.5	634,169	85,082	0.13416	0.86584	35.03
50.5	549,087	2,169	0.00395	0.99605	30.33
51.5	520,371	128,140	0.24625	0.75375	30.21
52.5	392,232	11,269	0.02873	0.97127	22.77
53.5	378,469	56	0.00015	0.99985	22.12
54.5	147,253	629	0.00427	0.99573	22.12
55.5	146,624	287	0.00196	0.99804	22.03
56.5	135,555	892	0.00658	0.99342	21.99
57.5	134,663	4,029	0.02992	0.97008	21.85

New Jersey - American Water Company

Account 304.100 - Structures and Improvements - Supply

Placement Band - 1932 - 2022 Experience Band - 2008 - 2022

58.5	129,008	10,324	0.08003	0.91997	21.20
59.5	117,833	219	0.00186	0.99814	19.50
60.5	117,614	6,133	0.05215	0.94785	19.46
61.5	111,480	0	0.00000	1.00000	18.45
62.5	111,480	0	0.00000	1.00000	18.45
63.5	94,427	4,061	0.04301	0.95699	18.45
64.5	90,366	0	0.00000	1.00000	17.66
65.5	90,366	3,891	0.04306	0.95694	17.66
66.5	86,475	0	0.00000	1.00000	16.90
67.5	86,475	2,097	0.02425	0.97575	16.90
68.5	84,378	0	0.00000	1.00000	16.49
69.5	84,378	0	0.00000	1.00000	16.49
70.5	77,903	0	0.00000	1.00000	16.49
71.5	77,903	0	0.00000	1.00000	16.49
72.5	77,903	0	0.00000	1.00000	16.49
73.5	77,903	0	0.00000	1.00000	16.49
74.5	77,903	0	0.00000	1.00000	16.49
75.5	77,903	41	0.00053	0.99947	16.49
76.5	77,862	880	0.01130	0.98870	16.48
77.5	76,982	0	0.00000	1.00000	16.29
78.5	76,982	0	0.00000	1.00000	16.29
79.5	76,982	1,697	0.02204	0.97796	16.29
80.5	75,285	5,168	0.06865	0.93135	15.93
81.5	70,117	13,839	0.19737	0.80263	14.84
82.5	56,278	0	0.00000	1.00000	11.91
83.5	56,278	35,367	0.62844	0.37156	11.91
84.5	20,910	105	0.00502	0.99498	4.43
85.5	20,806	3,601	0.17308	0.82692	4.41
86.5	9,298	0	0.00000	1.00000	3.65
87.5	9,165	0	0.00000	1.00000	3.65
88.5	9,165	0	0.00000	1.00000	3.65

New Jersey - American Water Company

Account 304.100 - Structures and Improvements - Supply

Placement Band - 1932 - 2022 Experience Band - 2008 - 2022

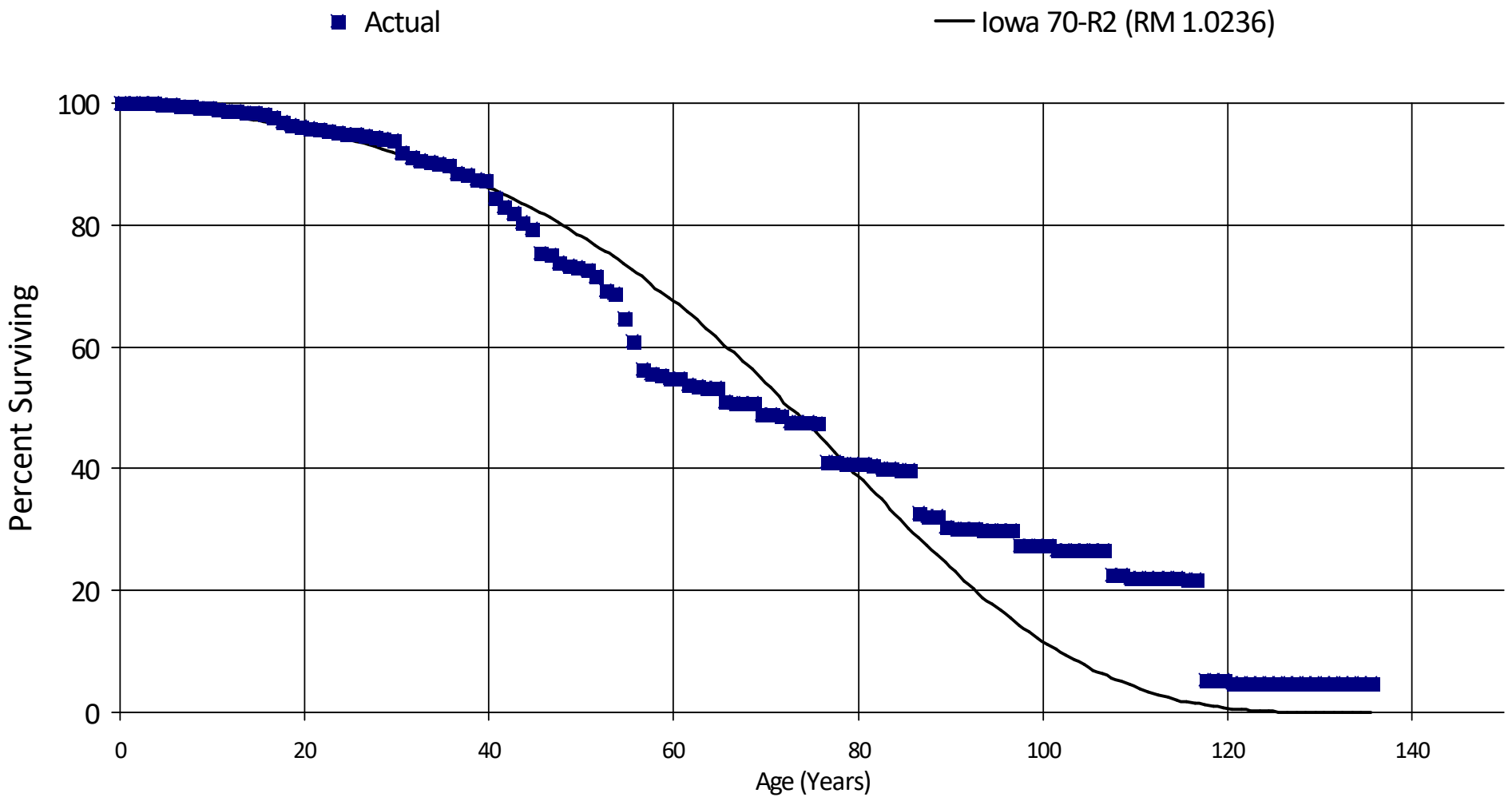
89.5	9,165	0	0.00000	1.00000	3.65
	Totals:	8,924,154			

New Jersey - American Water Company

Account 304.230 - Structures and Improvements - Pumping and Treatment

Placement Band - 1886 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.230 - Structures and Improvements - Pumping and Treatment

Placement Band - 1886 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	450,537,645	0	0.00000	1.00000	100.00
0.5	444,376,789	296,726	0.00067	0.99933	100.00
1.5	441,484,120	11,134	0.00003	0.99997	99.93
2.5	426,806,137	171,517	0.00040	0.99960	99.93
3.5	418,861,032	289,754	0.00069	0.99931	99.89
4.5	382,279,751	588,454	0.00154	0.99846	99.82
5.5	376,211,818	972,386	0.00258	0.99742	99.67
6.5	362,891,569	152,666	0.00042	0.99958	99.41
7.5	356,968,411	291,480	0.00082	0.99918	99.37
8.5	341,162,957	363,053	0.00106	0.99894	99.29
9.5	337,526,907	857,409	0.00254	0.99746	99.18
10.5	251,438,267	310,831	0.00124	0.99876	98.93
11.5	239,887,167	394,630	0.00165	0.99835	98.81
12.5	236,098,423	188,365	0.00080	0.99920	98.65
13.5	233,228,409	392,982	0.00168	0.99832	98.57
14.5	215,042,191	420,387	0.00195	0.99805	98.40
15.5	211,098,797	903,844	0.00428	0.99572	98.21
16.5	196,467,417	1,924,989	0.00980	0.99020	97.79
17.5	190,578,990	535,879	0.00281	0.99719	96.83
18.5	188,945,744	592,208	0.00313	0.99687	96.56
19.5	186,788,921	533,108	0.00285	0.99715	96.26
20.5	177,132,910	545,693	0.00308	0.99692	95.99
21.5	164,589,816	598,041	0.00363	0.99637	95.69
22.5	162,744,916	189,647	0.00117	0.99883	95.34
23.5	159,292,605	429,882	0.00270	0.99730	95.23
24.5	154,102,305	188,458	0.00122	0.99878	94.97
25.5	145,916,609	342,347	0.00235	0.99765	94.85
26.5	74,388,585	261,357	0.00351	0.99649	94.63

New Jersey - American Water Company

Account 304.230 - Structures and Improvements - Pumping and Treatment

Placement Band - 1886 - 2022 Experience Band - 2007 - 2022

27.5	61,427,327	141,798	0.00231	0.99769	94.30
28.5	57,045,702	151,112	0.00265	0.99735	94.08
29.5	52,157,355	1,136,823	0.02180	0.97820	93.83
30.5	39,055,292	321,191	0.00822	0.99178	91.78
31.5	37,054,141	146,021	0.00394	0.99606	91.03
32.5	28,279,345	118,775	0.00420	0.99580	90.67
33.5	25,280,569	72,348	0.00286	0.99714	90.29
34.5	23,852,688	26,878	0.00113	0.99887	90.03
35.5	20,006,706	272,766	0.01363	0.98637	89.93
36.5	18,250,492	51,817	0.00284	0.99716	88.70
37.5	16,569,315	183,831	0.01109	0.98891	88.45
38.5	15,893,360	31,845	0.00200	0.99800	87.47
39.5	14,983,478	464,010	0.03097	0.96903	87.30
40.5	10,080,818	202,230	0.02006	0.97994	84.60
41.5	8,434,148	93,871	0.01113	0.98887	82.90
42.5	7,944,585	146,919	0.01849	0.98151	81.98
43.5	7,599,115	98,998	0.01303	0.98697	80.46
44.5	6,601,459	334,728	0.05071	0.94929	79.41
45.5	6,026,537	19,294	0.00320	0.99680	75.38
46.5	5,698,221	100,932	0.01771	0.98229	75.14
47.5	5,596,430	39,429	0.00705	0.99295	73.81
48.5	5,507,052	17,817	0.00324	0.99676	73.29
49.5	4,079,705	29,046	0.00712	0.99288	73.05
50.5	3,818,637	52,002	0.01362	0.98638	72.53
51.5	3,622,460	109,753	0.03030	0.96970	71.54
52.5	3,350,675	28,127	0.00839	0.99161	69.37
53.5	3,144,696	184,624	0.05871	0.94129	68.79
54.5	2,859,788	174,250	0.06093	0.93907	64.75
55.5	2,441,170	181,676	0.07442	0.92558	60.80
56.5	2,173,059	26,765	0.01232	0.98768	56.28
57.5	1,824,478	12,522	0.00686	0.99314	55.59

New Jersey - American Water Company

Account 304.230 - Structures and Improvements - Pumping and Treatment

Placement Band - 1886 - 2022 Experience Band - 2007 - 2022

58.5	1,424,175	8,573	0.00602	0.99398	55.21
59.5	1,309,817	4,343	0.00332	0.99668	54.88
60.5	1,202,068	22,010	0.01831	0.98169	54.70
61.5	1,084,731	4,958	0.00457	0.99543	53.70
62.5	1,036,032	994	0.00096	0.99904	53.45
63.5	1,022,053	2,453	0.00240	0.99760	53.40
64.5	988,852	43,812	0.04431	0.95569	53.27
65.5	932,236	3,286	0.00352	0.99648	50.91
66.5	698,316	901	0.00129	0.99871	50.73
67.5	622,866	0	0.00000	1.00000	50.66
68.5	591,421	20,215	0.03418	0.96582	50.66
69.5	558,408	617	0.00110	0.99890	48.93
70.5	515,375	1,576	0.00306	0.99694	48.88
71.5	512,100	10,554	0.02061	0.97939	48.73
72.5	499,967	900	0.00180	0.99820	47.73
73.5	496,383	48	0.00010	0.99990	47.64
74.5	484,492	812	0.00168	0.99832	47.64
75.5	483,680	66,239	0.13695	0.86305	47.56
76.5	417,441	185	0.00044	0.99956	41.05
77.5	414,727	644	0.00155	0.99845	41.03
78.5	414,083	186	0.00045	0.99955	40.97
79.5	413,897	322	0.00078	0.99922	40.95
80.5	413,575	2,123	0.00513	0.99487	40.92
81.5	410,280	5,105	0.01244	0.98756	40.71
82.5	403,935	974	0.00241	0.99759	40.20
83.5	402,961	2,540	0.00630	0.99370	40.10
84.5	400,312	924	0.00231	0.99769	39.85
85.5	398,050	71,365	0.17929	0.82071	39.76
86.5	326,685	3,289	0.01007	0.98993	32.63
87.5	323,122	735	0.00227	0.99773	32.30
88.5	322,388	16,812	0.05215	0.94785	32.23

New Jersey - American Water Company

Account 304.230 - Structures and Improvements - Pumping and Treatment

Placement Band - 1886 - 2022 Experience Band - 2007 - 2022

89.5	305,576	3,227	0.01056	0.98944	30.55
90.5	140,703	130	0.00092	0.99908	30.23
91.5	133,995	0	0.00000	1.00000	30.20
92.5	100,971	715	0.00708	0.99292	30.20
93.5	98,545	0	0.00000	1.00000	29.99
94.5	97,612	0	0.00000	1.00000	29.99
95.5	96,791	309	0.00319	0.99681	29.99
96.5	94,470	7,748	0.08202	0.91798	29.89
97.5	85,641	0	0.00000	1.00000	27.44
98.5	77,054	0	0.00000	1.00000	27.44
99.5	77,054	194	0.00252	0.99748	27.44
100.5	76,554	1,944	0.02539	0.97461	27.37
101.5	74,610	0	0.00000	1.00000	26.68
102.5	70,630	0	0.00000	1.00000	26.68
103.5	70,630	0	0.00000	1.00000	26.68
104.5	70,630	0	0.00000	1.00000	26.68
105.5	70,630	0	0.00000	1.00000	26.68
106.5	70,630	10,879	0.15403	0.84597	26.68
107.5	59,751	0	0.00000	1.00000	22.57
108.5	59,751	1,057	0.01769	0.98231	22.57
109.5	58,694	0	0.00000	1.00000	22.17
110.5	58,694	0	0.00000	1.00000	22.17
111.5	58,694	0	0.00000	1.00000	22.17
112.5	58,694	0	0.00000	1.00000	22.17
113.5	14,294	1	0.00007	0.99993	22.17
114.5	14,294	163	0.01140	0.98860	22.17
115.5	14,130	0	0.00000	1.00000	21.92
116.5	14,130	10,656	0.75413	0.24587	21.92
117.5	2,258	0	0.00000	1.00000	5.39
118.5	2,258	0	0.00000	1.00000	5.39
119.5	2,258	288	0.12752	0.87248	5.39

New Jersey - American Water Company

Account 304.230 - Structures and Improvements - Pumping and Treatment

Placement Band - 1886 - 2022 Experience Band - 2007 - 2022

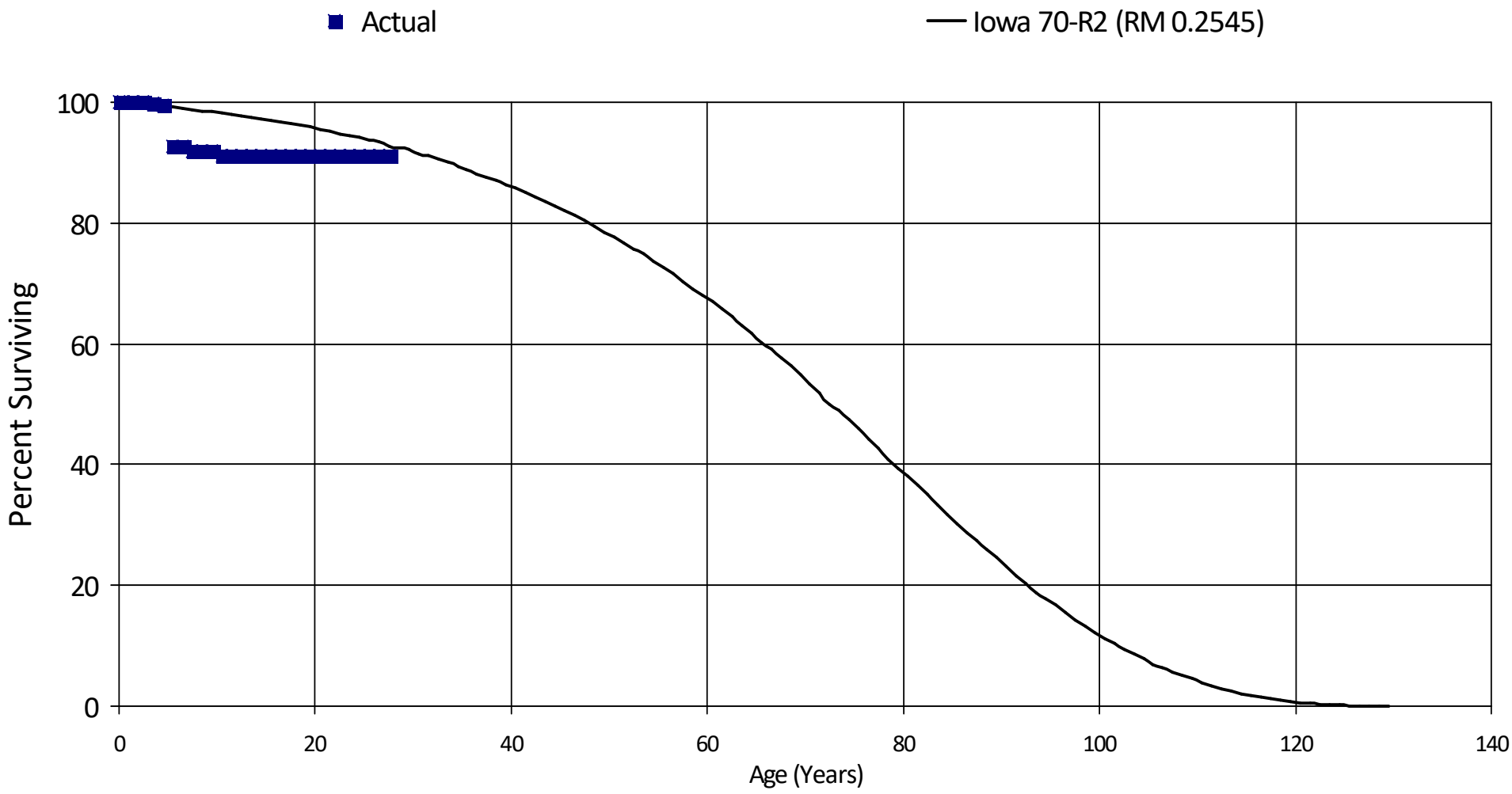
120.5	1,970	0	0.00000	1.00000	4.70
121.5	1,970	0	0.00000	1.00000	4.70
122.5	1,970	0	0.00000	1.00000	4.70
123.5	1,970	0	0.00000	1.00000	4.70
124.5	1,970	0	0.00000	1.00000	4.70
125.5	1,970	0	0.00000	1.00000	4.70
126.5	1,970	0	0.00000	1.00000	4.70
127.5	1,970	0	0.00000	1.00000	4.70
128.5	1,970	0	0.00000	1.00000	4.70
129.5	1,970	0	0.00000	1.00000	4.70
130.5	1,970	0	0.00000	1.00000	4.70
131.5	1,970	0	0.00000	1.00000	4.70
132.5	856	0	0.00000	1.00000	4.70
133.5	856	0	0.00000	1.00000	4.70
134.5	856	0	0.00000	1.00000	4.70
135.5	856	0	0.00000	1.00000	4.70
	Totals:	18,054,231			

New Jersey - American Water Company

Account 304.310 - Structures and Improvements - Treatment - Handl

Placement Band - 1994 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.310 - Structures and Improvements - Treatment - Handl

Placement Band - 1994 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	8,589,183	0	0.00000	1.00000	100.00
0.5	8,589,183	0	0.00000	1.00000	100.00
1.5	8,589,183	2,272	0.00026	0.99974	100.00
2.5	8,586,911	22,745	0.00265	0.99735	99.97
3.5	8,528,855	8,229	0.00096	0.99904	99.71
4.5	8,520,627	594,436	0.06976	0.93024	99.61
5.5	7,926,190	0	0.00000	1.00000	92.66
6.5	7,926,190	64,722	0.00817	0.99183	92.66
7.5	7,779,632	0	0.00000	1.00000	91.90
8.5	7,779,632	2,911	0.00037	0.99963	91.90
9.5	7,711,556	56,320	0.00730	0.99270	91.87
10.5	7,655,236	0	0.00000	1.00000	91.20
11.5	7,655,236	0	0.00000	1.00000	91.20
12.5	7,650,093	0	0.00000	1.00000	91.20
13.5	7,642,333	0	0.00000	1.00000	91.20
14.5	7,369,991	1,775	0.00024	0.99976	91.20
15.5	7,368,216	0	0.00000	1.00000	91.18
16.5	7,142,912	0	0.00000	1.00000	91.18
17.5	7,135,421	0	0.00000	1.00000	91.18
18.5	5,043,477	0	0.00000	1.00000	91.18
19.5	5,017,069	0	0.00000	1.00000	91.18
20.5	5,017,069	0	0.00000	1.00000	91.18
21.5	1,471,872	0	0.00000	1.00000	91.18
22.5	1,471,872	0	0.00000	1.00000	91.18
23.5	1,471,872	0	0.00000	1.00000	91.18
24.5	1,471,872	0	0.00000	1.00000	91.18
25.5	1,471,872	0	0.00000	1.00000	91.18
26.5	1,471,872	0	0.00000	1.00000	91.18

New Jersey - American Water Company

Account 304.310 - Structures and Improvements - Treatment - Handl

Placement Band - 1994 - 2022 Experience Band - 2008 - 2022

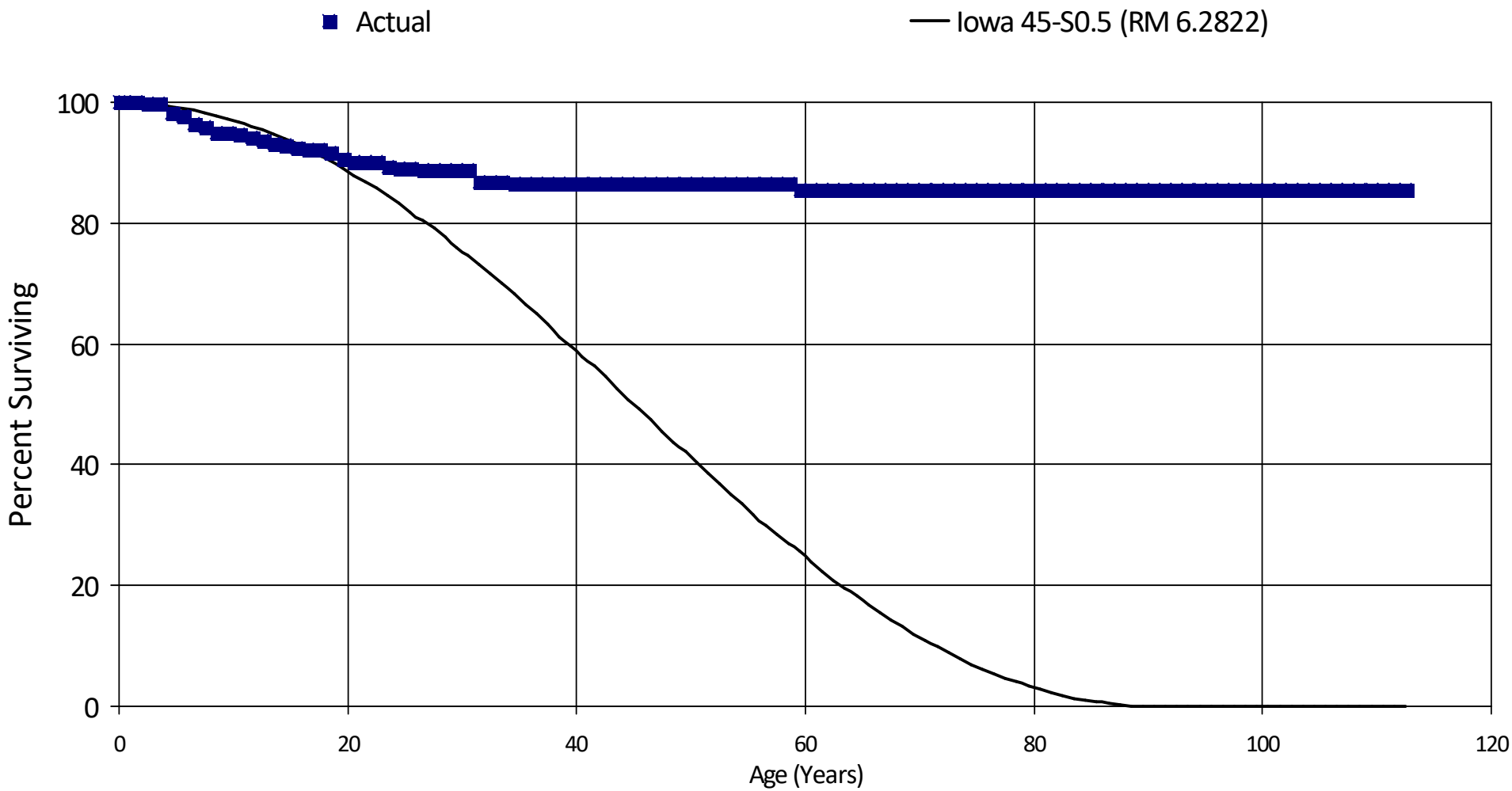
27.5	1,471,872	0	0.00000	1.00000	91.18
	Totals:	753,410			

New Jersey - American Water Company

Account 304.400 - Structures and Improvements - T&D

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.400 - Structures and Improvements - T&D

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	24,398,999	0	0.00000	1.00000	100.00
0.5	24,360,452	546	0.00002	0.99998	100.00
1.5	24,359,906	47,764	0.00196	0.99804	100.00
2.5	24,296,976	4,510	0.00019	0.99981	99.80
3.5	23,889,255	360,960	0.01511	0.98489	99.78
4.5	14,434,766	72,814	0.00504	0.99496	98.27
5.5	11,968,743	165,705	0.01384	0.98616	97.77
6.5	11,178,192	41,534	0.00372	0.99628	96.42
7.5	8,457,638	95,439	0.01128	0.98872	96.06
8.5	7,771,500	12,728	0.00164	0.99836	94.98
9.5	7,752,025	12,726	0.00164	0.99836	94.82
10.5	7,524,658	44,807	0.00595	0.99405	94.66
11.5	6,629,428	24,411	0.00368	0.99632	94.10
12.5	6,466,901	34,811	0.00538	0.99462	93.75
13.5	6,228,565	31,212	0.00501	0.99499	93.25
14.5	5,581,724	23,189	0.00415	0.99585	92.78
15.5	5,355,683	11,483	0.00214	0.99786	92.39
16.5	4,756,739	265	0.00006	0.99994	92.19
17.5	4,726,729	29,156	0.00617	0.99383	92.18
18.5	4,691,812	54,317	0.01158	0.98842	91.61
19.5	4,206,245	24,149	0.00574	0.99426	90.55
20.5	4,129,586	0	0.00000	1.00000	90.03
21.5	3,769,129	0	0.00000	1.00000	90.03
22.5	3,732,811	25,388	0.00680	0.99320	90.03
23.5	3,645,785	17,914	0.00491	0.99509	89.42
24.5	3,577,078	0	0.00000	1.00000	88.98
25.5	3,558,629	8,027	0.00226	0.99774	88.98
26.5	3,535,699	0	0.00000	1.00000	88.78

New Jersey - American Water Company

Account 304.400 - Structures and Improvements - T&D

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

27.5	3,522,739	0	0.00000	1.00000	88.78
28.5	3,472,342	1,579	0.00045	0.99955	88.78
29.5	3,465,830	0	0.00000	1.00000	88.74
30.5	3,463,234	75,422	0.02178	0.97822	88.74
31.5	3,368,751	0	0.00000	1.00000	86.81
32.5	3,366,561	0	0.00000	1.00000	86.81
33.5	3,362,700	9,958	0.00296	0.99704	86.81
34.5	1,063,713	485	0.00046	0.99954	86.55
35.5	1,058,727	0	0.00000	1.00000	86.51
36.5	1,037,371	0	0.00000	1.00000	86.51
37.5	1,022,864	0	0.00000	1.00000	86.51
38.5	1,022,864	0	0.00000	1.00000	86.51
39.5	986,241	0	0.00000	1.00000	86.51
40.5	986,241	0	0.00000	1.00000	86.51
41.5	971,358	0	0.00000	1.00000	86.51
42.5	828,120	0	0.00000	1.00000	86.51
43.5	828,120	0	0.00000	1.00000	86.51
44.5	805,170	0	0.00000	1.00000	86.51
45.5	805,170	0	0.00000	1.00000	86.51
46.5	798,087	0	0.00000	1.00000	86.51
47.5	798,087	0	0.00000	1.00000	86.51
48.5	798,087	0	0.00000	1.00000	86.51
49.5	794,645	0	0.00000	1.00000	86.51
50.5	794,645	0	0.00000	1.00000	86.51
51.5	767,712	0	0.00000	1.00000	86.51
52.5	766,606	0	0.00000	1.00000	86.51
53.5	764,407	0	0.00000	1.00000	86.51
54.5	763,199	0	0.00000	1.00000	86.51
55.5	761,699	0	0.00000	1.00000	86.51
56.5	761,011	0	0.00000	1.00000	86.51
57.5	758,898	0	0.00000	1.00000	86.51

New Jersey - American Water Company

Account 304.400 - Structures and Improvements - T&D

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

58.5	26,897	327	0.01216	0.98784	86.51
59.5	26,570	0	0.00000	1.00000	85.46
60.5	26,570	0	0.00000	1.00000	85.46
61.5	7,320	0	0.00000	1.00000	85.46
62.5	7,320	0	0.00000	1.00000	85.46
63.5	7,320	0	0.00000	1.00000	85.46
64.5	7,320	0	0.00000	1.00000	85.46
65.5	7,320	0	0.00000	1.00000	85.46
66.5	7,320	0	0.00000	1.00000	85.46
67.5	7,320	0	0.00000	1.00000	85.46
68.5	7,320	0	0.00000	1.00000	85.46
69.5	7,320	0	0.00000	1.00000	85.46
70.5	7,320	0	0.00000	1.00000	85.46
71.5	7,320	0	0.00000	1.00000	85.46
72.5	7,320	0	0.00000	1.00000	85.46
73.5	7,320	0	0.00000	1.00000	85.46
74.5	7,320	0	0.00000	1.00000	85.46
75.5	7,320	0	0.00000	1.00000	85.46
76.5	7,320	0	0.00000	1.00000	85.46
77.5	7,320	0	0.00000	1.00000	85.46
78.5	7,320	0	0.00000	1.00000	85.46
79.5	7,320	0	0.00000	1.00000	85.46
80.5	7,320	0	0.00000	1.00000	85.46
81.5	7,320	0	0.00000	1.00000	85.46
82.5	7,320	0	0.00000	1.00000	85.46
83.5	7,320	0	0.00000	1.00000	85.46
84.5	7,320	0	0.00000	1.00000	85.46
85.5	7,320	0	0.00000	1.00000	85.46
86.5	7,320	0	0.00000	1.00000	85.46
87.5	7,320	0	0.00000	1.00000	85.46
88.5	7,320	0	0.00000	1.00000	85.46

New Jersey - American Water Company

Account 304.400 - Structures and Improvements - T&D

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

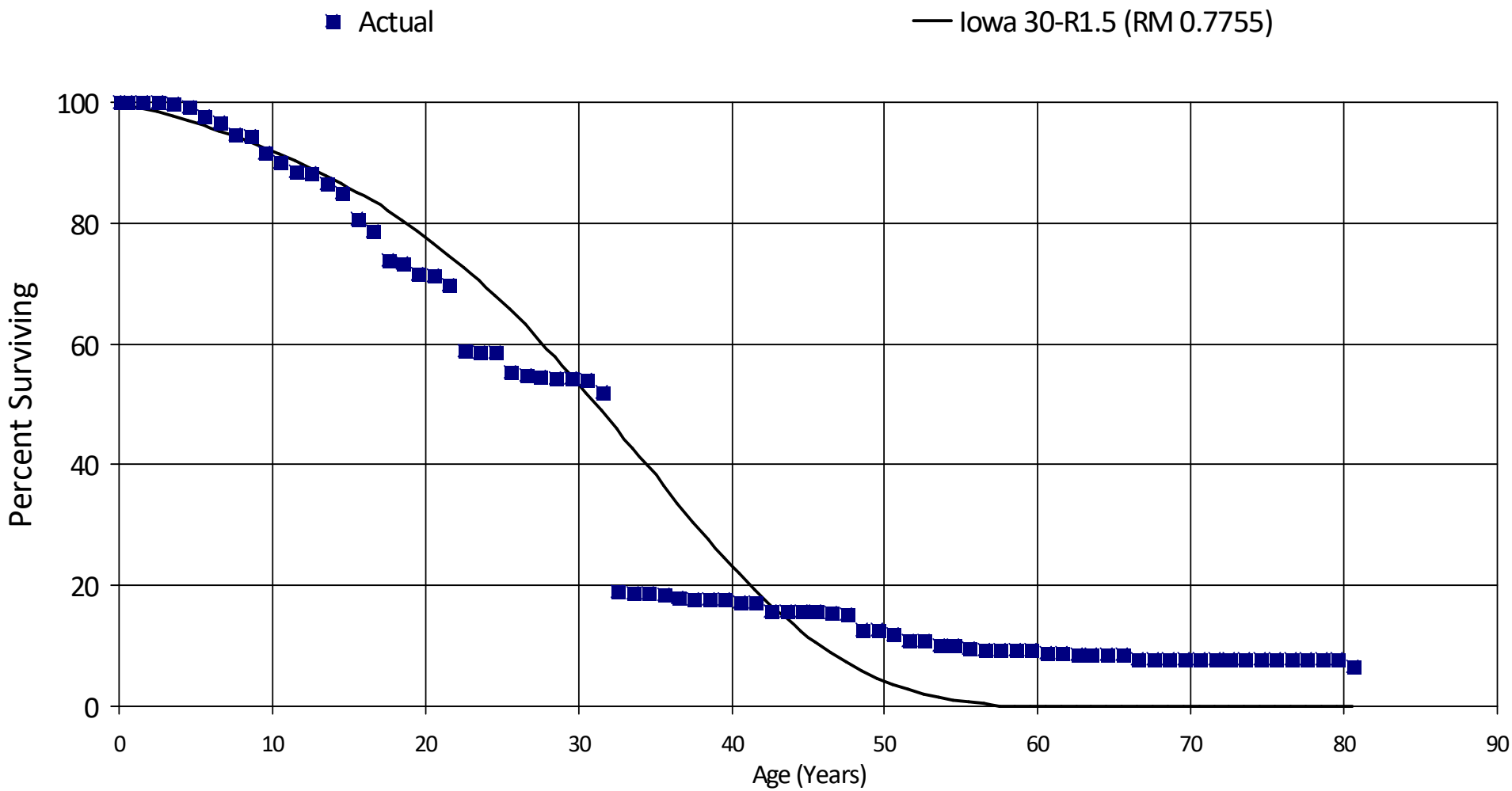
89.5	7,320	0	0.00000	1.00000	85.46
90.5	7,320	0	0.00000	1.00000	85.46
91.5	7,320	0	0.00000	1.00000	85.46
92.5	7,320	0	0.00000	1.00000	85.46
93.5	7,320	0	0.00000	1.00000	85.46
94.5	7,320	0	0.00000	1.00000	85.46
95.5	7,320	0	0.00000	1.00000	85.46
96.5	7,320	0	0.00000	1.00000	85.46
97.5	7,320	0	0.00000	1.00000	85.46
98.5	7,320	0	0.00000	1.00000	85.46
99.5	7,320	0	0.00000	1.00000	85.46
100.5	7,320	0	0.00000	1.00000	85.46
101.5	7,320	0	0.00000	1.00000	85.46
102.5	7,320	0	0.00000	1.00000	85.46
103.5	7,320	0	0.00000	1.00000	85.46
104.5	7,320	0	0.00000	1.00000	85.46
105.5	7,320	0	0.00000	1.00000	85.46
106.5	7,320	0	0.00000	1.00000	85.46
107.5	7,320	0	0.00000	1.00000	85.46
108.5	7,320	0	0.00000	1.00000	85.46
109.5	7,320	0	0.00000	1.00000	85.46
110.5	7,320	0	0.00000	1.00000	85.46
111.5	7,320	0	0.00000	1.00000	85.46
112.5	7,320	0	0.00000	1.00000	85.46
	Totals:	1,231,626			

New Jersey - American Water Company

Account 304.500 - Structures and Improvements - General

Placement Band - 1932 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.500 - Structures and Improvements - General

Placement Band - 1932 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	123,758,461	0	0.00000	1.00000	100.00
0.5	111,697,267	15,377	0.00014	0.99986	100.00
1.5	109,227,818	30,659	0.00028	0.99972	99.99
2.5	90,381,794	99,300	0.00110	0.99890	99.96
3.5	86,750,515	500,163	0.00577	0.99423	99.85
4.5	51,988,786	751,584	0.01446	0.98554	99.27
5.5	48,551,317	509,708	0.01050	0.98950	97.83
6.5	47,751,989	1,100,115	0.02304	0.97696	96.80
7.5	43,780,798	127,505	0.00291	0.99709	94.57
8.5	41,292,656	1,122,525	0.02718	0.97282	94.29
9.5	38,718,383	673,634	0.01740	0.98260	91.73
10.5	35,506,815	581,130	0.01637	0.98363	90.13
11.5	31,708,818	96,332	0.00304	0.99696	88.65
12.5	28,495,868	618,260	0.02170	0.97830	88.38
13.5	26,953,911	449,968	0.01669	0.98331	86.46
14.5	23,667,253	1,196,114	0.05054	0.94946	85.02
15.5	21,685,517	543,665	0.02507	0.97493	80.72
16.5	17,658,673	1,086,000	0.06150	0.93850	78.70
17.5	16,343,220	115,095	0.00704	0.99296	73.86
18.5	16,188,636	401,584	0.02481	0.97519	73.34
19.5	14,562,766	40,244	0.00276	0.99724	71.52
20.5	13,846,234	295,060	0.02131	0.97869	71.32
21.5	13,395,690	2,100,946	0.15684	0.84316	69.80
22.5	11,286,998	22,731	0.00201	0.99799	58.85
23.5	4,427,662	3,330	0.00075	0.99925	58.73
24.5	4,367,877	253,133	0.05795	0.94205	58.69
25.5	4,057,761	35,603	0.00877	0.99123	55.29
26.5	4,005,453	19,465	0.00486	0.99514	54.81

New Jersey - American Water Company

Account 304.500 - Structures and Improvements - General

Placement Band - 1932 - 2022 Experience Band - 2007 - 2022

27.5	3,966,569	9,880	0.00249	0.99751	54.54
28.5	3,941,356	6,890	0.00175	0.99825	54.40
29.5	3,891,605	19,571	0.00503	0.99497	54.30
30.5	3,841,403	134,111	0.03491	0.96509	54.03
31.5	3,650,804	2,312,832	0.63351	0.36649	52.14
32.5	975,531	15,333	0.01572	0.98428	19.11
33.5	306,441	1,161	0.00379	0.99621	18.81
34.5	303,460	3,935	0.01297	0.98703	18.74
35.5	272,386	8,832	0.03242	0.96758	18.50
36.5	189,578	1,200	0.00633	0.99367	17.90
37.5	176,073	0	0.00000	1.00000	17.79
38.5	141,731	0	0.00000	1.00000	17.79
39.5	133,219	3,803	0.02855	0.97145	17.79
40.5	112,032	200	0.00179	0.99821	17.28
41.5	99,240	9,104	0.09174	0.90826	17.25
42.5	88,029	0	0.00000	1.00000	15.67
43.5	77,089	0	0.00000	1.00000	15.67
44.5	57,752	0	0.00000	1.00000	15.67
45.5	56,287	534	0.00949	0.99051	15.67
46.5	55,253	725	0.01312	0.98688	15.52
47.5	51,940	9,186	0.17686	0.82314	15.32
48.5	42,088	0	0.00000	1.00000	12.61
49.5	42,088	2,636	0.06263	0.93737	12.61
50.5	30,834	2,137	0.06931	0.93069	11.82
51.5	28,697	0	0.00000	1.00000	11.00
52.5	26,036	2,131	0.08185	0.91815	11.00
53.5	23,905	0	0.00000	1.00000	10.10
54.5	23,905	1,345	0.05626	0.94374	10.10
55.5	22,560	281	0.01246	0.98754	9.53
56.5	22,279	0	0.00000	1.00000	9.41
57.5	14,719	0	0.00000	1.00000	9.41

New Jersey - American Water Company

Account 304.500 - Structures and Improvements - General

Placement Band - 1932 - 2022 Experience Band - 2007 - 2022

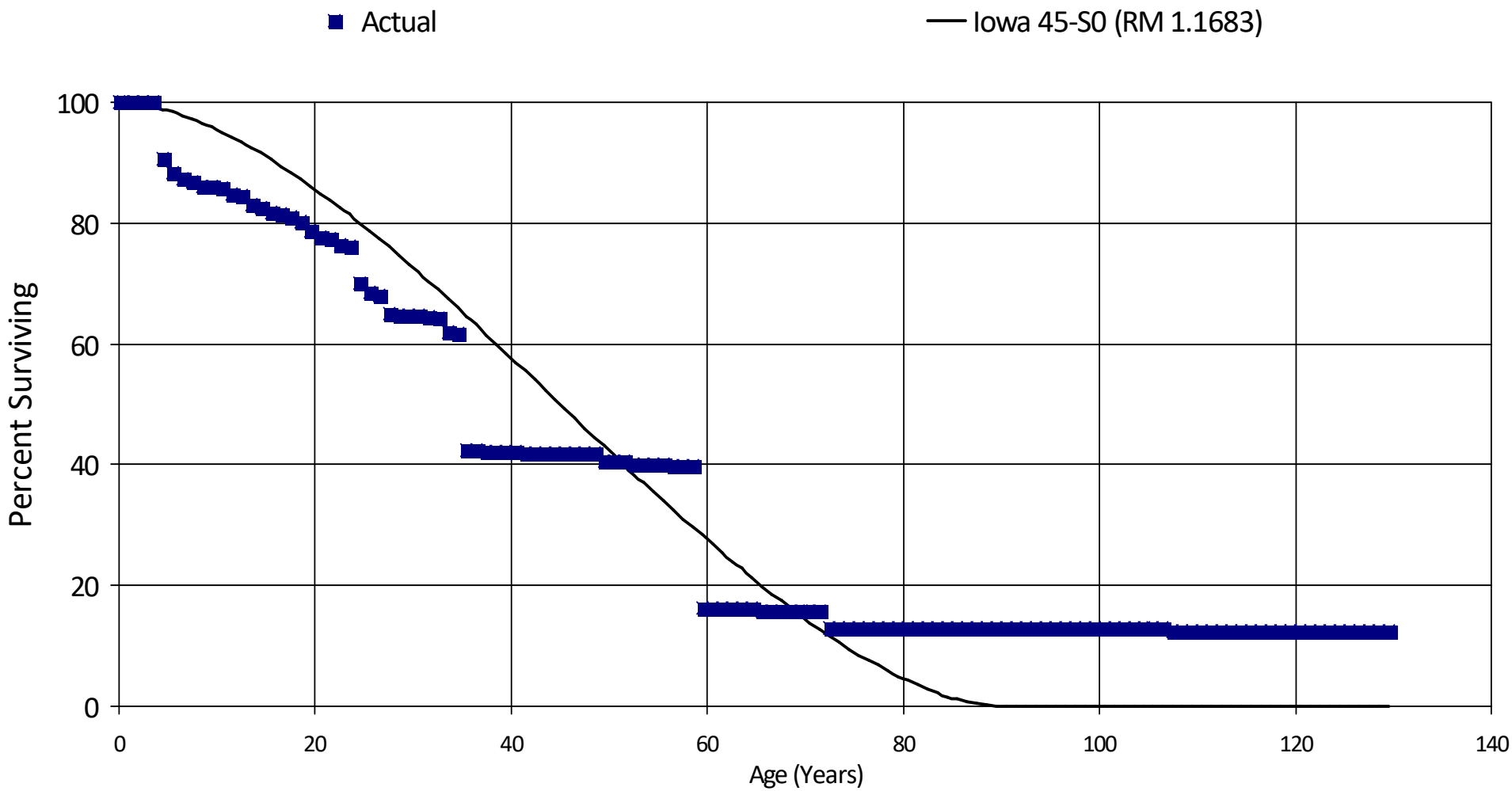
58.5	14,719	0	0.00000	1.00000	9.41
59.5	14,719	1,016	0.06903	0.93097	9.41
60.5	13,703	0	0.00000	1.00000	8.76
61.5	13,703	266	0.01941	0.98059	8.76
62.5	10,791	0	0.00000	1.00000	8.59
63.5	10,791	0	0.00000	1.00000	8.59
64.5	10,791	0	0.00000	1.00000	8.59
65.5	10,791	785	0.07275	0.92725	8.59
66.5	10,006	0	0.00000	1.00000	7.97
67.5	6,921	0	0.00000	1.00000	7.97
68.5	6,921	0	0.00000	1.00000	7.97
69.5	6,921	0	0.00000	1.00000	7.97
70.5	6,921	0	0.00000	1.00000	7.97
71.5	6,921	0	0.00000	1.00000	7.97
72.5	6,921	0	0.00000	1.00000	7.97
73.5	6,921	0	0.00000	1.00000	7.97
74.5	6,921	0	0.00000	1.00000	7.97
75.5	6,921	0	0.00000	1.00000	7.97
76.5	6,921	0	0.00000	1.00000	7.97
77.5	6,921	0	0.00000	1.00000	7.97
78.5	6,921	0	0.00000	1.00000	7.97
79.5	6,921	1,100	0.15894	0.84106	7.97
80.5	5,821	5,821	1.00000		6.70
	Totals:	15,344,045			

New Jersey - American Water Company

Account 304.600 - Structures and Improvements - Offices

Placement Band - 1892 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.600 - Structures and Improvements - Offices

Placement Band - 1892 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	66,875,121	0	0.00000	1.00000	100.00
0.5	31,307,378	0	0.00000	1.00000	100.00
1.5	31,272,789	0	0.00000	1.00000	100.00
2.5	20,140,115	100	0.00000	1.00000	100.00
3.5	20,094,989	1,909,265	0.09501	0.90499	100.00
4.5	18,042,977	447,641	0.02481	0.97519	90.50
5.5	17,593,207	170,155	0.00967	0.99033	88.25
6.5	17,337,850	143,074	0.00825	0.99175	87.40
7.5	17,074,913	146,278	0.00857	0.99143	86.68
8.5	16,864,257	3,710	0.00022	0.99978	85.94
9.5	16,832,493	44,313	0.00263	0.99737	85.92
10.5	16,788,180	163,241	0.00972	0.99028	85.69
11.5	16,624,939	43,623	0.00262	0.99738	84.86
12.5	16,581,317	330,480	0.01993	0.98007	84.64
13.5	15,837,138	102,422	0.00647	0.99353	82.95
14.5	15,140,486	121,900	0.00805	0.99195	82.41
15.5	14,452,015	35,355	0.00245	0.99755	81.75
16.5	14,164,132	87,642	0.00619	0.99381	81.55
17.5	12,391,219	112,317	0.00906	0.99094	81.05
18.5	11,550,629	223,649	0.01936	0.98064	80.32
19.5	11,320,022	155,705	0.01375	0.98625	78.77
20.5	11,162,897	54,031	0.00484	0.99516	77.69
21.5	11,107,662	145,321	0.01308	0.98692	77.31
22.5	10,957,864	20,418	0.00186	0.99814	76.30
23.5	10,935,193	859,351	0.07859	0.92141	76.16
24.5	10,070,416	232,638	0.02310	0.97690	70.17
25.5	9,483,180	78,097	0.00824	0.99176	68.55
26.5	6,361,798	292,544	0.04598	0.95402	67.99

New Jersey - American Water Company

Account 304.600 - Structures and Improvements - Offices

Placement Band - 1892 - 2022 Experience Band - 2007 - 2022

27.5	4,098,827	6,166	0.00150	0.99850	64.86
28.5	4,046,203	5,526	0.00137	0.99863	64.76
29.5	4,018,637	1,763	0.00044	0.99956	64.67
30.5	3,844,131	14,928	0.00388	0.99612	64.64
31.5	3,705,828	4,274	0.00115	0.99885	64.39
32.5	2,757,374	103,053	0.03737	0.96263	64.32
33.5	2,599,271	11,007	0.00423	0.99577	61.92
34.5	2,588,264	812,712	0.31400	0.68600	61.66
35.5	1,542,268	0	0.00000	1.00000	42.30
36.5	1,495,306	3,972	0.00266	0.99734	42.30
37.5	1,481,145	0	0.00000	1.00000	42.19
38.5	1,461,445	0	0.00000	1.00000	42.19
39.5	1,394,526	0	0.00000	1.00000	42.19
40.5	1,377,949	9,139	0.00663	0.99337	42.19
41.5	1,362,296	0	0.00000	1.00000	41.91
42.5	1,355,257	0	0.00000	1.00000	41.91
43.5	1,347,736	0	0.00000	1.00000	41.91
44.5	1,346,585	1,525	0.00113	0.99887	41.91
45.5	1,328,569	0	0.00000	1.00000	41.86
46.5	1,328,569	0	0.00000	1.00000	41.86
47.5	1,328,569	111	0.00008	0.99992	41.86
48.5	1,328,458	39,147	0.02947	0.97053	41.86
49.5	1,287,590	0	0.00000	1.00000	40.63
50.5	1,287,515	2,206	0.00171	0.99829	40.63
51.5	883,633	12,637	0.01430	0.98570	40.56
52.5	868,547	0	0.00000	1.00000	39.98
53.5	862,811	0	0.00000	1.00000	39.98
54.5	862,811	0	0.00000	1.00000	39.98
55.5	862,181	500	0.00058	0.99942	39.98
56.5	861,682	0	0.00000	1.00000	39.96
57.5	523,509	550	0.00105	0.99895	39.96

New Jersey - American Water Company

Account 304.600 - Structures and Improvements - Offices

Placement Band - 1892 - 2022 Experience Band - 2007 - 2022

58.5	522,825	310,283	0.59347	0.40653	39.92
59.5	212,543	0	0.00000	1.00000	16.23
60.5	212,543	0	0.00000	1.00000	16.23
61.5	45,359	0	0.00000	1.00000	16.23
62.5	45,359	0	0.00000	1.00000	16.23
63.5	39,193	0	0.00000	1.00000	16.23
64.5	39,193	1,017	0.02595	0.97405	16.23
65.5	38,071	0	0.00000	1.00000	15.81
66.5	37,788	0	0.00000	1.00000	15.81
67.5	37,788	0	0.00000	1.00000	15.81
68.5	37,788	0	0.00000	1.00000	15.81
69.5	37,788	0	0.00000	1.00000	15.81
70.5	37,788	0	0.00000	1.00000	15.81
71.5	37,788	6,831	0.18077	0.81923	15.81
72.5	30,957	0	0.00000	1.00000	12.95
73.5	11,096	0	0.00000	1.00000	12.95
74.5	11,096	0	0.00000	1.00000	12.95
75.5	11,096	0	0.00000	1.00000	12.95
76.5	11,096	0	0.00000	1.00000	12.95
77.5	10,971	0	0.00000	1.00000	12.95
78.5	10,971	0	0.00000	1.00000	12.95
79.5	10,971	0	0.00000	1.00000	12.95
80.5	10,971	0	0.00000	1.00000	12.95
81.5	10,836	0	0.00000	1.00000	12.95
82.5	10,836	0	0.00000	1.00000	12.95
83.5	10,836	0	0.00000	1.00000	12.95
84.5	10,836	0	0.00000	1.00000	12.95
85.5	10,836	0	0.00000	1.00000	12.95
86.5	10,836	0	0.00000	1.00000	12.95
87.5	10,836	0	0.00000	1.00000	12.95
88.5	8,993	0	0.00000	1.00000	12.95

New Jersey - American Water Company

Account 304.600 - Structures and Improvements - Offices

Placement Band - 1892 - 2022 Experience Band - 2007 - 2022

89.5	8,993	0	0.00000	1.00000	12.95
90.5	8,993	0	0.00000	1.00000	12.95
91.5	8,993	0	0.00000	1.00000	12.95
92.5	8,993	0	0.00000	1.00000	12.95
93.5	8,993	0	0.00000	1.00000	12.95
94.5	8,993	0	0.00000	1.00000	12.95
95.5	8,993	0	0.00000	1.00000	12.95
96.5	8,993	0	0.00000	1.00000	12.95
97.5	8,993	0	0.00000	1.00000	12.95
98.5	8,993	0	0.00000	1.00000	12.95
99.5	5,947	0	0.00000	1.00000	12.95
100.5	5,947	0	0.00000	1.00000	12.95
101.5	5,947	0	0.00000	1.00000	12.95
102.5	5,947	0	0.00000	1.00000	12.95
103.5	5,947	0	0.00000	1.00000	12.95
104.5	5,947	0	0.00000	1.00000	12.95
105.5	5,947	0	0.00000	1.00000	12.95
106.5	5,947	257	0.04322	0.95678	12.95
107.5	5,689	0	0.00000	1.00000	12.39
108.5	5,689	0	0.00000	1.00000	12.39
109.5	4,616	0	0.00000	1.00000	12.39
110.5	4,616	0	0.00000	1.00000	12.39
111.5	4,616	0	0.00000	1.00000	12.39
112.5	4,616	0	0.00000	1.00000	12.39
113.5	4,616	0	0.00000	1.00000	12.39
114.5	4,616	0	0.00000	1.00000	12.39
115.5	1,129	0	0.00000	1.00000	12.39
116.5	1,129	0	0.00000	1.00000	12.39
117.5	1,129	0	0.00000	1.00000	12.39
118.5	1,129	0	0.00000	1.00000	12.39
119.5	1,129	0	0.00000	1.00000	12.39

New Jersey - American Water Company

Account 304.600 - Structures and Improvements - Offices

Placement Band - 1892 - 2022 Experience Band - 2007 - 2022

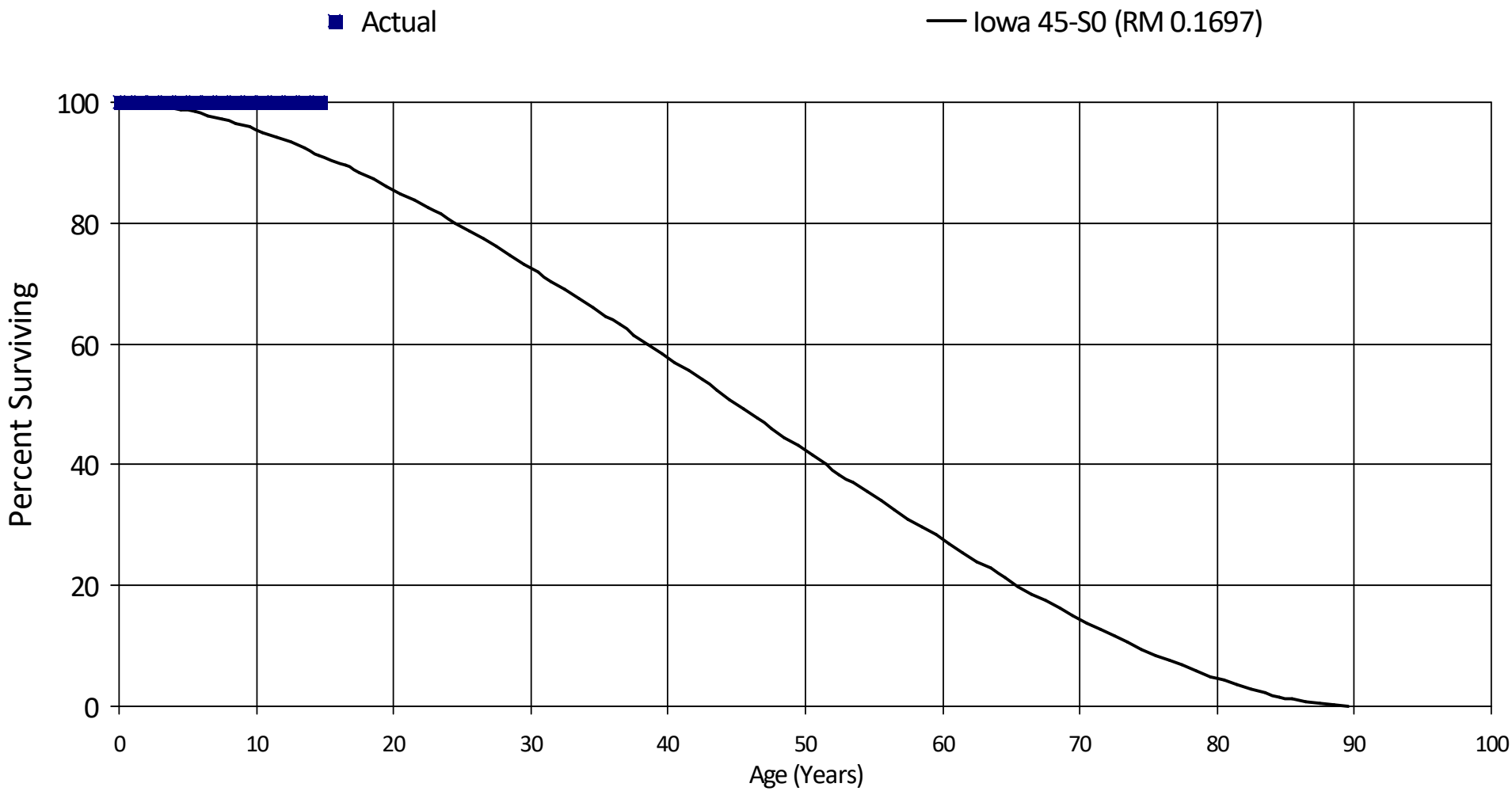
120.5	1,129	0	0.00000	1.00000	12.39
121.5	1,129	0	0.00000	1.00000	12.39
122.5	1,129	0	0.00000	1.00000	12.39
123.5	1,129	0	0.00000	1.00000	12.39
124.5	1,129	0	0.00000	1.00000	12.39
125.5	1,129	0	0.00000	1.00000	12.39
126.5	1,129	0	0.00000	1.00000	12.39
127.5	1,129	0	0.00000	1.00000	12.39
128.5	1,129	0	0.00000	1.00000	12.39
129.5	1,129	0	0.00000	1.00000	12.39
	Totals:	7,270,874			

New Jersey - American Water Company

Account 304.610 - Structures and Improvements - HVAC

Placement Band - 2007 - 2022 Experience Band - 2022 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.610 - Structures and Improvements - HVAC

Placement Band - 2007 - 2022 Experience Band - 2022 - 2022

RETIREMENT RATE ANALYSIS

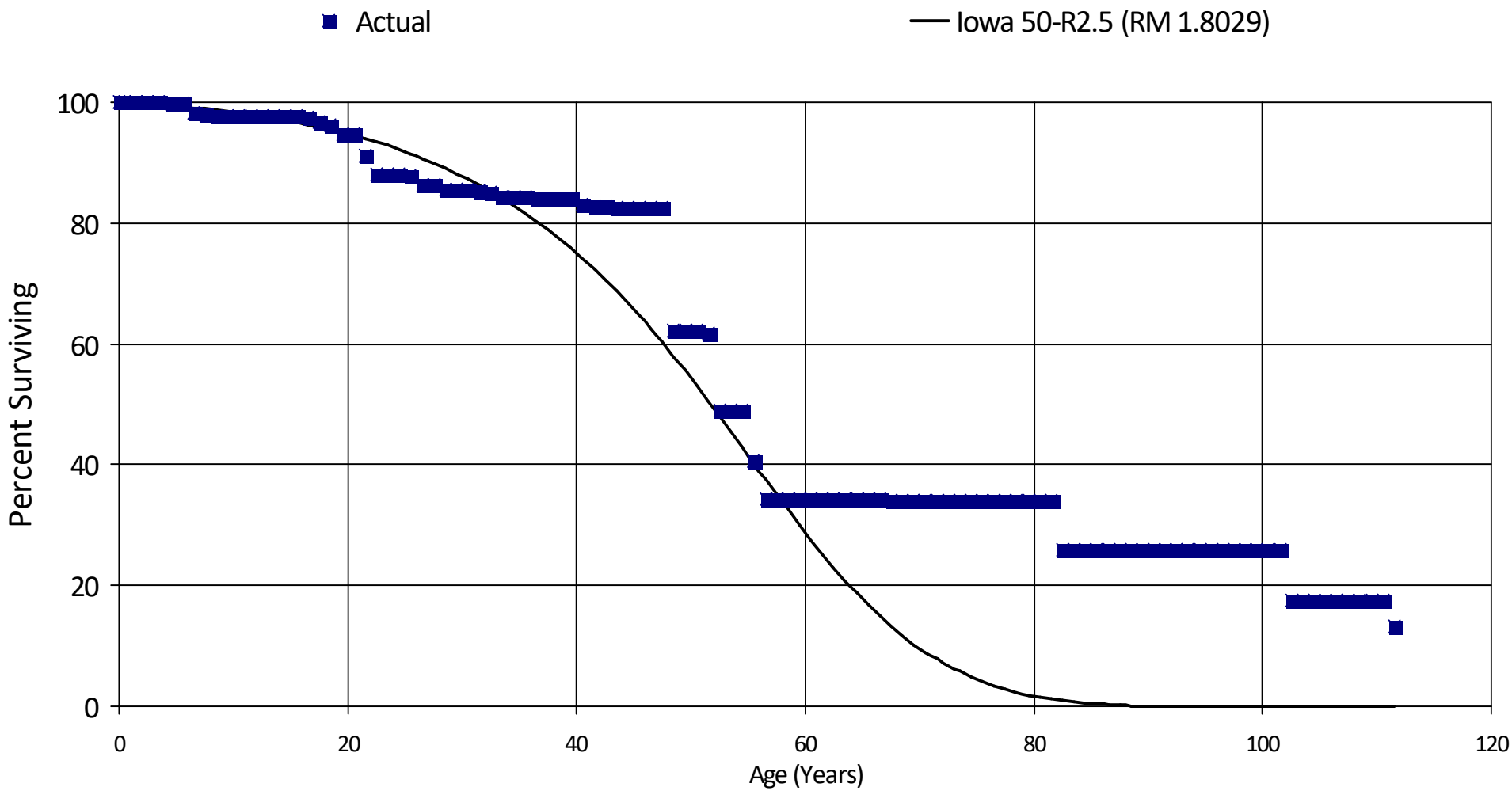
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	2,693,952	0	0.00000	1.00000	100.00
0.5	2,693,952	0	0.00000	1.00000	100.00
1.5	1,257,315	0	0.00000	1.00000	100.00
2.5	35,802	0	0.00000	1.00000	100.00
3.5	6,777	0	0.00000	1.00000	100.00
4.5	6,777	0	0.00000	1.00000	100.00
5.5	6,777	0	0.00000	1.00000	100.00
6.5	6,777	0	0.00000	1.00000	100.00
7.5	6,777	0	0.00000	1.00000	100.00
8.5	6,777	0	0.00000	1.00000	100.00
9.5	6,777	0	0.00000	1.00000	100.00
10.5	6,777	0	0.00000	1.00000	100.00
11.5	6,777	0	0.00000	1.00000	100.00
12.5	6,777	0	0.00000	1.00000	100.00
13.5	6,777	0	0.00000	1.00000	100.00
14.5	6,777	3,734	0.55100	0.44900	100.00
	Totals:	3,734			

New Jersey - American Water Company

Account 304.700 - Structures and Improvements - Store, Shop, and Garage

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.700 - Structures and Improvements - Store, Shop, and Garage

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	11,527,941	0	0.00000	1.00000	100.00
0.5	11,527,941	0	0.00000	1.00000	100.00
1.5	11,463,084	0	0.00000	1.00000	100.00
2.5	11,457,904	3,923	0.00034	0.99966	100.00
3.5	11,453,981	15,915	0.00139	0.99861	99.97
4.5	11,430,795	9,502	0.00083	0.99917	99.83
5.5	11,402,804	172,833	0.01516	0.98484	99.75
6.5	11,229,971	26,790	0.00239	0.99761	98.24
7.5	11,142,064	19,658	0.00176	0.99824	98.01
8.5	11,122,405	0	0.00000	1.00000	97.84
9.5	11,050,675	0	0.00000	1.00000	97.84
10.5	11,036,474	6,116	0.00055	0.99945	97.84
11.5	11,010,432	2,187	0.00020	0.99980	97.79
12.5	10,815,656	8,764	0.00081	0.99919	97.77
13.5	10,806,891	0	0.00000	1.00000	97.69
14.5	8,905,014	0	0.00000	1.00000	97.69
15.5	8,834,401	9,862	0.00112	0.99888	97.69
16.5	8,824,539	86,685	0.00982	0.99018	97.58
17.5	8,660,081	43,714	0.00505	0.99495	96.62
18.5	8,583,653	134,656	0.01569	0.98431	96.13
19.5	8,448,997	0	0.00000	1.00000	94.62
20.5	8,444,831	304,674	0.03608	0.96392	94.62
21.5	7,973,750	267,989	0.03361	0.96639	91.21
22.5	7,705,761	3,000	0.00039	0.99961	88.14
23.5	7,702,761	0	0.00000	1.00000	88.11
24.5	7,700,864	34,468	0.00448	0.99552	88.11
25.5	7,657,419	115,091	0.01503	0.98497	87.72
26.5	7,534,284	10,784	0.00143	0.99857	86.40

New Jersey - American Water Company

Account 304.700 - Structures and Improvements - Store, Shop, and Garage

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

27.5	7,511,283	56,280	0.00749	0.99251	86.28
28.5	7,450,903	2,197	0.00029	0.99971	85.63
29.5	7,389,354	1,691	0.00023	0.99977	85.61
30.5	7,387,663	35,998	0.00487	0.99513	85.59
31.5	7,295,215	2,185	0.00030	0.99970	85.17
32.5	5,584,996	49,981	0.00895	0.99105	85.14
33.5	5,341,464	0	0.00000	1.00000	84.38
34.5	5,338,931	0	0.00000	1.00000	84.38
35.5	5,307,165	21,720	0.00409	0.99591	84.38
36.5	2,080,435	303	0.00015	0.99985	84.03
37.5	704,208	427	0.00061	0.99939	84.02
38.5	662,600	0	0.00000	1.00000	83.97
39.5	586,006	6,902	0.01178	0.98822	83.97
40.5	564,788	1,341	0.00237	0.99763	82.98
41.5	491,809	896	0.00182	0.99818	82.78
42.5	490,913	350	0.00071	0.99929	82.63
43.5	484,456	88	0.00018	0.99982	82.57
44.5	484,368	0	0.00000	1.00000	82.56
45.5	484,368	0	0.00000	1.00000	82.56
46.5	484,368	1,141	0.00236	0.99764	82.56
47.5	483,227	118,267	0.24474	0.75526	82.37
48.5	362,927	0	0.00000	1.00000	62.21
49.5	331,685	336	0.00101	0.99899	62.21
50.5	327,485	1,840	0.00562	0.99438	62.15
51.5	47,162	9,730	0.20631	0.79369	61.80
52.5	37,432	0	0.00000	1.00000	49.05
53.5	37,432	0	0.00000	1.00000	49.05
54.5	37,432	6,361	0.16994	0.83006	49.05
55.5	31,071	4,957	0.15954	0.84046	40.71
56.5	26,114	0	0.00000	1.00000	34.22
57.5	25,627	0	0.00000	1.00000	34.22

New Jersey - American Water Company

Account 304.700 - Structures and Improvements - Store, Shop, and Garage

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

58.5	25,627	0	0.00000	1.00000	34.22
59.5	25,627	0	0.00000	1.00000	34.22
60.5	3,330	0	0.00000	1.00000	34.22
61.5	3,330	0	0.00000	1.00000	34.22
62.5	3,330	0	0.00000	1.00000	34.22
63.5	3,330	0	0.00000	1.00000	34.22
64.5	3,330	0	0.00000	1.00000	34.22
65.5	3,330	0	0.00000	1.00000	34.22
66.5	3,330	15	0.00450	0.99550	34.22
67.5	3,315	0	0.00000	1.00000	34.07
68.5	3,315	0	0.00000	1.00000	34.07
69.5	3,315	0	0.00000	1.00000	34.07
70.5	3,315	0	0.00000	1.00000	34.07
71.5	3,315	0	0.00000	1.00000	34.07
72.5	3,315	0	0.00000	1.00000	34.07
73.5	3,315	0	0.00000	1.00000	34.07
74.5	3,315	0	0.00000	1.00000	34.07
75.5	3,315	0	0.00000	1.00000	34.07
76.5	3,315	0	0.00000	1.00000	34.07
77.5	3,315	0	0.00000	1.00000	34.07
78.5	3,315	0	0.00000	1.00000	34.07
79.5	3,315	0	0.00000	1.00000	34.07
80.5	3,315	0	0.00000	1.00000	34.07
81.5	3,315	790	0.23832	0.76168	34.07
82.5	2,381	0	0.00000	1.00000	25.95
83.5	2,381	0	0.00000	1.00000	25.95
84.5	2,381	0	0.00000	1.00000	25.95
85.5	2,381	0	0.00000	1.00000	25.95
86.5	2,381	0	0.00000	1.00000	25.95
87.5	2,381	0	0.00000	1.00000	25.95
88.5	2,381	0	0.00000	1.00000	25.95

New Jersey - American Water Company

Account 304.700 - Structures and Improvements - Store, Shop, and Garage

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

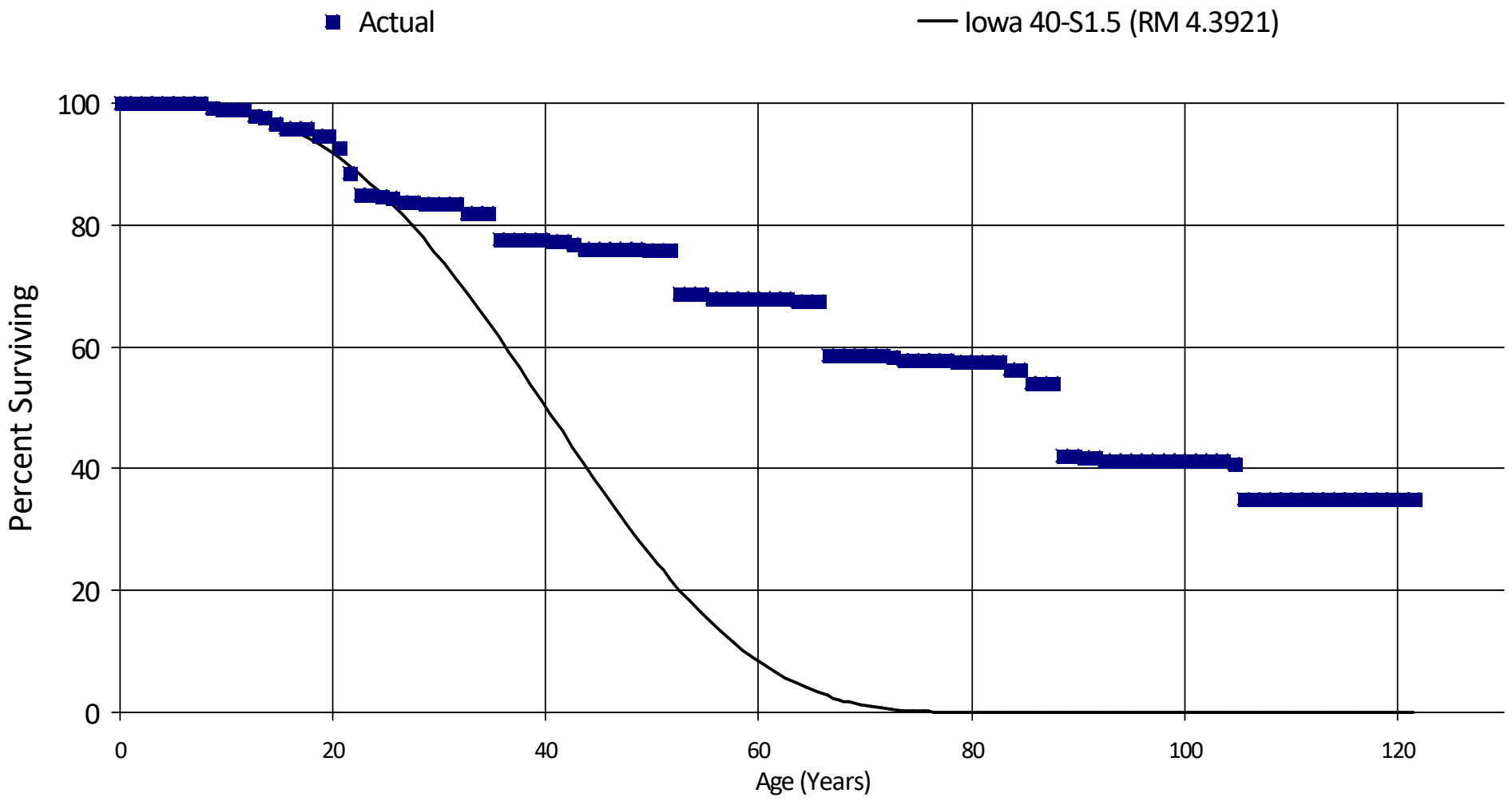
89.5	2,381	0	0.00000	1.00000	25.95
90.5	1,959	0	0.00000	1.00000	25.95
91.5	1,959	0	0.00000	1.00000	25.95
92.5	1,484	0	0.00000	1.00000	25.95
93.5	1,484	0	0.00000	1.00000	25.95
94.5	1,484	0	0.00000	1.00000	25.95
95.5	1,484	0	0.00000	1.00000	25.95
96.5	1,484	0	0.00000	1.00000	25.95
97.5	1,184	0	0.00000	1.00000	25.95
98.5	1,184	0	0.00000	1.00000	25.95
99.5	1,184	0	0.00000	1.00000	25.95
100.5	1,184	0	0.00000	1.00000	25.95
101.5	1,184	384	0.32437	0.67563	25.95
102.5	799	0	0.00000	1.00000	17.53
103.5	799	0	0.00000	1.00000	17.53
104.5	799	0	0.00000	1.00000	17.53
105.5	799	0	0.00000	1.00000	17.53
106.5	799	0	0.00000	1.00000	17.53
107.5	799	0	0.00000	1.00000	17.53
108.5	799	0	0.00000	1.00000	17.53
109.5	799	0	0.00000	1.00000	17.53
110.5	799	200	0.25019	0.74981	17.53
111.5	0	0	0.00000	0.00000	13.14
	Totals:	1,600,991			

New Jersey - American Water Company

Account 304.800 - Structures and Improvements - Miscellaneous

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 304.800 - Structures and Improvements - Miscellaneous

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	7,004,187	0	0.00000	1.00000	100.00
0.5	6,657,775	0	0.00000	1.00000	100.00
1.5	6,652,303	0	0.00000	1.00000	100.00
2.5	6,652,303	0	0.00000	1.00000	100.00
3.5	6,406,361	0	0.00000	1.00000	100.00
4.5	6,406,361	0	0.00000	1.00000	100.00
5.5	6,406,361	0	0.00000	1.00000	100.00
6.5	6,406,361	5,748	0.00090	0.99910	100.00
7.5	6,400,613	38,590	0.00603	0.99397	99.91
8.5	6,362,023	28,556	0.00449	0.99551	99.31
9.5	6,333,466	285	0.00004	0.99996	98.86
10.5	6,333,181	0	0.00000	1.00000	98.86
11.5	6,333,181	55,915	0.00883	0.99117	98.86
12.5	6,277,266	11,670	0.00186	0.99814	97.99
13.5	6,265,596	67,191	0.01072	0.98928	97.81
14.5	6,198,405	54,602	0.00881	0.99119	96.76
15.5	5,953,403	1,262	0.00021	0.99979	95.91
16.5	5,907,663	0	0.00000	1.00000	95.89
17.5	5,818,218	80,035	0.01376	0.98624	95.89
18.5	5,732,374	0	0.00000	1.00000	94.57
19.5	5,713,852	112,744	0.01973	0.98027	94.57
20.5	5,588,257	249,938	0.04473	0.95527	92.70
21.5	5,230,730	210,371	0.04022	0.95978	88.55
22.5	5,020,358	0	0.00000	1.00000	84.99
23.5	4,984,153	18,607	0.00373	0.99627	84.99
24.5	4,860,459	9,555	0.00197	0.99803	84.67
25.5	4,850,904	40,276	0.00830	0.99170	84.50
26.5	3,990,096	0	0.00000	1.00000	83.80

New Jersey - American Water Company

Account 304.800 - Structures and Improvements - Miscellaneous

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

27.5	3,990,096	9,047	0.00227	0.99773	83.80
28.5	2,539,089	0	0.00000	1.00000	83.61
29.5	2,514,296	0	0.00000	1.00000	83.61
30.5	2,480,949	3,719	0.00150	0.99850	83.61
31.5	1,469,676	28,238	0.01921	0.98079	83.48
32.5	1,433,022	0	0.00000	1.00000	81.88
33.5	1,231,626	0	0.00000	1.00000	81.88
34.5	172,009	8,744	0.05083	0.94917	81.88
35.5	163,266	0	0.00000	1.00000	77.72
36.5	150,466	0	0.00000	1.00000	77.72
37.5	150,466	0	0.00000	1.00000	77.72
38.5	150,466	126	0.00084	0.99916	77.72
39.5	150,340	474	0.00315	0.99685	77.65
40.5	93,533	0	0.00000	1.00000	77.41
41.5	88,987	676	0.00760	0.99240	77.41
42.5	88,311	811	0.00918	0.99082	76.82
43.5	87,500	0	0.00000	1.00000	76.11
44.5	87,500	0	0.00000	1.00000	76.11
45.5	81,653	0	0.00000	1.00000	76.11
46.5	81,653	0	0.00000	1.00000	76.11
47.5	81,653	0	0.00000	1.00000	76.11
48.5	81,117	300	0.00370	0.99630	76.11
49.5	70,754	14	0.00020	0.99980	75.83
50.5	70,740	0	0.00000	1.00000	75.81
51.5	70,740	6,550	0.09259	0.90741	75.81
52.5	64,190	0	0.00000	1.00000	68.79
53.5	64,190	0	0.00000	1.00000	68.79
54.5	64,190	619	0.00964	0.99036	68.79
55.5	63,571	0	0.00000	1.00000	68.13
56.5	63,571	0	0.00000	1.00000	68.13
57.5	63,271	0	0.00000	1.00000	68.13

New Jersey - American Water Company

Account 304.800 - Structures and Improvements - Miscellaneous

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

58.5	62,971	0	0.00000	1.00000	68.13
59.5	62,971	0	0.00000	1.00000	68.13
60.5	62,022	0	0.00000	1.00000	68.13
61.5	61,730	0	0.00000	1.00000	68.13
62.5	61,158	616	0.01007	0.98993	68.13
63.5	57,580	0	0.00000	1.00000	67.44
64.5	57,580	0	0.00000	1.00000	67.44
65.5	57,580	7,586	0.13175	0.86825	67.44
66.5	49,994	0	0.00000	1.00000	58.55
67.5	49,994	0	0.00000	1.00000	58.55
68.5	49,994	0	0.00000	1.00000	58.55
69.5	39,789	0	0.00000	1.00000	58.55
70.5	39,789	0	0.00000	1.00000	58.55
71.5	38,172	77	0.00202	0.99798	58.55
72.5	34,169	283	0.00828	0.99172	58.43
73.5	31,932	0	0.00000	1.00000	57.95
74.5	31,706	0	0.00000	1.00000	57.95
75.5	31,706	0	0.00000	1.00000	57.95
76.5	31,706	0	0.00000	1.00000	57.95
77.5	31,092	245	0.00788	0.99212	57.95
78.5	30,731	0	0.00000	1.00000	57.49
79.5	27,225	0	0.00000	1.00000	57.49
80.5	26,183	0	0.00000	1.00000	57.49
81.5	25,788	0	0.00000	1.00000	57.49
82.5	25,319	555	0.02192	0.97808	57.49
83.5	24,764	0	0.00000	1.00000	56.23
84.5	24,764	928	0.03747	0.96253	56.23
85.5	23,824	0	0.00000	1.00000	54.12
86.5	23,824	0	0.00000	1.00000	54.12
87.5	23,824	5,329	0.22368	0.77632	54.12
88.5	18,496	0	0.00000	1.00000	42.01

New Jersey - American Water Company

Account 304.800 - Structures and Improvements - Miscellaneous

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

89.5	18,496	61	0.00330	0.99670	42.01
90.5	18,435	0	0.00000	1.00000	41.87
91.5	18,435	258	0.01399	0.98601	41.87
92.5	18,178	0	0.00000	1.00000	41.28
93.5	18,005	0	0.00000	1.00000	41.28
94.5	17,296	0	0.00000	1.00000	41.28
95.5	17,249	0	0.00000	1.00000	41.28
96.5	17,249	0	0.00000	1.00000	41.28
97.5	17,249	0	0.00000	1.00000	41.28
98.5	8,666	0	0.00000	1.00000	41.28
99.5	8,666	0	0.00000	1.00000	41.28
100.5	8,666	0	0.00000	1.00000	41.28
101.5	8,666	0	0.00000	1.00000	41.28
102.5	8,666	0	0.00000	1.00000	41.28
103.5	8,666	71	0.00819	0.99181	41.28
104.5	7,526	1,082	0.14377	0.85623	40.94
105.5	6,199	0	0.00000	1.00000	35.05
106.5	6,199	0	0.00000	1.00000	35.05
107.5	6,199	0	0.00000	1.00000	35.05
108.5	5,691	0	0.00000	1.00000	35.05
109.5	3,233	0	0.00000	1.00000	35.05
110.5	3,233	0	0.00000	1.00000	35.05
111.5	3,233	0	0.00000	1.00000	35.05
112.5	3,233	0	0.00000	1.00000	35.05
113.5	3,233	0	0.00000	1.00000	35.05
114.5	3,233	0	0.00000	1.00000	35.05
115.5	3,233	0	0.00000	1.00000	35.05
116.5	3,233	0	0.00000	1.00000	35.05
117.5	3,233	0	0.00000	1.00000	35.05
118.5	3,233	0	0.00000	1.00000	35.05
119.5	3,233	0	0.00000	1.00000	35.05

New Jersey - American Water Company

Account 304.800 - Structures and Improvements - Miscellaneous

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

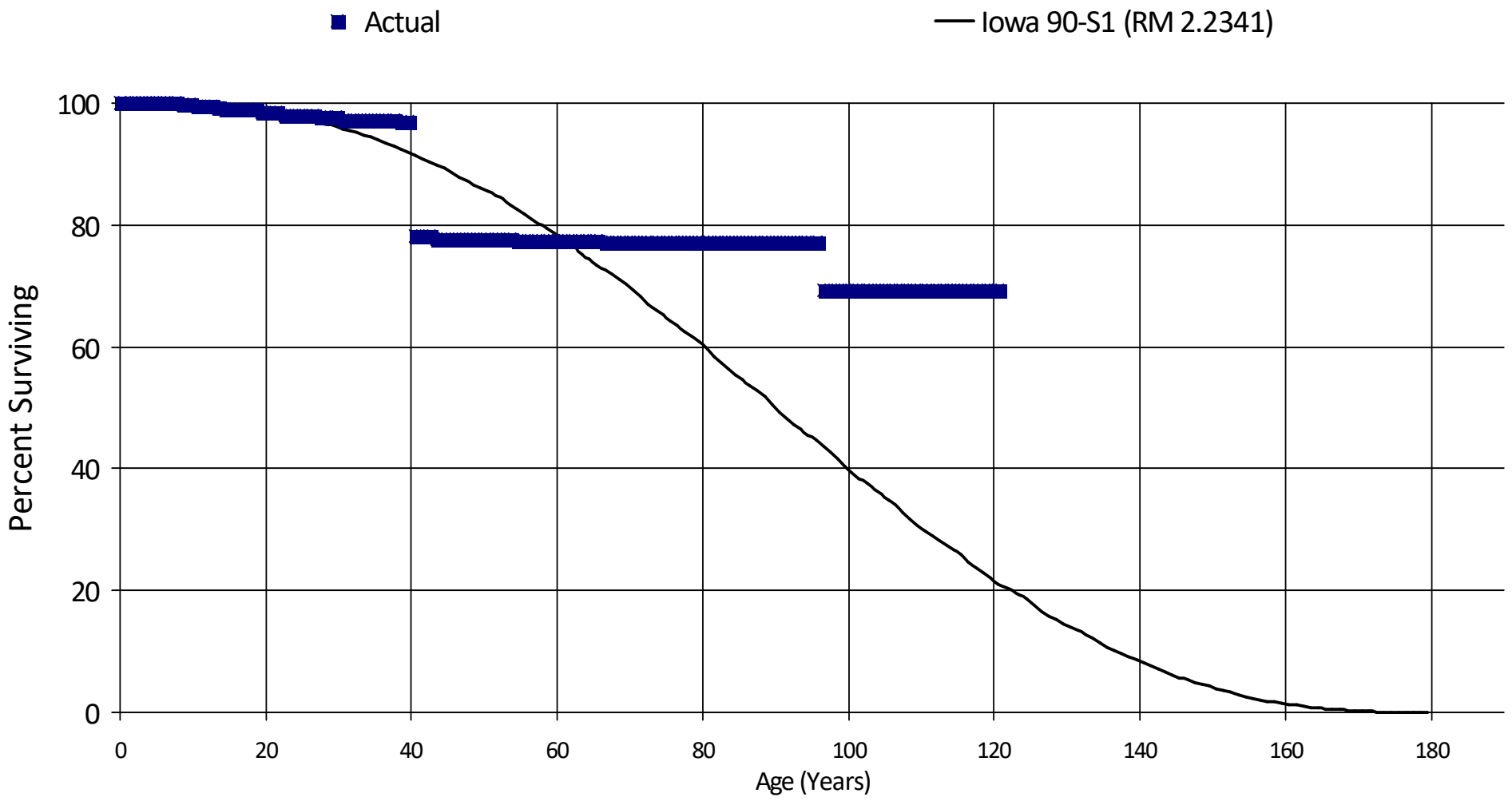
120.5	3,233	0	0.00000	1.00000	35.05
121.5	3,233	0	0.00000	1.00000	35.05
	Totals:	1,061,754			

New Jersey - American Water Company

Account 305.000 - Collecting and Impounding Reservoirs

Placement Band - 1901 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 305.000 - Collecting and Impounding Reservoirs

Placement Band - 1901 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	24,465,927	0	0.00000	1.00000	100.00
0.5	24,465,927	0	0.00000	1.00000	100.00
1.5	24,465,927	0	0.00000	1.00000	100.00
2.5	24,465,927	0	0.00000	1.00000	100.00
3.5	24,465,927	0	0.00000	1.00000	100.00
4.5	24,052,110	0	0.00000	1.00000	100.00
5.5	24,052,110	0	0.00000	1.00000	100.00
6.5	20,998,079	20,210	0.00096	0.99904	100.00
7.5	20,977,869	43,351	0.00207	0.99793	99.90
8.5	18,689,689	0	0.00000	1.00000	99.69
9.5	18,676,599	19,753	0.00106	0.99894	99.69
10.5	18,540,773	16,630	0.00090	0.99910	99.58
11.5	18,441,537	22,403	0.00121	0.99879	99.49
12.5	18,419,133	26,981	0.00146	0.99854	99.37
13.5	18,392,153	35,425	0.00193	0.99807	99.22
14.5	18,356,727	0	0.00000	1.00000	99.03
15.5	18,356,727	0	0.00000	1.00000	99.03
16.5	18,356,727	2,103	0.00011	0.99989	99.03
17.5	18,354,624	7,240	0.00039	0.99961	99.02
18.5	18,347,384	85,443	0.00466	0.99534	98.98
19.5	18,215,578	0	0.00000	1.00000	98.52
20.5	18,215,578	16,876	0.00093	0.99907	98.52
21.5	18,198,702	98,807	0.00543	0.99457	98.43
22.5	17,332,212	0	0.00000	1.00000	97.90
23.5	17,225,423	8,775	0.00051	0.99949	97.90
24.5	16,444,953	0	0.00000	1.00000	97.85
25.5	15,697,616	0	0.00000	1.00000	97.85
26.5	15,694,849	22,557	0.00144	0.99856	97.85

New Jersey - American Water Company

Account 305.000 - Collecting and Impounding Reservoirs

Placement Band - 1901 - 2022 Experience Band - 2008 - 2022

27.5	15,592,036	3,860	0.00025	0.99975	97.71
28.5	15,492,033	3,216	0.00021	0.99979	97.69
29.5	15,471,221	58,226	0.00376	0.99624	97.67
30.5	15,378,950	8,050	0.00052	0.99948	97.30
31.5	15,362,969	0	0.00000	1.00000	97.25
32.5	15,362,969	8,974	0.00058	0.99942	97.25
33.5	15,049,918	0	0.00000	1.00000	97.19
34.5	13,831,277	0	0.00000	1.00000	97.19
35.5	13,153,473	0	0.00000	1.00000	97.19
36.5	12,344,871	0	0.00000	1.00000	97.19
37.5	12,343,653	19,559	0.00158	0.99842	97.19
38.5	8,919,492	0	0.00000	1.00000	97.04
39.5	8,664,394	1,687,772	0.19479	0.80521	97.04
40.5	6,783,153	0	0.00000	1.00000	78.14
41.5	6,775,803	0	0.00000	1.00000	78.14
42.5	6,644,973	31,396	0.00472	0.99528	78.14
43.5	6,613,577	0	0.00000	1.00000	77.77
44.5	6,613,577	0	0.00000	1.00000	77.77
45.5	6,608,120	0	0.00000	1.00000	77.77
46.5	6,608,120	0	0.00000	1.00000	77.77
47.5	6,608,120	0	0.00000	1.00000	77.77
48.5	6,608,120	15,822	0.00239	0.99761	77.77
49.5	6,561,412	3,213	0.00049	0.99951	77.58
50.5	6,487,240	0	0.00000	1.00000	77.54
51.5	6,487,240	0	0.00000	1.00000	77.54
52.5	6,487,240	0	0.00000	1.00000	77.54
53.5	6,487,240	9,800	0.00151	0.99849	77.54
54.5	6,477,440	0	0.00000	1.00000	77.42
55.5	6,449,706	0	0.00000	1.00000	77.42
56.5	6,392,343	0	0.00000	1.00000	77.42
57.5	6,386,253	0	0.00000	1.00000	77.42

New Jersey - American Water Company

Account 305.000 - Collecting and Impounding Reservoirs

Placement Band - 1901 - 2022 Experience Band - 2008 - 2022

58.5	6,230,768	8,338	0.00134	0.99866	77.42
59.5	6,112,236	0	0.00000	1.00000	77.32
60.5	2,432,931	0	0.00000	1.00000	77.32
61.5	2,432,931	0	0.00000	1.00000	77.32
62.5	2,202,130	0	0.00000	1.00000	77.32
63.5	2,202,130	0	0.00000	1.00000	77.32
64.5	1,366,022	0	0.00000	1.00000	77.32
65.5	1,366,022	784	0.00057	0.99943	77.32
66.5	1,294,479	0	0.00000	1.00000	77.28
67.5	1,294,479	0	0.00000	1.00000	77.28
68.5	1,274,161	0	0.00000	1.00000	77.28
69.5	1,274,161	0	0.00000	1.00000	77.28
70.5	1,079,251	0	0.00000	1.00000	77.28
71.5	1,079,251	626	0.00058	0.99942	77.28
72.5	748,263	0	0.00000	1.00000	77.24
73.5	745,691	128	0.00017	0.99983	77.24
74.5	745,563	0	0.00000	1.00000	77.23
75.5	745,563	0	0.00000	1.00000	77.23
76.5	744,653	0	0.00000	1.00000	77.23
77.5	744,653	11	0.00001	0.99999	77.23
78.5	744,624	117	0.00016	0.99984	77.23
79.5	743,493	237	0.00032	0.99968	77.22
80.5	743,255	0	0.00000	1.00000	77.20
81.5	743,255	8	0.00001	0.99999	77.20
82.5	743,247	0	0.00000	1.00000	77.20
83.5	742,331	0	0.00000	1.00000	77.20
84.5	741,031	6	0.00001	0.99999	77.20
85.5	741,025	0	0.00000	1.00000	77.20
86.5	741,025	0	0.00000	1.00000	77.20
87.5	741,025	0	0.00000	1.00000	77.20
88.5	741,025	0	0.00000	1.00000	77.20

New Jersey - American Water Company

Account 305.000 - Collecting and Impounding Reservoirs

Placement Band - 1901 - 2022 Experience Band - 2008 - 2022

89.5	741,025	0	0.00000	1.00000	77.20
90.5	741,025	0	0.00000	1.00000	77.20
91.5	714,281	0	0.00000	1.00000	77.20
92.5	284,899	0	0.00000	1.00000	77.20
93.5	276,034	0	0.00000	1.00000	77.20
94.5	160,024	0	0.00000	1.00000	77.20
95.5	160,001	16,258	0.10161	0.89839	77.20
96.5	142,961	0	0.00000	1.00000	69.36
97.5	142,368	0	0.00000	1.00000	69.36
98.5	124,982	0	0.00000	1.00000	69.36
99.5	124,982	0	0.00000	1.00000	69.36
100.5	124,982	0	0.00000	1.00000	69.36
101.5	124,982	0	0.00000	1.00000	69.36
102.5	124,982	0	0.00000	1.00000	69.36
103.5	124,982	0	0.00000	1.00000	69.36
104.5	124,982	0	0.00000	1.00000	69.36
105.5	124,982	0	0.00000	1.00000	69.36
106.5	124,982	0	0.00000	1.00000	69.36
107.5	124,982	0	0.00000	1.00000	69.36
108.5	124,982	0	0.00000	1.00000	69.36
109.5	100,473	0	0.00000	1.00000	69.36
110.5	100,473	0	0.00000	1.00000	69.36
111.5	100,473	0	0.00000	1.00000	69.36
112.5	100,473	0	0.00000	1.00000	69.36
113.5	100,473	0	0.00000	1.00000	69.36
114.5	100,473	0	0.00000	1.00000	69.36
115.5	100,115	0	0.00000	1.00000	69.36
116.5	100,115	0	0.00000	1.00000	69.36
117.5	100,115	0	0.00000	1.00000	69.36
118.5	100,115	0	0.00000	1.00000	69.36
119.5	100,115	0	0.00000	1.00000	69.36

New Jersey - American Water Company

Account 305.000 - Collecting and Impounding Reservoirs

Placement Band - 1901 - 2022 Experience Band - 2008 - 2022

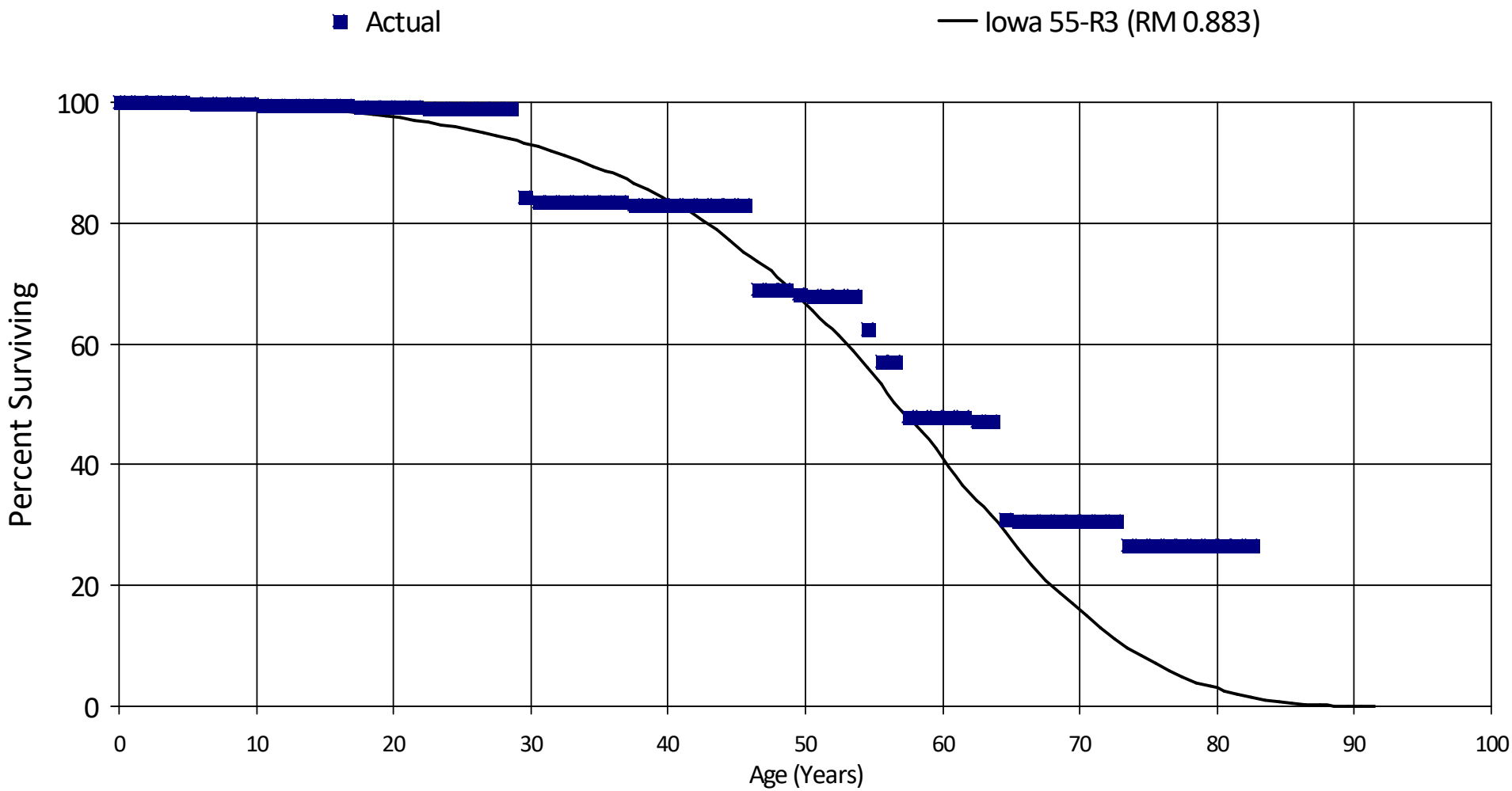
120.5	100,115	0	0.00000	1.00000	69.36
	Totals:	2,302,955			

New Jersey - American Water Company

Account 306.000 - Lake, River, & Other Intakes

Placement Band - 1930 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 306.000 - Lake, River, & Other Intakes

Placement Band - 1930 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	10,947,674	0	0.00000	1.00000	100.00
0.5	10,923,820	0	0.00000	1.00000	100.00
1.5	10,923,820	0	0.00000	1.00000	100.00
2.5	10,923,820	0	0.00000	1.00000	100.00
3.5	10,923,820	0	0.00000	1.00000	100.00
4.5	10,910,492	16,558	0.00152	0.99848	100.00
5.5	10,675,049	0	0.00000	1.00000	99.85
6.5	10,675,049	3,720	0.00035	0.99965	99.85
7.5	10,671,329	0	0.00000	1.00000	99.82
8.5	10,671,329	10,641	0.00100	0.99900	99.82
9.5	10,643,882	26,890	0.00253	0.99747	99.72
10.5	10,531,719	0	0.00000	1.00000	99.47
11.5	10,493,540	0	0.00000	1.00000	99.47
12.5	10,493,540	0	0.00000	1.00000	99.47
13.5	10,441,416	0	0.00000	1.00000	99.47
14.5	10,264,581	3,195	0.00031	0.99969	99.47
15.5	10,261,386	0	0.00000	1.00000	99.44
16.5	10,244,828	30,713	0.00300	0.99700	99.44
17.5	10,133,013	1,310	0.00013	0.99987	99.14
18.5	10,131,703	0	0.00000	1.00000	99.13
19.5	10,131,703	0	0.00000	1.00000	99.13
20.5	10,122,061	0	0.00000	1.00000	99.13
21.5	10,122,061	15,479	0.00153	0.99847	99.13
22.5	10,106,582	0	0.00000	1.00000	98.98
23.5	10,106,582	412	0.00004	0.99996	98.98
24.5	10,106,170	0	0.00000	1.00000	98.98
25.5	10,106,170	12,385	0.00123	0.99877	98.98
26.5	1,195,635	0	0.00000	1.00000	98.86

New Jersey - American Water Company

Account 306.000 - Lake, River, & Other Intakes

Placement Band - 1930 - 2022 Experience Band - 2009 - 2022

27.5	1,195,635	0	0.00000	1.00000	98.86
28.5	899,918	133,746	0.14862	0.85138	98.86
29.5	766,172	5,536	0.00723	0.99277	84.17
30.5	744,106	0	0.00000	1.00000	83.56
31.5	744,106	0	0.00000	1.00000	83.56
32.5	744,106	0	0.00000	1.00000	83.56
33.5	649,148	0	0.00000	1.00000	83.56
34.5	649,148	0	0.00000	1.00000	83.56
35.5	616,406	0	0.00000	1.00000	83.56
36.5	610,406	3,406	0.00558	0.99442	83.56
37.5	606,999	0	0.00000	1.00000	83.09
38.5	606,999	0	0.00000	1.00000	83.09
39.5	606,999	0	0.00000	1.00000	83.09
40.5	606,299	0	0.00000	1.00000	83.09
41.5	589,475	0	0.00000	1.00000	83.09
42.5	589,475	0	0.00000	1.00000	83.09
43.5	589,475	0	0.00000	1.00000	83.09
44.5	589,475	0	0.00000	1.00000	83.09
45.5	589,475	99,269	0.16840	0.83160	83.09
46.5	490,206	0	0.00000	1.00000	69.10
47.5	490,206	0	0.00000	1.00000	69.10
48.5	490,206	6,696	0.01366	0.98634	69.10
49.5	483,510	377	0.00078	0.99922	68.16
50.5	483,133	0	0.00000	1.00000	68.11
51.5	483,133	0	0.00000	1.00000	68.11
52.5	482,148	0	0.00000	1.00000	68.11
53.5	482,148	39,264	0.08144	0.91856	68.11
54.5	442,816	37,936	0.08567	0.91433	62.56
55.5	393,881	0	0.00000	1.00000	57.20
56.5	393,881	63,232	0.16054	0.83946	57.20
57.5	330,648	0	0.00000	1.00000	48.02

New Jersey - American Water Company

Account 306.000 - Lake, River, & Other Intakes

Placement Band - 1930 - 2022 Experience Band - 2009 - 2022

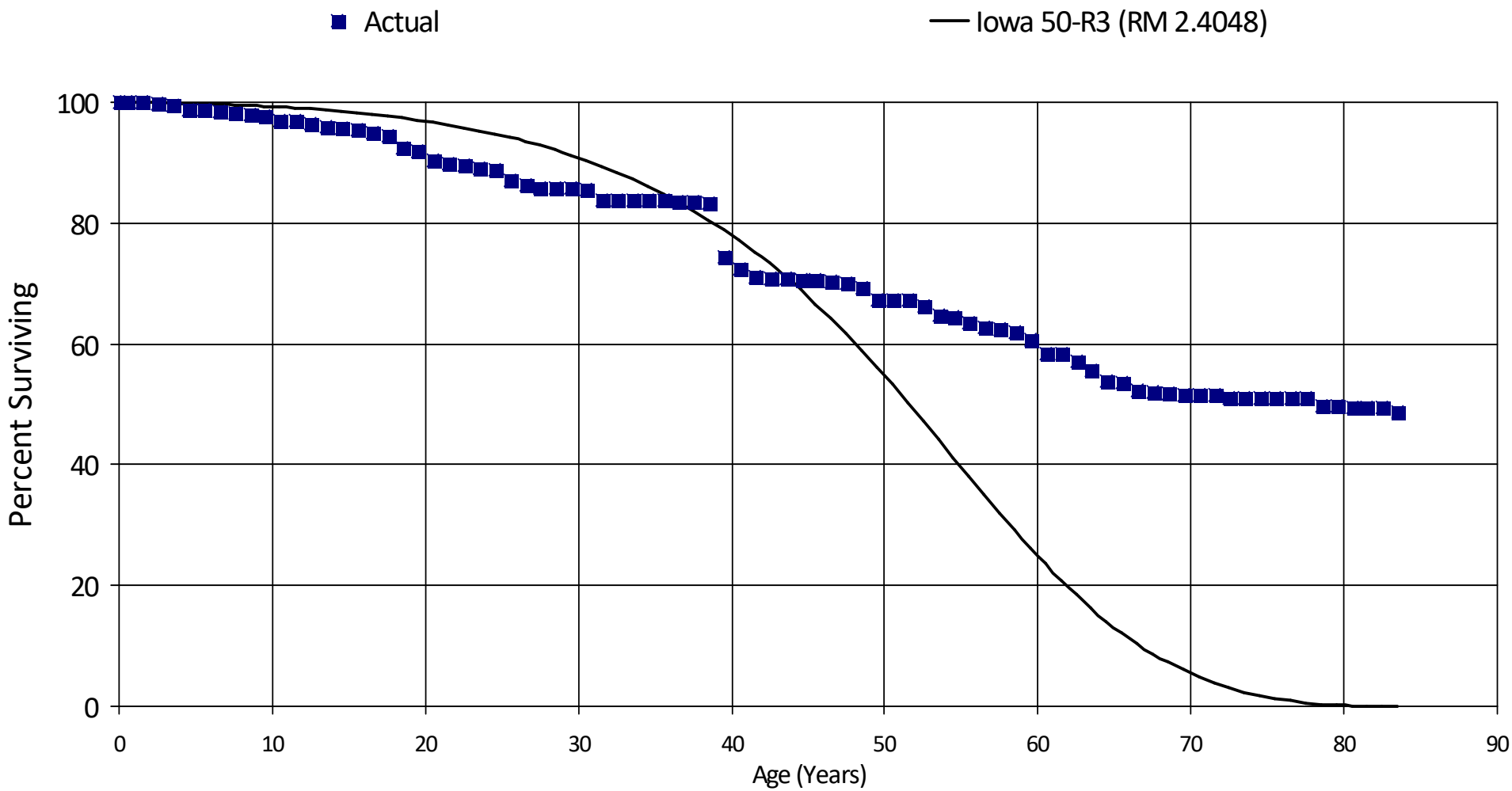
58.5	228,185	0	0.00000	1.00000	48.02
59.5	228,185	0	0.00000	1.00000	48.02
60.5	228,185	0	0.00000	1.00000	48.02
61.5	228,185	3,265	0.01431	0.98569	48.02
62.5	224,920	0	0.00000	1.00000	47.33
63.5	203,671	70,378	0.34555	0.65445	47.33
64.5	132,519	1,355	0.01022	0.98978	30.98
65.5	109,197	0	0.00000	1.00000	30.66
66.5	109,197	0	0.00000	1.00000	30.66
67.5	109,197	0	0.00000	1.00000	30.66
68.5	109,197	116	0.00106	0.99894	30.66
69.5	109,080	0	0.00000	1.00000	30.63
70.5	109,080	0	0.00000	1.00000	30.63
71.5	109,080	0	0.00000	1.00000	30.63
72.5	20,162	2,699	0.13386	0.86614	30.63
73.5	11,715	0	0.00000	1.00000	26.53
74.5	11,715	0	0.00000	1.00000	26.53
75.5	11,715	0	0.00000	1.00000	26.53
76.5	11,715	0	0.00000	1.00000	26.53
77.5	3,200	0	0.00000	1.00000	26.53
78.5	3,200	0	0.00000	1.00000	26.53
79.5	3,200	0	0.00000	1.00000	26.53
80.5	3,200	0	0.00000	1.00000	26.53
81.5	3,200	0	0.00000	1.00000	26.53
82.5	3,200	3,200	1.00000		26.53
	Totals:	591,778			

New Jersey - American Water Company

Account 307.000 - Wells & Springs

Placement Band - 1906 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 307.000 - Wells & Springs

Placement Band - 1906 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	71,098,704	7,351	0.00010	0.99990	100.00
0.5	68,571,503	25,803	0.00038	0.99962	99.99
1.5	63,401,736	197,430	0.00311	0.99689	99.95
2.5	58,767,171	136,984	0.00233	0.99767	99.64
3.5	55,475,431	318,031	0.00573	0.99427	99.41
4.5	53,668,686	115,044	0.00214	0.99786	98.84
5.5	52,306,392	111,696	0.00214	0.99786	98.63
6.5	51,331,514	90,436	0.00176	0.99824	98.42
7.5	49,705,659	138,869	0.00279	0.99721	98.25
8.5	46,956,856	133,011	0.00283	0.99717	97.98
9.5	45,436,902	297,509	0.00655	0.99345	97.70
10.5	41,791,404	44,750	0.00107	0.99893	97.06
11.5	38,831,988	191,858	0.00494	0.99506	96.96
12.5	38,110,760	253,981	0.00666	0.99334	96.48
13.5	36,914,440	106,386	0.00288	0.99712	95.84
14.5	34,741,870	53,572	0.00154	0.99846	95.56
15.5	32,941,243	201,911	0.00613	0.99387	95.41
16.5	32,084,870	178,698	0.00557	0.99443	94.83
17.5	31,620,184	631,873	0.01998	0.98002	94.30
18.5	29,415,596	139,030	0.00473	0.99527	92.42
19.5	28,476,853	499,167	0.01753	0.98247	91.98
20.5	27,799,831	158,180	0.00569	0.99431	90.37
21.5	27,118,757	85,460	0.00315	0.99685	89.86
22.5	26,638,717	153,593	0.00577	0.99423	89.58
23.5	26,032,447	90,330	0.00347	0.99653	89.06
24.5	23,645,396	444,635	0.01880	0.98120	88.75
25.5	22,443,372	179,488	0.00800	0.99200	87.08
26.5	22,224,798	148,330	0.00667	0.99333	86.38

New Jersey - American Water Company

Account 307.000 - Wells & Springs

Placement Band - 1906 - 2022 Experience Band - 2007 - 2022

27.5	21,833,050	17,500	0.00080	0.99920	85.80
28.5	20,541,175	8,204	0.00040	0.99960	85.73
29.5	18,577,093	17,325	0.00093	0.99907	85.70
30.5	17,252,188	357,305	0.02071	0.97929	85.62
31.5	13,568,444	0	0.00000	1.00000	83.85
32.5	13,163,255	0	0.00000	1.00000	83.85
33.5	10,808,462	0	0.00000	1.00000	83.85
34.5	10,453,905	0	0.00000	1.00000	83.85
35.5	10,200,097	29,851	0.00293	0.99707	83.85
36.5	9,882,013	11,062	0.00112	0.99888	83.60
37.5	9,583,048	27,475	0.00287	0.99713	83.51
38.5	8,961,448	964,017	0.10757	0.89243	83.27
39.5	7,512,011	205,494	0.02736	0.97264	74.31
40.5	6,970,876	118,625	0.01702	0.98298	72.28
41.5	6,187,142	13,179	0.00213	0.99787	71.05
42.5	4,120,507	9,605	0.00233	0.99767	70.90
43.5	4,110,902	5,381	0.00131	0.99869	70.73
44.5	4,066,765	1,096	0.00027	0.99973	70.64
45.5	4,065,430	12,230	0.00301	0.99699	70.62
46.5	3,861,963	21,574	0.00559	0.99441	70.41
47.5	3,831,974	44,033	0.01149	0.98851	70.02
48.5	3,780,635	106,017	0.02804	0.97196	69.22
49.5	3,099,954	2,581	0.00083	0.99917	67.28
50.5	3,048,351	1,308	0.00043	0.99957	67.22
51.5	2,992,774	41,938	0.01401	0.98599	67.19
52.5	2,729,250	66,059	0.02420	0.97580	66.25
53.5	2,552,211	2,614	0.00102	0.99898	64.65
54.5	2,520,784	40,129	0.01592	0.98408	64.58
55.5	2,312,211	35,724	0.01545	0.98455	63.55
56.5	2,226,171	5,495	0.00247	0.99753	62.57
57.5	2,012,255	14,821	0.00737	0.99263	62.42

New Jersey - American Water Company

Account 307.000 - Wells & Springs

Placement Band - 1906 - 2022 Experience Band - 2007 - 2022

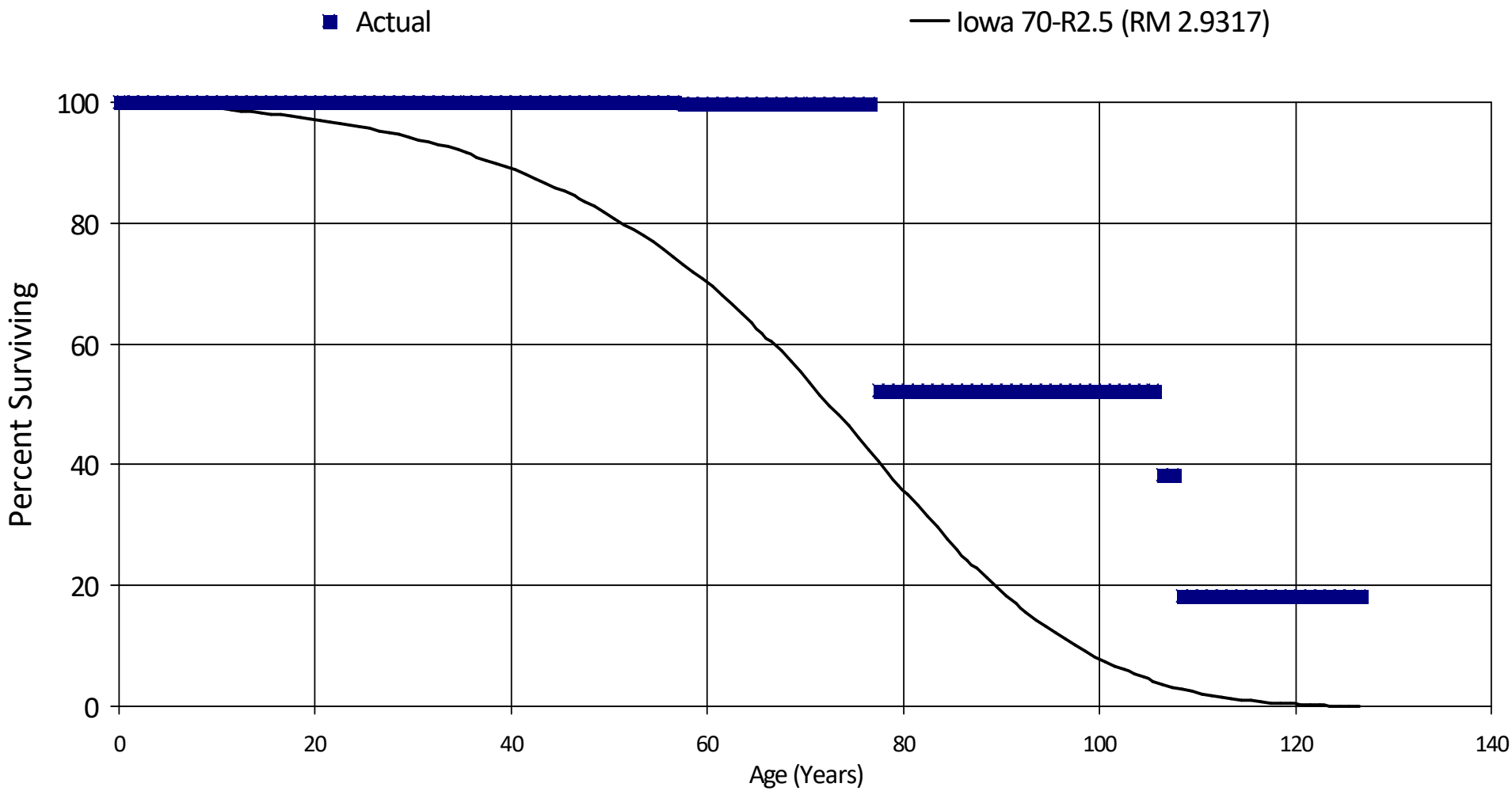
58.5	1,884,970	38,474	0.02041	0.97959	61.96
59.5	1,811,841	68,992	0.03808	0.96192	60.70
60.5	1,711,584	0	0.00000	1.00000	58.39
61.5	1,620,837	32,651	0.02014	0.97986	58.39
62.5	1,438,738	38,604	0.02683	0.97317	57.21
63.5	1,399,857	44,983	0.03213	0.96787	55.68
64.5	1,323,986	5,106	0.00386	0.99614	53.89
65.5	1,318,880	35,675	0.02705	0.97295	53.68
66.5	1,230,263	4,402	0.00358	0.99642	52.23
67.5	1,224,465	8,529	0.00697	0.99303	52.04
68.5	1,206,413	4,855	0.00402	0.99598	51.68
69.5	1,187,808	231	0.00019	0.99981	51.47
70.5	1,187,578	4	0.00000	1.00000	51.46
71.5	1,184,120	10,536	0.00890	0.99110	51.46
72.5	1,160,399	0	0.00000	1.00000	51.00
73.5	1,149,777	517	0.00045	0.99955	51.00
74.5	1,149,260	0	0.00000	1.00000	50.98
75.5	1,149,260	16	0.00001	0.99999	50.98
76.5	1,149,244	956	0.00083	0.99917	50.98
77.5	1,148,288	24,331	0.02119	0.97881	50.94
78.5	1,123,957	0	0.00000	1.00000	49.86
79.5	1,123,957	7,474	0.00665	0.99335	49.86
80.5	1,108,619	0	0.00000	1.00000	49.53
81.5	1,108,619	0	0.00000	1.00000	49.53
82.5	1,090,284	15,990	0.01467	0.98533	49.53
83.5	697,558	0	0.00000	1.00000	48.80
	Totals:	7,656,374			

New Jersey - American Water Company

Account 308.000 - Infiltration Galleries & Tunnels

Placement Band - 1895 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 308.000 - Infiltration Galleries & Tunnels

Placement Band - 1895 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	9,834,864	0	0.00000	1.00000	100.00
0.5	9,834,864	0	0.00000	1.00000	100.00
1.5	9,834,864	0	0.00000	1.00000	100.00
2.5	9,834,864	0	0.00000	1.00000	100.00
3.5	9,834,864	0	0.00000	1.00000	100.00
4.5	9,834,864	0	0.00000	1.00000	100.00
5.5	9,834,864	0	0.00000	1.00000	100.00
6.5	9,834,864	0	0.00000	1.00000	100.00
7.5	9,834,864	0	0.00000	1.00000	100.00
8.5	9,834,864	0	0.00000	1.00000	100.00
9.5	9,834,864	0	0.00000	1.00000	100.00
10.5	9,677,097	0	0.00000	1.00000	100.00
11.5	9,677,097	0	0.00000	1.00000	100.00
12.5	9,677,097	0	0.00000	1.00000	100.00
13.5	9,677,097	0	0.00000	1.00000	100.00
14.5	9,677,097	0	0.00000	1.00000	100.00
15.5	9,676,867	0	0.00000	1.00000	100.00
16.5	9,676,867	0	0.00000	1.00000	100.00
17.5	9,676,867	0	0.00000	1.00000	100.00
18.5	9,676,867	0	0.00000	1.00000	100.00
19.5	9,676,867	0	0.00000	1.00000	100.00
20.5	9,676,867	0	0.00000	1.00000	100.00
21.5	9,676,867	0	0.00000	1.00000	100.00
22.5	9,676,867	0	0.00000	1.00000	100.00
23.5	9,676,867	0	0.00000	1.00000	100.00
24.5	9,676,867	0	0.00000	1.00000	100.00
25.5	9,676,867	0	0.00000	1.00000	100.00
26.5	131,124	0	0.00000	1.00000	100.00

New Jersey - American Water Company

Account 308.000 - Infiltration Galleries & Tunnels

Placement Band - 1895 - 2022 Experience Band - 2009 - 2022

27.5	131,124	0	0.00000	1.00000	100.00
28.5	131,124	0	0.00000	1.00000	100.00
29.5	131,124	0	0.00000	1.00000	100.00
30.5	131,124	0	0.00000	1.00000	100.00
31.5	131,124	0	0.00000	1.00000	100.00
32.5	131,124	0	0.00000	1.00000	100.00
33.5	131,124	0	0.00000	1.00000	100.00
34.5	131,124	0	0.00000	1.00000	100.00
35.5	131,124	0	0.00000	1.00000	100.00
36.5	131,124	0	0.00000	1.00000	100.00
37.5	131,124	0	0.00000	1.00000	100.00
38.5	131,124	0	0.00000	1.00000	100.00
39.5	131,124	0	0.00000	1.00000	100.00
40.5	131,124	0	0.00000	1.00000	100.00
41.5	131,124	0	0.00000	1.00000	100.00
42.5	131,124	0	0.00000	1.00000	100.00
43.5	131,124	0	0.00000	1.00000	100.00
44.5	131,083	0	0.00000	1.00000	100.00
45.5	131,083	0	0.00000	1.00000	100.00
46.5	131,083	0	0.00000	1.00000	100.00
47.5	131,083	0	0.00000	1.00000	100.00
48.5	131,083	0	0.00000	1.00000	100.00
49.5	131,083	0	0.00000	1.00000	100.00
50.5	131,083	0	0.00000	1.00000	100.00
51.5	131,083	0	0.00000	1.00000	100.00
52.5	131,083	0	0.00000	1.00000	100.00
53.5	131,083	0	0.00000	1.00000	100.00
54.5	131,083	0	0.00000	1.00000	100.00
55.5	128,395	0	0.00000	1.00000	100.00
56.5	128,395	187	0.00146	0.99854	100.00
57.5	128,208	0	0.00000	1.00000	99.85

New Jersey - American Water Company

Account 308.000 - Infiltration Galleries & Tunnels

Placement Band - 1895 - 2022 Experience Band - 2009 - 2022

58.5	128,208	0	0.00000	1.00000	99.85
59.5	128,208	0	0.00000	1.00000	99.85
60.5	127,929	0	0.00000	1.00000	99.85
61.5	127,929	0	0.00000	1.00000	99.85
62.5	127,929	0	0.00000	1.00000	99.85
63.5	127,929	0	0.00000	1.00000	99.85
64.5	127,929	0	0.00000	1.00000	99.85
65.5	127,929	0	0.00000	1.00000	99.85
66.5	127,929	0	0.00000	1.00000	99.85
67.5	127,929	0	0.00000	1.00000	99.85
68.5	127,929	0	0.00000	1.00000	99.85
69.5	116,330	0	0.00000	1.00000	99.85
70.5	116,330	0	0.00000	1.00000	99.85
71.5	116,330	0	0.00000	1.00000	99.85
72.5	116,330	0	0.00000	1.00000	99.85
73.5	116,330	0	0.00000	1.00000	99.85
74.5	116,330	25	0.00021	0.99979	99.85
75.5	116,306	63	0.00054	0.99946	99.83
76.5	116,242	55,357	0.47622	0.52378	99.78
77.5	60,885	0	0.00000	1.00000	52.26
78.5	60,885	0	0.00000	1.00000	52.26
79.5	60,885	0	0.00000	1.00000	52.26
80.5	60,885	0	0.00000	1.00000	52.26
81.5	60,885	0	0.00000	1.00000	52.26
82.5	60,885	0	0.00000	1.00000	52.26
83.5	60,885	0	0.00000	1.00000	52.26
84.5	60,885	0	0.00000	1.00000	52.26
85.5	60,885	0	0.00000	1.00000	52.26
86.5	60,885	0	0.00000	1.00000	52.26
87.5	60,885	0	0.00000	1.00000	52.26
88.5	52,223	0	0.00000	1.00000	52.26

New Jersey - American Water Company

Account 308.000 - Infiltration Galleries & Tunnels

Placement Band - 1895 - 2022 Experience Band - 2009 - 2022

89.5	52,223	0	0.00000	1.00000	52.26
90.5	52,223	0	0.00000	1.00000	52.26
91.5	52,223	0	0.00000	1.00000	52.26
92.5	52,223	0	0.00000	1.00000	52.26
93.5	52,223	0	0.00000	1.00000	52.26
94.5	52,223	0	0.00000	1.00000	52.26
95.5	52,223	0	0.00000	1.00000	52.26
96.5	52,223	0	0.00000	1.00000	52.26
97.5	52,223	0	0.00000	1.00000	52.26
98.5	52,223	0	0.00000	1.00000	52.26
99.5	52,223	0	0.00000	1.00000	52.26
100.5	52,223	0	0.00000	1.00000	52.26
101.5	52,223	0	0.00000	1.00000	52.26
102.5	52,223	0	0.00000	1.00000	52.26
103.5	52,223	0	0.00000	1.00000	52.26
104.5	52,223	0	0.00000	1.00000	52.26
105.5	52,223	13,945	0.26703	0.73297	52.26
106.5	38,278	0	0.00000	1.00000	38.31
107.5	38,278	19,920	0.52040	0.47960	38.31
108.5	18,358	0	0.00000	1.00000	18.37
109.5	18,358	0	0.00000	1.00000	18.37
110.5	18,358	0	0.00000	1.00000	18.37
111.5	18,358	0	0.00000	1.00000	18.37
112.5	18,358	0	0.00000	1.00000	18.37
113.5	18,358	0	0.00000	1.00000	18.37
114.5	18,358	0	0.00000	1.00000	18.37
115.5	18,358	0	0.00000	1.00000	18.37
116.5	18,358	0	0.00000	1.00000	18.37
117.5	18,358	0	0.00000	1.00000	18.37
118.5	18,358	0	0.00000	1.00000	18.37
119.5	9,459	0	0.00000	1.00000	18.37

New Jersey - American Water Company

Account 308.000 - Infiltration Galleries & Tunnels

Placement Band - 1895 - 2022 Experience Band - 2009 - 2022

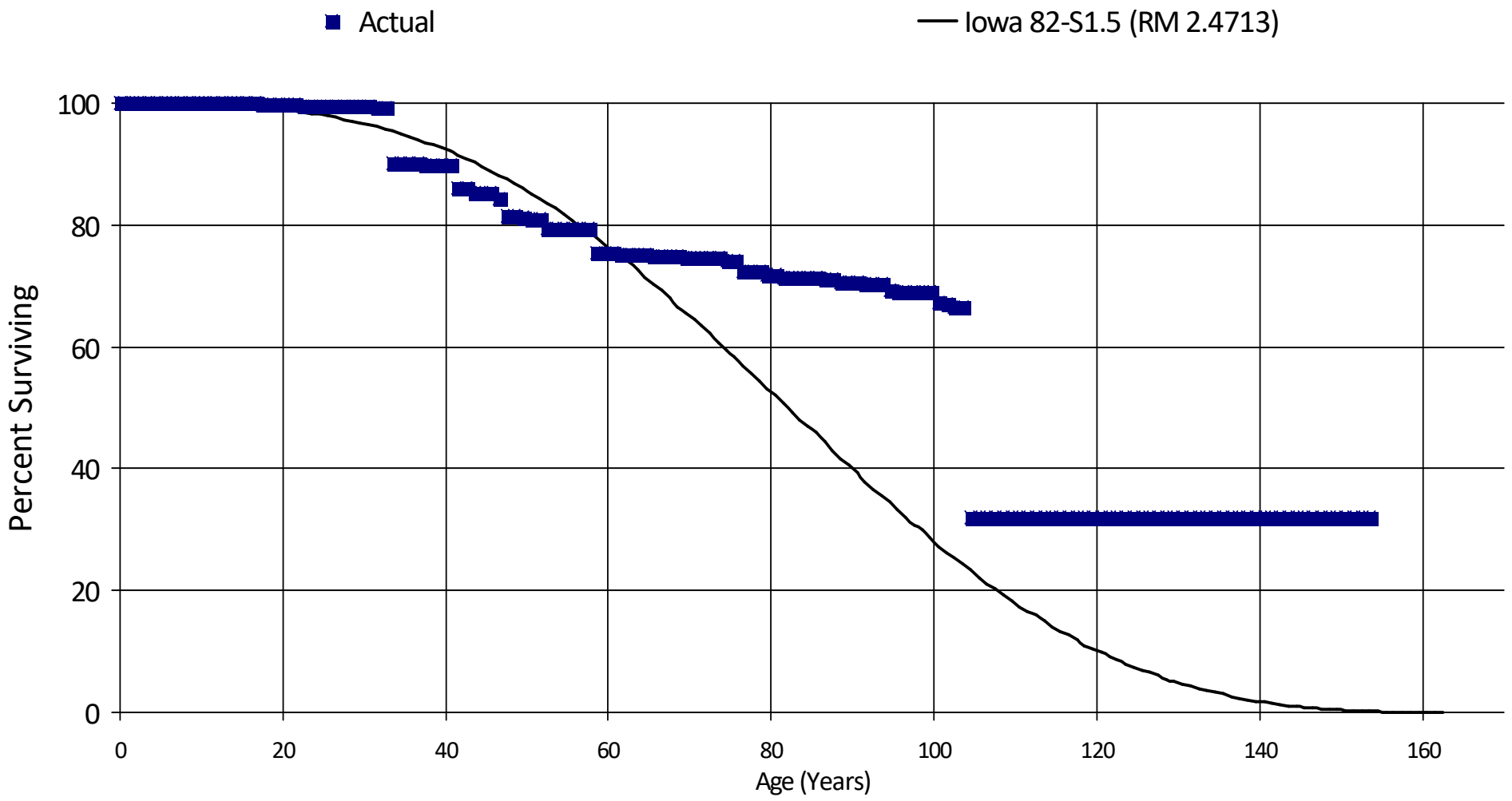
120.5	9,459	0	0.00000	1.00000	18.37
121.5	9,459	0	0.00000	1.00000	18.37
122.5	9,459	0	0.00000	1.00000	18.37
123.5	9,459	0	0.00000	1.00000	18.37
124.5	9,459	0	0.00000	1.00000	18.37
125.5	9,459	0	0.00000	1.00000	18.37
126.5	9,459	0	0.00000	1.00000	18.37
	Totals:	89,497			

New Jersey - American Water Company

Account 309.000 - Supply Mains

Placement Band - 1868 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 309.000 - Supply Mains

Placement Band - 1868 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	33,593,225	0	0.00000	1.00000	100.00
0.5	32,711,546	0	0.00000	1.00000	100.00
1.5	32,711,546	0	0.00000	1.00000	100.00
2.5	32,703,543	14,155	0.00043	0.99957	100.00
3.5	32,689,389	0	0.00000	1.00000	99.96
4.5	32,689,389	0	0.00000	1.00000	99.96
5.5	32,689,389	0	0.00000	1.00000	99.96
6.5	32,689,389	13,981	0.00043	0.99957	99.96
7.5	32,675,408	0	0.00000	1.00000	99.92
8.5	32,657,959	0	0.00000	1.00000	99.92
9.5	23,437,260	0	0.00000	1.00000	99.92
10.5	20,880,117	690	0.00003	0.99997	99.92
11.5	19,105,004	0	0.00000	1.00000	99.92
12.5	18,924,007	1,417	0.00007	0.99993	99.92
13.5	18,632,480	5	0.00000	1.00000	99.91
14.5	17,822,181	1,509	0.00008	0.99992	99.91
15.5	17,283,771	595	0.00003	0.99997	99.90
16.5	17,275,413	32,959	0.00191	0.99809	99.90
17.5	17,212,083	6,345	0.00037	0.99963	99.71
18.5	17,205,737	243	0.00001	0.99999	99.67
19.5	17,205,494	0	0.00000	1.00000	99.67
20.5	17,205,494	3,541	0.00021	0.99979	99.67
21.5	16,826,881	8,096	0.00048	0.99952	99.65
22.5	16,818,785	5,453	0.00032	0.99968	99.60
23.5	16,813,332	0	0.00000	1.00000	99.57
24.5	16,804,661	0	0.00000	1.00000	99.57
25.5	16,722,112	1,923	0.00011	0.99989	99.57
26.5	10,134,194	0	0.00000	1.00000	99.56

New Jersey - American Water Company

Account 309.000 - Supply Mains

Placement Band - 1868 - 2022 Experience Band - 2007 - 2022

27.5	9,237,535	0	0.00000	1.00000	99.56
28.5	9,092,429	0	0.00000	1.00000	99.56
29.5	8,619,924	0	0.00000	1.00000	99.56
30.5	8,393,434	25,881	0.00308	0.99692	99.56
31.5	8,365,019	0	0.00000	1.00000	99.25
32.5	7,277,776	666,495	0.09158	0.90842	99.25
33.5	6,353,715	0	0.00000	1.00000	90.16
34.5	6,339,374	4,371	0.00069	0.99931	90.16
35.5	2,928,521	2,764	0.00094	0.99906	90.10
36.5	2,843,964	2,763	0.00097	0.99903	90.02
37.5	2,812,425	0	0.00000	1.00000	89.93
38.5	2,812,425	0	0.00000	1.00000	89.93
39.5	2,812,425	0	0.00000	1.00000	89.93
40.5	2,784,509	116,669	0.04190	0.95810	89.93
41.5	2,643,212	25	0.00001	0.99999	86.16
42.5	2,643,186	28,350	0.01073	0.98927	86.16
43.5	2,611,027	708	0.00027	0.99973	85.24
44.5	2,595,241	0	0.00000	1.00000	85.22
45.5	2,594,228	26,170	0.01009	0.98991	85.22
46.5	2,549,714	89,297	0.03502	0.96498	84.36
47.5	2,456,938	220	0.00009	0.99991	81.41
48.5	2,456,718	3,529	0.00144	0.99856	81.40
49.5	2,017,244	6,893	0.00342	0.99658	81.28
50.5	2,002,213	16	0.00001	0.99999	81.00
51.5	1,953,778	35,675	0.01826	0.98174	81.00
52.5	1,917,972	480	0.00025	0.99975	79.52
53.5	1,915,172	0	0.00000	1.00000	79.50
54.5	1,914,040	2,084	0.00109	0.99891	79.50
55.5	1,896,951	1,164	0.00061	0.99939	79.41
56.5	1,784,316	479	0.00027	0.99973	79.36
57.5	1,553,614	76,238	0.04907	0.95093	79.34

New Jersey - American Water Company

Account 309.000 - Supply Mains

Placement Band - 1868 - 2022 Experience Band - 2007 - 2022

58.5	1,344,948	2,966	0.00221	0.99779	75.45
59.5	1,246,299	273	0.00022	0.99978	75.28
60.5	953,029	1,724	0.00181	0.99819	75.26
61.5	945,006	566	0.00060	0.99940	75.12
62.5	941,769	451	0.00048	0.99952	75.07
63.5	920,005	0	0.00000	1.00000	75.03
64.5	657,541	461	0.00070	0.99930	75.03
65.5	653,204	550	0.00084	0.99916	74.98
66.5	594,862	0	0.00000	1.00000	74.92
67.5	575,734	0	0.00000	1.00000	74.92
68.5	573,913	3,023	0.00527	0.99473	74.92
69.5	367,708	124	0.00034	0.99966	74.53
70.5	358,833	0	0.00000	1.00000	74.50
71.5	358,676	0	0.00000	1.00000	74.50
72.5	261,730	0	0.00000	1.00000	74.50
73.5	242,011	1,254	0.00518	0.99482	74.50
74.5	239,865	20	0.00008	0.99992	74.11
75.5	238,667	5,310	0.02225	0.97775	74.10
76.5	230,947	358	0.00155	0.99845	72.45
77.5	230,588	99	0.00043	0.99957	72.34
78.5	230,321	1,200	0.00521	0.99479	72.31
79.5	227,214	407	0.00179	0.99821	71.93
80.5	209,106	1,652	0.00790	0.99210	71.80
81.5	207,454	0	0.00000	1.00000	71.23
82.5	206,863	0	0.00000	1.00000	71.23
83.5	206,773	0	0.00000	1.00000	71.23
84.5	206,614	10	0.00005	0.99995	71.23
85.5	98,539	105	0.00107	0.99893	71.23
86.5	98,274	0	0.00000	1.00000	71.15
87.5	98,270	943	0.00960	0.99040	71.15
88.5	97,327	0	0.00000	1.00000	70.47

New Jersey - American Water Company

Account 309.000 - Supply Mains

Placement Band - 1868 - 2022 Experience Band - 2007 - 2022

89.5	97,204	17	0.00017	0.99983	70.47
90.5	63,515	191	0.00301	0.99699	70.46
91.5	56,433	13	0.00023	0.99977	70.25
92.5	50,248	0	0.00000	1.00000	70.23
93.5	44,766	673	0.01503	0.98497	70.23
94.5	44,093	5	0.00011	0.99989	69.17
95.5	42,819	0	0.00000	1.00000	69.16
96.5	35,692	0	0.00000	1.00000	69.16
97.5	35,692	58	0.00163	0.99837	69.16
98.5	31,900	46	0.00144	0.99856	69.05
99.5	12,283	290	0.02361	0.97639	68.95
100.5	11,993	76	0.00634	0.99366	67.32
101.5	11,917	69	0.00579	0.99421	66.89
102.5	11,848	0	0.00000	1.00000	66.50
103.5	11,848	6,152	0.51923	0.48077	66.50
104.5	5,697	0	0.00000	1.00000	31.97
105.5	5,697	0	0.00000	1.00000	31.97
106.5	5,697	0	0.00000	1.00000	31.97
107.5	3,711	0	0.00000	1.00000	31.97
108.5	3,711	0	0.00000	1.00000	31.97
109.5	3,257	0	0.00000	1.00000	31.97
110.5	3,257	0	0.00000	1.00000	31.97
111.5	3,257	0	0.00000	1.00000	31.97
112.5	2,800	0	0.00000	1.00000	31.97
113.5	2,800	0	0.00000	1.00000	31.97
114.5	2,800	0	0.00000	1.00000	31.97
115.5	2,800	0	0.00000	1.00000	31.97
116.5	2,800	0	0.00000	1.00000	31.97
117.5	2,800	0	0.00000	1.00000	31.97
118.5	2,800	0	0.00000	1.00000	31.97
119.5	800	0	0.00000	1.00000	31.97

New Jersey - American Water Company

Account 309.000 - Supply Mains

Placement Band - 1868 - 2022 Experience Band - 2007 - 2022

120.5	800	0	0.00000	1.00000	31.97
121.5	800	0	0.00000	1.00000	31.97
122.5	800	0	0.00000	1.00000	31.97
123.5	800	0	0.00000	1.00000	31.97
124.5	800	0	0.00000	1.00000	31.97
125.5	800	0	0.00000	1.00000	31.97
126.5	800	0	0.00000	1.00000	31.97
127.5	800	0	0.00000	1.00000	31.97
128.5	800	0	0.00000	1.00000	31.97
129.5	800	0	0.00000	1.00000	31.97
130.5	800	0	0.00000	1.00000	31.97
131.5	800	0	0.00000	1.00000	31.97
132.5	800	0	0.00000	1.00000	31.97
133.5	800	0	0.00000	1.00000	31.97
134.5	800	0	0.00000	1.00000	31.97
135.5	800	0	0.00000	1.00000	31.97
136.5	800	0	0.00000	1.00000	31.97
137.5	800	0	0.00000	1.00000	31.97
138.5	800	0	0.00000	1.00000	31.97
139.5	800	0	0.00000	1.00000	31.97
140.5	800	0	0.00000	1.00000	31.97
141.5	800	0	0.00000	1.00000	31.97
142.5	800	0	0.00000	1.00000	31.97
143.5	800	0	0.00000	1.00000	31.97
144.5	800	0	0.00000	1.00000	31.97
145.5	800	0	0.00000	1.00000	31.97
146.5	800	0	0.00000	1.00000	31.97
147.5	800	0	0.00000	1.00000	31.97
148.5	800	0	0.00000	1.00000	31.97
149.5	800	0	0.00000	1.00000	31.97
150.5	800	0	0.00000	1.00000	31.97

New Jersey - American Water Company

Account 309.000 - Supply Mains

Placement Band - 1868 - 2022 Experience Band - 2007 - 2022

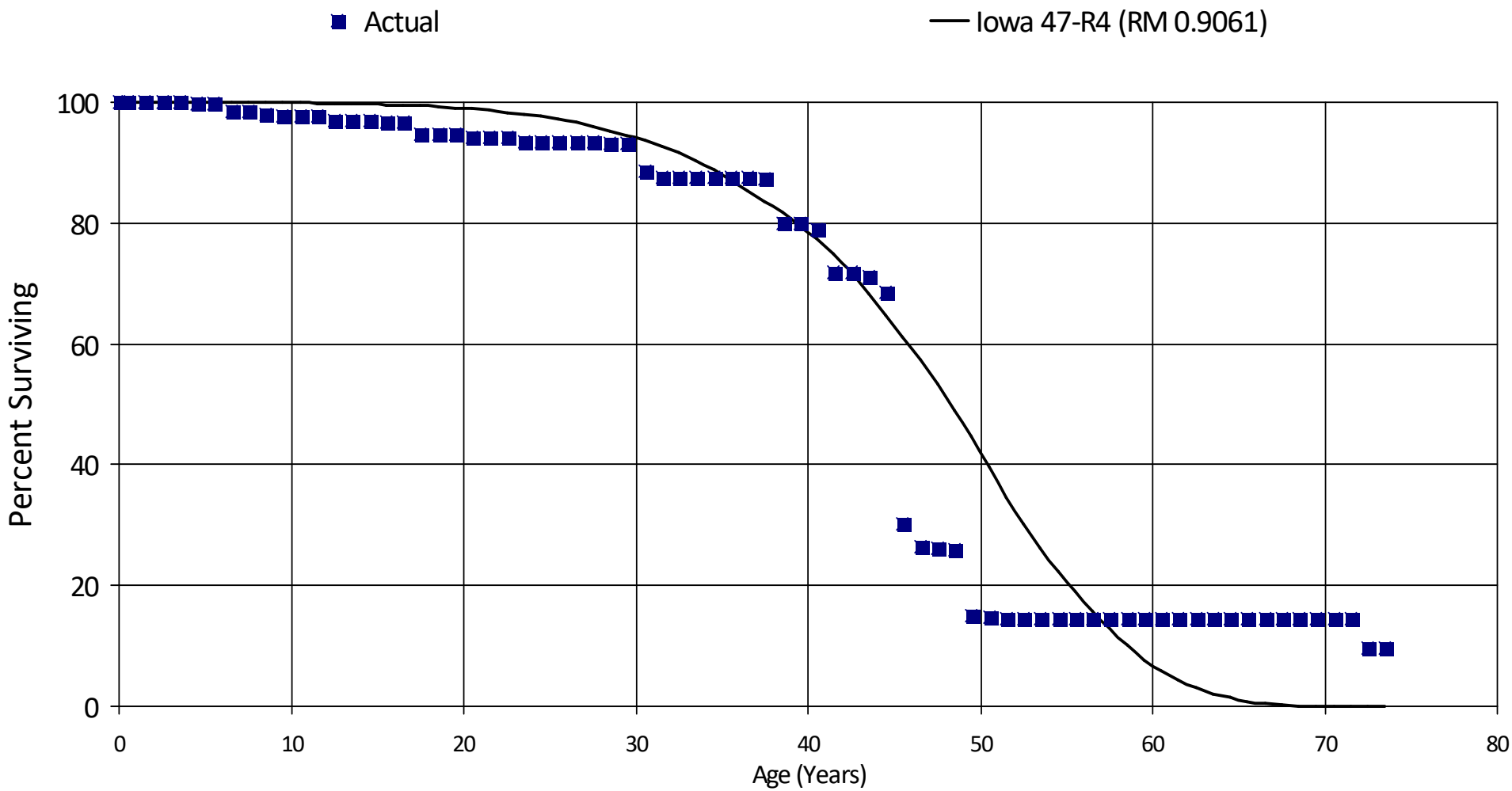
151.5	800	0	0.00000	1.00000	31.97
152.5	800	0	0.00000	1.00000	31.97
153.5	800	0	0.00000	1.00000	31.97
	Totals:	1,210,269			

New Jersey - American Water Company

Account 310.000 - Power Generation Equipment

Placement Band - 1948 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 310.000 - Power Generation Equipment

Placement Band - 1948 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	51,399,688	0	0.00000	1.00000	100.00
0.5	50,434,336	1,374	0.00003	0.99997	100.00
1.5	50,075,910	21,305	0.00043	0.99957	100.00
2.5	49,988,316	17,432	0.00035	0.99965	99.96
3.5	49,882,405	57,811	0.00116	0.99884	99.93
4.5	48,241,988	92,276	0.00191	0.99809	99.81
5.5	44,183,881	488,247	0.01105	0.98895	99.62
6.5	39,627,125	31,138	0.00079	0.99921	98.52
7.5	35,986,947	151,293	0.00420	0.99580	98.44
8.5	35,039,357	86,231	0.00246	0.99754	98.03
9.5	34,100,853	34,698	0.00102	0.99898	97.79
10.5	22,287,332	0	0.00000	1.00000	97.69
11.5	19,779,066	159,844	0.00808	0.99192	97.69
12.5	19,161,345	8,863	0.00046	0.99954	96.90
13.5	19,121,740	0	0.00000	1.00000	96.86
14.5	13,927,708	7,905	0.00057	0.99943	96.86
15.5	10,891,028	2,257	0.00021	0.99979	96.80
16.5	10,531,470	226,905	0.02155	0.97845	96.78
17.5	10,304,565	265	0.00003	0.99997	94.69
18.5	10,119,210	6,324	0.00062	0.99938	94.69
19.5	10,074,353	49,574	0.00492	0.99508	94.63
20.5	9,595,067	5,546	0.00058	0.99942	94.16
21.5	9,486,392	5,133	0.00054	0.99946	94.11
22.5	9,209,580	59,259	0.00643	0.99357	94.06
23.5	7,532,699	0	0.00000	1.00000	93.46
24.5	7,179,126	1,805	0.00025	0.99975	93.46
25.5	6,783,113	0	0.00000	1.00000	93.44
26.5	5,493,019	4,219	0.00077	0.99923	93.44

New Jersey - American Water Company

Account 310.000 - Power Generation Equipment

Placement Band - 1948 - 2022 Experience Band - 2007 - 2022

27.5	5,402,997	13,226	0.00245	0.99755	93.37
28.5	5,336,395	0	0.00000	1.00000	93.14
29.5	2,616,857	130,715	0.04995	0.95005	93.14
30.5	2,330,655	22,140	0.00950	0.99050	88.49
31.5	2,292,679	0	0.00000	1.00000	87.65
32.5	1,713,713	0	0.00000	1.00000	87.65
33.5	1,563,768	2,086	0.00133	0.99867	87.65
34.5	1,561,153	1,476	0.00095	0.99905	87.53
35.5	1,420,118	0	0.00000	1.00000	87.45
36.5	1,275,751	3,378	0.00265	0.99735	87.45
37.5	1,272,373	105,986	0.08330	0.91670	87.22
38.5	1,145,467	1,339	0.00117	0.99883	79.95
39.5	1,144,128	14,727	0.01287	0.98713	79.86
40.5	919,576	80,948	0.08803	0.91197	78.83
41.5	802,055	0	0.00000	1.00000	71.89
42.5	788,954	10,160	0.01288	0.98712	71.89
43.5	675,662	23,300	0.03448	0.96552	70.96
44.5	652,362	364,063	0.55807	0.44193	68.51
45.5	288,299	36,342	0.12606	0.87394	30.28
46.5	251,957	1,887	0.00749	0.99251	26.46
47.5	250,069	4,378	0.01751	0.98249	26.26
48.5	245,692	102,118	0.41563	0.58437	25.80
49.5	131,538	2,326	0.01768	0.98232	15.08
50.5	129,213	3,456	0.02675	0.97325	14.81
51.5	125,756	0	0.00000	1.00000	14.41
52.5	124,372	0	0.00000	1.00000	14.41
53.5	66,270	0	0.00000	1.00000	14.41
54.5	236	0	0.00000	1.00000	14.41
55.5	236	0	0.00000	1.00000	14.41
56.5	236	0	0.00000	1.00000	14.41
57.5	236	0	0.00000	1.00000	14.41

New Jersey - American Water Company

Account 310.000 - Power Generation Equipment

Placement Band - 1948 - 2022 Experience Band - 2007 - 2022

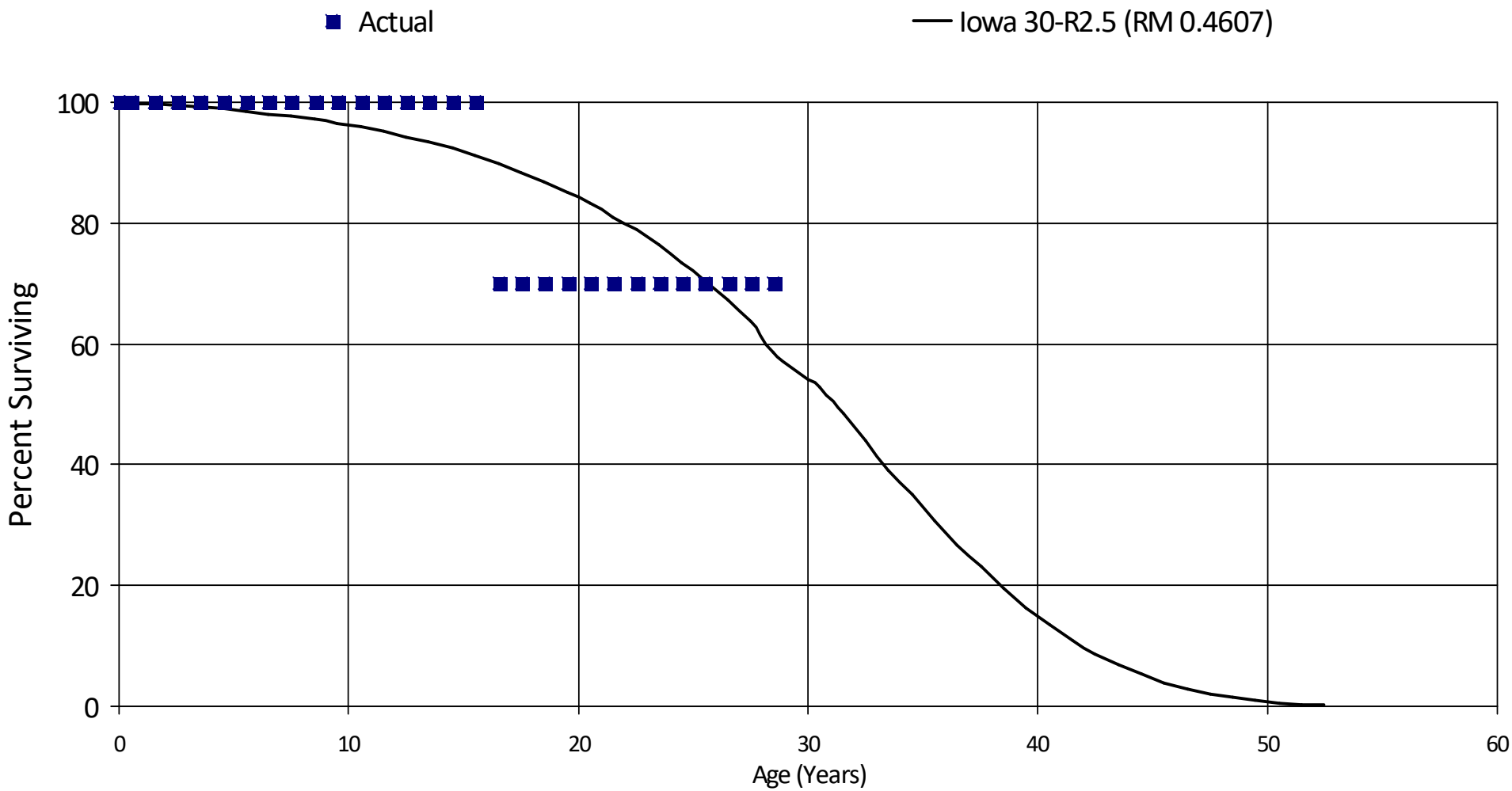
58.5	236	0	0.00000	1.00000	14.41
59.5	236	0	0.00000	1.00000	14.41
60.5	236	0	0.00000	1.00000	14.41
61.5	236	0	0.00000	1.00000	14.41
62.5	236	0	0.00000	1.00000	14.41
63.5	236	0	0.00000	1.00000	14.41
64.5	236	0	0.00000	1.00000	14.41
65.5	236	0	0.00000	1.00000	14.41
66.5	236	0	0.00000	1.00000	14.41
67.5	236	0	0.00000	1.00000	14.41
68.5	236	0	0.00000	1.00000	14.41
69.5	236	0	0.00000	1.00000	14.41
70.5	236	0	0.00000	1.00000	14.41
71.5	236	78	0.33051	0.66949	14.41
72.5	158	0	0.00000	1.00000	9.65
73.5	158	0	0.00000	1.00000	9.65
	Totals:	2,443,833			

New Jersey - American Water Company

Account 310.200 - Boiler Plant Equipment

Placement Band - 1993 - 2022 Experience Band - 2013 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 310.200 - Boiler Plant Equipment

Placement Band - 1993 - 2022 Experience Band - 2013 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	349,371	0	0.00000	1.00000	100.00
0.5	349,371	0	0.00000	1.00000	100.00
1.5	349,371	0	0.00000	1.00000	100.00
2.5	349,371	0	0.00000	1.00000	100.00
3.5	349,371	0	0.00000	1.00000	100.00
4.5	349,371	0	0.00000	1.00000	100.00
5.5	349,371	0	0.00000	1.00000	100.00
6.5	349,371	0	0.00000	1.00000	100.00
7.5	349,371	0	0.00000	1.00000	100.00
8.5	349,371	0	0.00000	1.00000	100.00
9.5	349,371	0	0.00000	1.00000	100.00
10.5	213,408	0	0.00000	1.00000	100.00
11.5	203,015	0	0.00000	1.00000	100.00
12.5	203,015	0	0.00000	1.00000	100.00
13.5	198,350	0	0.00000	1.00000	100.00
14.5	166,293	0	0.00000	1.00000	100.00
15.5	166,293	49,764	0.29926	0.70074	100.00
16.5	116,529	0	0.00000	1.00000	70.07
17.5	116,529	0	0.00000	1.00000	70.07
18.5	116,529	0	0.00000	1.00000	70.07
19.5	116,529	0	0.00000	1.00000	70.07
20.5	116,529	0	0.00000	1.00000	70.07
21.5	116,529	0	0.00000	1.00000	70.07
22.5	116,529	0	0.00000	1.00000	70.07
23.5	116,529	0	0.00000	1.00000	70.07
24.5	116,074	0	0.00000	1.00000	70.07
25.5	116,074	0	0.00000	1.00000	70.07
26.5	116,074	0	0.00000	1.00000	70.07

New Jersey - American Water Company

Account 310.200 - Boiler Plant Equipment

Placement Band - 1993 - 2022 Experience Band - 2013 - 2022

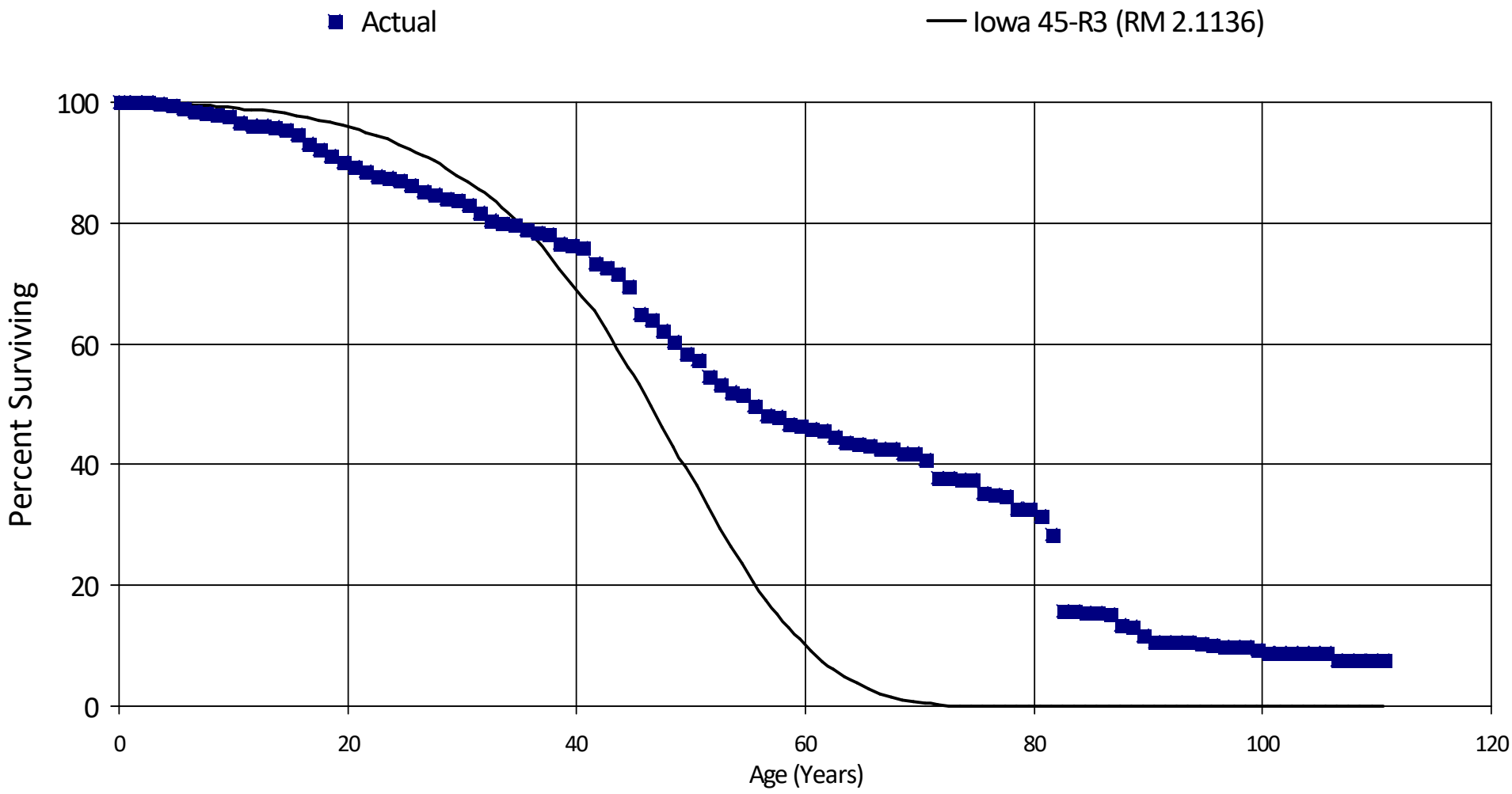
27.5	116,074	0	0.00000	1.00000	70.07
28.5	4,846	0	0.00000	1.00000	70.07
	Totals:	49,764			

New Jersey - American Water Company

Account 311.200 - Pumping Equipment - Electric

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 311.200 - Pumping Equipment - Electric

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	174,281,054	0	0.00000	1.00000	100.00
0.5	170,215,973	27,827	0.00016	0.99984	100.00
1.5	167,858,976	96,780	0.00058	0.99942	99.98
2.5	166,946,207	251,548	0.00151	0.99849	99.92
3.5	165,446,113	425,445	0.00257	0.99743	99.77
4.5	154,538,610	856,054	0.00554	0.99446	99.51
5.5	148,598,933	735,528	0.00495	0.99505	98.96
6.5	139,461,724	371,988	0.00267	0.99733	98.47
7.5	131,750,308	316,960	0.00241	0.99759	98.21
8.5	128,042,600	417,726	0.00326	0.99674	97.97
9.5	123,972,175	1,267,559	0.01022	0.98978	97.65
10.5	114,125,408	486,966	0.00427	0.99573	96.65
11.5	111,400,204	74,409	0.00067	0.99933	96.24
12.5	107,432,771	362,051	0.00337	0.99663	96.18
13.5	104,929,154	495,327	0.00472	0.99528	95.86
14.5	93,956,603	800,669	0.00852	0.99148	95.41
15.5	88,672,075	1,416,932	0.01598	0.98402	94.60
16.5	85,079,980	762,764	0.00897	0.99103	93.09
17.5	83,118,951	965,119	0.01161	0.98839	92.25
18.5	80,294,952	924,899	0.01152	0.98848	91.18
19.5	75,289,890	648,629	0.00862	0.99138	90.13
20.5	72,496,442	656,677	0.00906	0.99094	89.35
21.5	67,560,952	454,970	0.00673	0.99327	88.54
22.5	62,096,963	237,190	0.00382	0.99618	87.94
23.5	60,178,103	389,290	0.00647	0.99353	87.60
24.5	56,510,078	436,253	0.00772	0.99228	87.03
25.5	54,619,839	649,822	0.01190	0.98810	86.36
26.5	45,449,726	287,233	0.00632	0.99368	85.33

New Jersey - American Water Company

Account 311.200 - Pumping Equipment - Electric

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

27.5	43,714,277	432,478	0.00989	0.99011	84.79
28.5	39,447,908	145,795	0.00370	0.99630	83.95
29.5	35,838,349	270,408	0.00755	0.99245	83.64
30.5	28,584,023	431,558	0.01510	0.98490	83.01
31.5	26,560,059	422,713	0.01592	0.98408	81.76
32.5	23,952,803	120,765	0.00504	0.99496	80.46
33.5	20,327,791	105,164	0.00517	0.99483	80.05
34.5	19,799,847	174,386	0.00881	0.99119	79.64
35.5	18,840,401	102,059	0.00542	0.99458	78.94
36.5	15,442,225	80,830	0.00523	0.99477	78.51
37.5	14,303,543	271,572	0.01899	0.98101	78.10
38.5	13,365,996	60,115	0.00450	0.99550	76.62
39.5	13,077,304	71,382	0.00546	0.99454	76.28
40.5	11,386,635	389,875	0.03424	0.96576	75.86
41.5	8,403,625	71,146	0.00847	0.99153	73.26
42.5	7,934,719	128,714	0.01622	0.98378	72.64
43.5	6,752,351	171,185	0.02535	0.97465	71.46
44.5	6,437,375	435,633	0.06767	0.93233	69.65
45.5	5,902,730	88,982	0.01507	0.98493	64.94
46.5	5,529,248	146,083	0.02642	0.97358	63.96
47.5	5,351,012	150,710	0.02816	0.97184	62.27
48.5	5,143,518	173,372	0.03371	0.96629	60.52
49.5	4,326,988	85,785	0.01983	0.98017	58.48
50.5	4,063,559	190,135	0.04679	0.95321	57.32
51.5	3,798,819	98,854	0.02602	0.97398	54.64
52.5	3,529,075	79,207	0.02244	0.97756	53.22
53.5	3,107,107	35,931	0.01156	0.98844	52.03
54.5	2,895,475	97,522	0.03368	0.96632	51.43
55.5	2,240,442	63,472	0.02833	0.97167	49.70
56.5	1,722,163	13,249	0.00769	0.99231	48.29
57.5	924,203	23,006	0.02489	0.97511	47.92

New Jersey - American Water Company

Account 311.200 - Pumping Equipment - Electric

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

58.5	872,878	5,865	0.00672	0.99328	46.73
59.5	858,982	9,190	0.01070	0.98930	46.42
60.5	740,960	5,422	0.00732	0.99268	45.92
61.5	648,066	11,336	0.01749	0.98251	45.58
62.5	636,084	14,595	0.02295	0.97705	44.78
63.5	618,141	3,647	0.00590	0.99410	43.75
64.5	429,347	4,537	0.01057	0.98943	43.49
65.5	271,677	2,293	0.00844	0.99156	43.03
66.5	222,845	639	0.00287	0.99713	42.67
67.5	52,280	931	0.01781	0.98219	42.55
68.5	44,345	0	0.00000	1.00000	41.79
69.5	44,252	1,042	0.02355	0.97645	41.79
70.5	42,083	3,190	0.07580	0.92420	40.81
71.5	38,126	0	0.00000	1.00000	37.72
72.5	38,126	240	0.00629	0.99371	37.72
73.5	34,483	18	0.00052	0.99948	37.48
74.5	34,465	1,992	0.05780	0.94220	37.46
75.5	32,473	287	0.00884	0.99116	35.29
76.5	32,186	144	0.00447	0.99553	34.98
77.5	32,042	1,971	0.06151	0.93849	34.82
78.5	30,071	0	0.00000	1.00000	32.68
79.5	30,071	1,029	0.03422	0.96578	32.68
80.5	29,042	2,903	0.09996	0.90004	31.56
81.5	26,072	11,613	0.44543	0.55457	28.41
82.5	14,450	0	0.00000	1.00000	15.76
83.5	14,443	224	0.01551	0.98449	15.76
84.5	14,219	83	0.00584	0.99416	15.52
85.5	14,136	123	0.00870	0.99130	15.43
86.5	14,012	1,660	0.11847	0.88153	15.30
87.5	12,352	161	0.01303	0.98697	13.49
88.5	12,192	1,490	0.12222	0.87778	13.31

New Jersey - American Water Company

Account 311.200 - Pumping Equipment - Electric

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

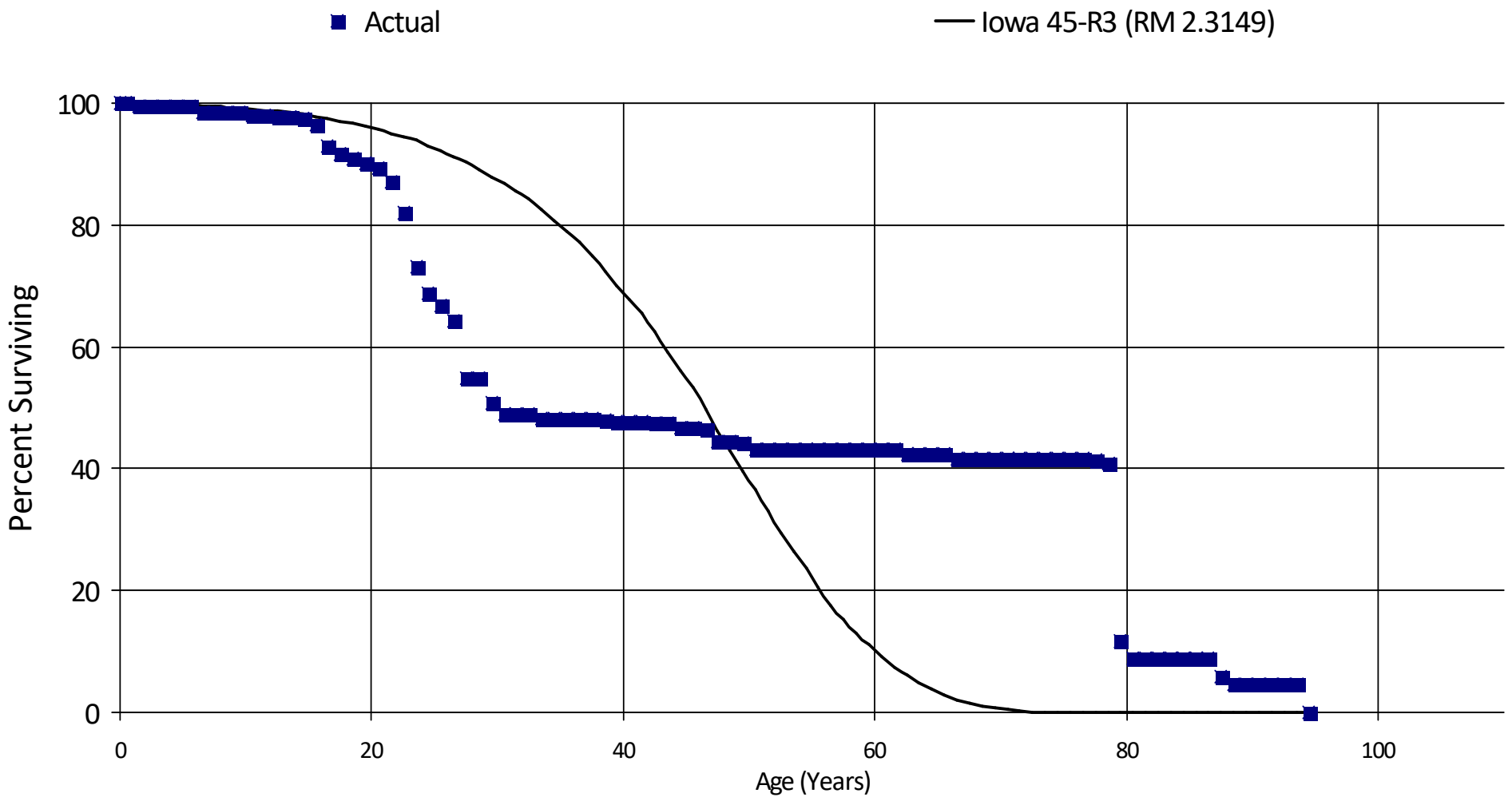
89.5	10,702	907	0.08475	0.91525	11.68
90.5	9,794	0	0.00000	1.00000	10.69
91.5	9,792	21	0.00214	0.99786	10.69
92.5	9,754	0	0.00000	1.00000	10.67
93.5	9,754	229	0.02348	0.97652	10.67
94.5	9,334	315	0.03375	0.96625	10.42
95.5	9,019	149	0.01652	0.98348	10.07
96.5	8,870	32	0.00361	0.99639	9.90
97.5	8,839	18	0.00204	0.99796	9.86
98.5	8,233	289	0.03510	0.96490	9.84
99.5	7,926	448	0.05652	0.94348	9.49
100.5	7,478	0	0.00000	1.00000	8.95
101.5	7,478	0	0.00000	1.00000	8.95
102.5	7,478	0	0.00000	1.00000	8.95
103.5	7,478	132	0.01765	0.98235	8.95
104.5	7,346	0	0.00000	1.00000	8.79
105.5	7,346	900	0.12251	0.87749	8.79
106.5	6,446	14	0.00217	0.99783	7.71
107.5	6,432	3	0.00047	0.99953	7.69
108.5	3,019	37	0.01226	0.98774	7.69
109.5	2,800	0	0.00000	1.00000	7.60
110.5	2,800	2,800	1.00000		7.60
	Totals:	20,041,620			

New Jersey - American Water Company

Account 311.300 - Pumping Equipment - Diesel

Placement Band - 1917 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 311.300 - Pumping Equipment - Diesel

Placement Band - 1917 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	9,955,985	0	0.00000	1.00000	100.00
0.5	9,955,985	44,407	0.00446	0.99554	100.00
1.5	9,911,578	0	0.00000	1.00000	99.55
2.5	9,816,392	0	0.00000	1.00000	99.55
3.5	9,816,392	832	0.00008	0.99992	99.55
4.5	9,815,560	8,661	0.00088	0.99912	99.54
5.5	9,799,322	92,361	0.00943	0.99057	99.45
6.5	9,301,954	0	0.00000	1.00000	98.51
7.5	8,994,532	0	0.00000	1.00000	98.51
8.5	8,895,634	0	0.00000	1.00000	98.51
9.5	8,175,944	36,692	0.00449	0.99551	98.51
10.5	7,630,536	569	0.00007	0.99993	98.07
11.5	7,124,095	18,587	0.00261	0.99739	98.06
12.5	6,946,911	5,554	0.00080	0.99920	97.80
13.5	6,442,265	8,993	0.00140	0.99860	97.72
14.5	6,246,996	66,279	0.01061	0.98939	97.58
15.5	6,167,450	237,863	0.03857	0.96143	96.54
16.5	5,865,933	73,057	0.01245	0.98755	92.82
17.5	5,786,797	49,580	0.00857	0.99143	91.66
18.5	5,737,217	48,952	0.00853	0.99147	90.87
19.5	5,663,839	53,877	0.00951	0.99049	90.09
20.5	5,279,344	130,617	0.02474	0.97526	89.23
21.5	5,093,955	288,925	0.05672	0.94328	87.02
22.5	4,741,596	526,501	0.11104	0.88896	82.08
23.5	4,198,669	239,235	0.05698	0.94302	72.97
24.5	3,936,147	114,810	0.02917	0.97083	68.81
25.5	3,645,548	142,415	0.03907	0.96093	66.80
26.5	3,497,130	511,627	0.14630	0.85370	64.19

New Jersey - American Water Company

Account 311.300 - Pumping Equipment - Diesel

Placement Band - 1917 - 2022 Experience Band - 2007 - 2022

27.5	2,939,644	1,626	0.00055	0.99945	54.80
28.5	2,774,757	205,921	0.07421	0.92579	54.77
29.5	2,425,387	80,169	0.03305	0.96695	50.71
30.5	2,241,781	905	0.00040	0.99960	49.03
31.5	2,119,614	4,443	0.00210	0.99790	49.01
32.5	2,041,832	26,338	0.01290	0.98710	48.91
33.5	1,782,432	0	0.00000	1.00000	48.28
34.5	1,634,871	0	0.00000	1.00000	48.28
35.5	1,455,191	0	0.00000	1.00000	48.28
36.5	1,175,524	0	0.00000	1.00000	48.28
37.5	1,120,673	5,224	0.00466	0.99534	48.28
38.5	1,086,950	8,193	0.00754	0.99246	48.06
39.5	952,140	0	0.00000	1.00000	47.70
40.5	934,513	0	0.00000	1.00000	47.70
41.5	926,357	3,688	0.00398	0.99602	47.70
42.5	878,777	0	0.00000	1.00000	47.51
43.5	878,777	14,927	0.01699	0.98301	47.51
44.5	863,850	0	0.00000	1.00000	46.70
45.5	863,850	5,323	0.00616	0.99384	46.70
46.5	858,527	35,626	0.04150	0.95850	46.41
47.5	822,901	1,824	0.00222	0.99778	44.48
48.5	820,205	3,213	0.00392	0.99608	44.38
49.5	771,352	16,497	0.02139	0.97861	44.21
50.5	465,608	438	0.00094	0.99906	43.26
51.5	384,147	273	0.00071	0.99929	43.22
52.5	375,192	0	0.00000	1.00000	43.19
53.5	337,736	0	0.00000	1.00000	43.19
54.5	320,287	0	0.00000	1.00000	43.19
55.5	316,631	0	0.00000	1.00000	43.19
56.5	315,184	0	0.00000	1.00000	43.19
57.5	308,475	0	0.00000	1.00000	43.19

New Jersey - American Water Company

Account 311.300 - Pumping Equipment - Diesel

Placement Band - 1917 - 2022 Experience Band - 2007 - 2022

58.5	32,333	0	0.00000	1.00000	43.19
59.5	27,719	0	0.00000	1.00000	43.19
60.5	27,351	0	0.00000	1.00000	43.19
61.5	27,351	502	0.01835	0.98165	43.19
62.5	26,849	0	0.00000	1.00000	42.40
63.5	26,849	0	0.00000	1.00000	42.40
64.5	26,849	0	0.00000	1.00000	42.40
65.5	26,849	458	0.01706	0.98294	42.40
66.5	26,391	0	0.00000	1.00000	41.68
67.5	26,391	0	0.00000	1.00000	41.68
68.5	26,391	0	0.00000	1.00000	41.68
69.5	26,391	0	0.00000	1.00000	41.68
70.5	26,391	0	0.00000	1.00000	41.68
71.5	26,391	0	0.00000	1.00000	41.68
72.5	26,391	0	0.00000	1.00000	41.68
73.5	26,391	0	0.00000	1.00000	41.68
74.5	26,391	0	0.00000	1.00000	41.68
75.5	26,391	0	0.00000	1.00000	41.68
76.5	26,391	162	0.00614	0.99386	41.68
77.5	26,230	280	0.01067	0.98933	41.42
78.5	25,950	18,583	0.71612	0.28388	40.98
79.5	7,366	1,737	0.23580	0.76420	11.63
80.5	5,629	0	0.00000	1.00000	8.89
81.5	5,629	78	0.01386	0.98614	8.89
82.5	5,551	0	0.00000	1.00000	8.77
83.5	5,551	0	0.00000	1.00000	8.77
84.5	5,551	0	0.00000	1.00000	8.77
85.5	5,551	0	0.00000	1.00000	8.77
86.5	5,551	1,816	0.32713	0.67287	8.77
87.5	3,735	821	0.21982	0.78018	5.90
88.5	2,914	0	0.00000	1.00000	4.60

New Jersey - American Water Company

Account 311.300 - Pumping Equipment - Diesel

Placement Band - 1917 - 2022 Experience Band - 2007 - 2022

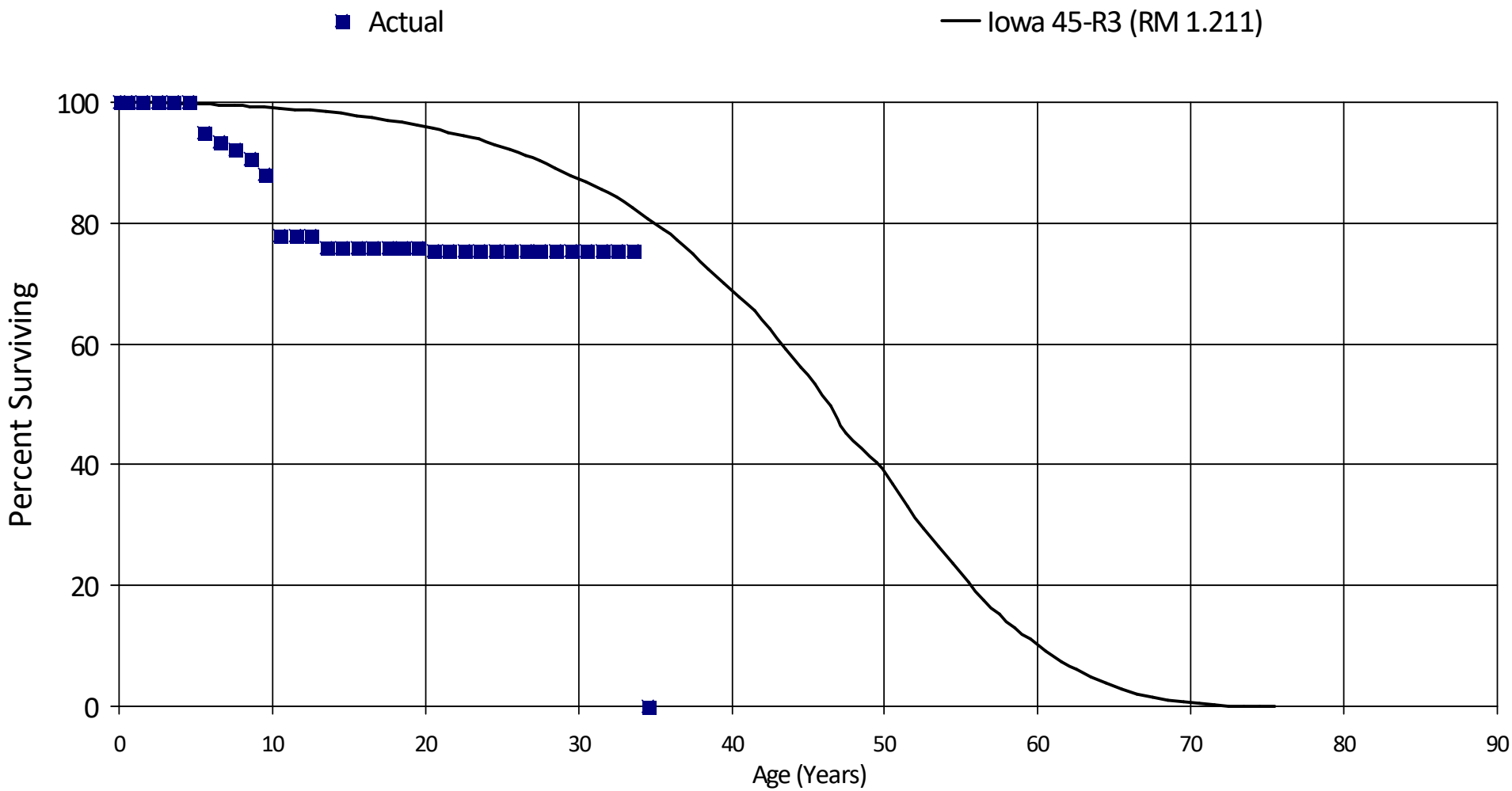
89.5	2,914	0	0.00000	1.00000	4.60
90.5	2,914	0	0.00000	1.00000	4.60
91.5	2,914	0	0.00000	1.00000	4.60
92.5	2,914	0	0.00000	1.00000	4.60
93.5	2,914	2,914	0.99991	0.00009	4.60
94.5	0	0	0.00000	0.00000	0.00
	Totals:	3,142,373			

New Jersey - American Water Company

Account 311.400 - Pumping Equipment - Hydraulic

Placement Band - 1974 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 311.400 - Pumping Equipment - Hydraulic

Placement Band - 1974 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	15,034,281	0	0.00000	1.00000	100.00
0.5	15,034,281	0	0.00000	1.00000	100.00
1.5	15,034,281	0	0.00000	1.00000	100.00
2.5	15,034,281	0	0.00000	1.00000	100.00
3.5	15,034,281	17,153	0.00114	0.99886	100.00
4.5	2,566,482	128,847	0.05020	0.94980	99.89
5.5	2,330,688	33,708	0.01446	0.98554	94.88
6.5	2,078,190	28,775	0.01385	0.98615	93.51
7.5	1,784,758	29,848	0.01672	0.98328	92.21
8.5	1,472,785	42,218	0.02867	0.97133	90.67
9.5	1,128,626	130,836	0.11593	0.88407	88.07
10.5	568,701	0	0.00000	1.00000	77.86
11.5	292,802	0	0.00000	1.00000	77.86
12.5	270,550	6,449	0.02384	0.97616	77.86
13.5	95,939	0	0.00000	1.00000	76.00
14.5	47,288	0	0.00000	1.00000	76.00
15.5	34,444	0	0.00000	1.00000	76.00
16.5	33,462	0	0.00000	1.00000	76.00
17.5	33,462	0	0.00000	1.00000	76.00
18.5	33,462	0	0.00000	1.00000	76.00
19.5	33,462	324	0.00968	0.99032	76.00
20.5	33,138	0	0.00000	1.00000	75.26
21.5	33,138	0	0.00000	1.00000	75.26
22.5	1,615	0	0.00000	1.00000	75.26
23.5	1,615	0	0.00000	1.00000	75.26
24.5	1,615	0	0.00000	1.00000	75.26
25.5	1,615	0	0.00000	1.00000	75.26
26.5	1,615	0	0.00000	1.00000	75.26

New Jersey - American Water Company

Account 311.400 - Pumping Equipment - Hydraulic

Placement Band - 1974 - 2022 Experience Band - 2008 - 2022

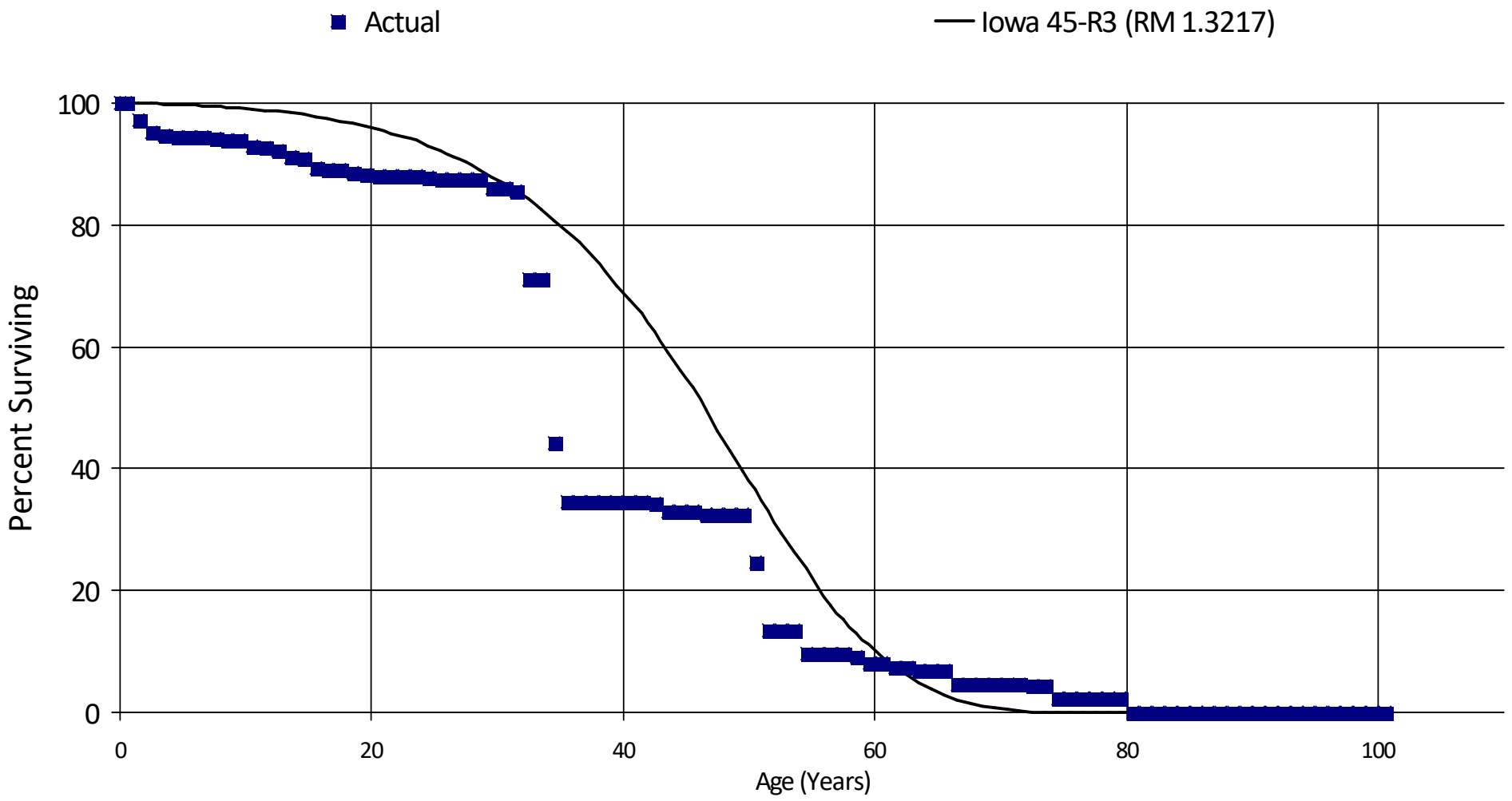
27.5	1,615	0	0.00000	1.00000	75.26
28.5	1,615	0	0.00000	1.00000	75.26
29.5	1,615	0	0.00000	1.00000	75.26
30.5	1,615	0	0.00000	1.00000	75.26
31.5	1,615	0	0.00000	1.00000	75.26
32.5	1,615	0	0.00000	1.00000	75.26
33.5	1,615	1,615	1.00017	-0.00017	75.26
34.5	0	0	0.00000	0.00000	-0.01
	Totals:	419,773			

New Jersey - American Water Company

Account 311.500 - Pumping Equipment - Other

Placement Band - 1913 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 311.500 - Pumping Equipment - Other

Placement Band - 1913 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	13,851,520	0	0.00000	1.00000	100.00
0.5	12,718,675	361,121	0.02839	0.97161	100.00
1.5	11,569,174	246,604	0.02132	0.97868	97.16
2.5	10,854,593	37,041	0.00341	0.99659	95.09
3.5	10,315,936	25,066	0.00243	0.99757	94.77
4.5	10,027,907	22	0.00000	1.00000	94.54
5.5	9,858,326	11,416	0.00116	0.99884	94.54
6.5	9,814,434	17,081	0.00174	0.99826	94.43
7.5	9,450,547	28,838	0.00305	0.99695	94.27
8.5	9,006,531	4,410	0.00049	0.99951	93.98
9.5	8,720,404	90,817	0.01041	0.98959	93.93
10.5	8,257,292	37,301	0.00452	0.99548	92.95
11.5	7,969,543	37,763	0.00474	0.99526	92.53
12.5	7,931,780	78,690	0.00992	0.99008	92.09
13.5	7,853,090	34,048	0.00434	0.99566	91.18
14.5	7,778,331	117,694	0.01513	0.98487	90.78
15.5	7,600,066	32,000	0.00421	0.99579	89.41
16.5	6,810,813	3,727	0.00055	0.99945	89.03
17.5	6,776,823	36,154	0.00533	0.99467	88.98
18.5	6,709,013	17,780	0.00265	0.99735	88.51
19.5	6,246,414	9,622	0.00154	0.99846	88.28
20.5	5,726,055	10,903	0.00190	0.99810	88.14
21.5	4,855,229	584	0.00012	0.99988	87.97
22.5	4,747,770	0	0.00000	1.00000	87.96
23.5	4,737,746	14,015	0.00296	0.99704	87.96
24.5	4,311,385	3,048	0.00071	0.99929	87.70
25.5	2,220,601	753	0.00034	0.99966	87.64
26.5	203,168	0	0.00000	1.00000	87.61

New Jersey - American Water Company

Account 311.500 - Pumping Equipment - Other

Placement Band - 1913 - 2022 Experience Band - 2007 - 2022

27.5	203,168	0	0.00000	1.00000	87.61
28.5	203,168	3,425	0.01686	0.98314	87.61
29.5	199,744	96	0.00048	0.99952	86.13
30.5	179,476	1,165	0.00649	0.99351	86.09
31.5	178,311	30,016	0.16834	0.83166	85.53
32.5	148,295	0	0.00000	1.00000	71.13
33.5	147,137	55,793	0.37919	0.62081	71.13
34.5	90,288	19,737	0.21860	0.78140	44.16
35.5	58,570	0	0.00000	1.00000	34.51
36.5	55,350	0	0.00000	1.00000	34.51
37.5	51,539	0	0.00000	1.00000	34.51
38.5	42,729	0	0.00000	1.00000	34.51
39.5	41,885	0	0.00000	1.00000	34.51
40.5	37,481	0	0.00000	1.00000	34.51
41.5	20,690	172	0.00831	0.99169	34.51
42.5	20,377	700	0.03435	0.96565	34.22
43.5	19,677	0	0.00000	1.00000	33.04
44.5	14,785	0	0.00000	1.00000	33.04
45.5	14,785	226	0.01529	0.98471	33.04
46.5	14,559	0	0.00000	1.00000	32.53
47.5	14,559	0	0.00000	1.00000	32.53
48.5	14,559	0	0.00000	1.00000	32.53
49.5	14,559	3,557	0.24432	0.75568	32.53
50.5	11,002	4,985	0.45309	0.54691	24.58
51.5	6,017	0	0.00000	1.00000	13.44
52.5	6,017	0	0.00000	1.00000	13.44
53.5	5,276	1,445	0.27390	0.72610	13.44
54.5	3,830	72	0.01880	0.98120	9.76
55.5	3,622	0	0.00000	1.00000	9.58
56.5	3,622	0	0.00000	1.00000	9.58
57.5	3,622	140	0.03865	0.96135	9.58

New Jersey - American Water Company

Account 311.500 - Pumping Equipment - Other

Placement Band - 1913 - 2022 Experience Band - 2007 - 2022

58.5	3,483	393	0.11284	0.88716	9.21
59.5	3,090	0	0.00000	1.00000	8.17
60.5	3,090	350	0.11326	0.88674	8.17
61.5	2,741	0	0.00000	1.00000	7.24
62.5	2,741	120	0.04379	0.95621	7.24
63.5	2,620	0	0.00000	1.00000	6.92
64.5	2,620	0	0.00000	1.00000	6.92
65.5	1,925	687	0.35692	0.64308	6.92
66.5	1,237	0	0.00000	1.00000	4.45
67.5	1,237	0	0.00000	1.00000	4.45
68.5	1,237	0	0.00000	1.00000	4.45
69.5	1,237	0	0.00000	1.00000	4.45
70.5	1,237	0	0.00000	1.00000	4.45
71.5	1,237	17	0.01374	0.98626	4.45
72.5	1,220	0	0.00000	1.00000	4.39
73.5	1,220	563	0.46131	0.53869	4.39
74.5	657	0	0.00000	1.00000	2.36
75.5	657	0	0.00000	1.00000	2.36
76.5	657	0	0.00000	1.00000	2.36
77.5	657	0	0.00000	1.00000	2.36
78.5	657	0	0.00000	1.00000	2.36
79.5	657	630	0.95836	0.04164	2.36
80.5	28	0	0.00000	1.00000	0.10
81.5	28	0	0.00000	1.00000	0.10
82.5	28	0	0.00000	1.00000	0.10
83.5	28	0	0.00000	1.00000	0.10
84.5	28	0	0.00000	1.00000	0.10
85.5	28	0	0.00000	1.00000	0.10
86.5	28	0	0.00000	1.00000	0.10
87.5	28	0	0.00000	1.00000	0.10
88.5	28	0	0.00000	1.00000	0.10

New Jersey - American Water Company

Account 311.500 - Pumping Equipment - Other

Placement Band - 1913 - 2022 Experience Band - 2007 - 2022

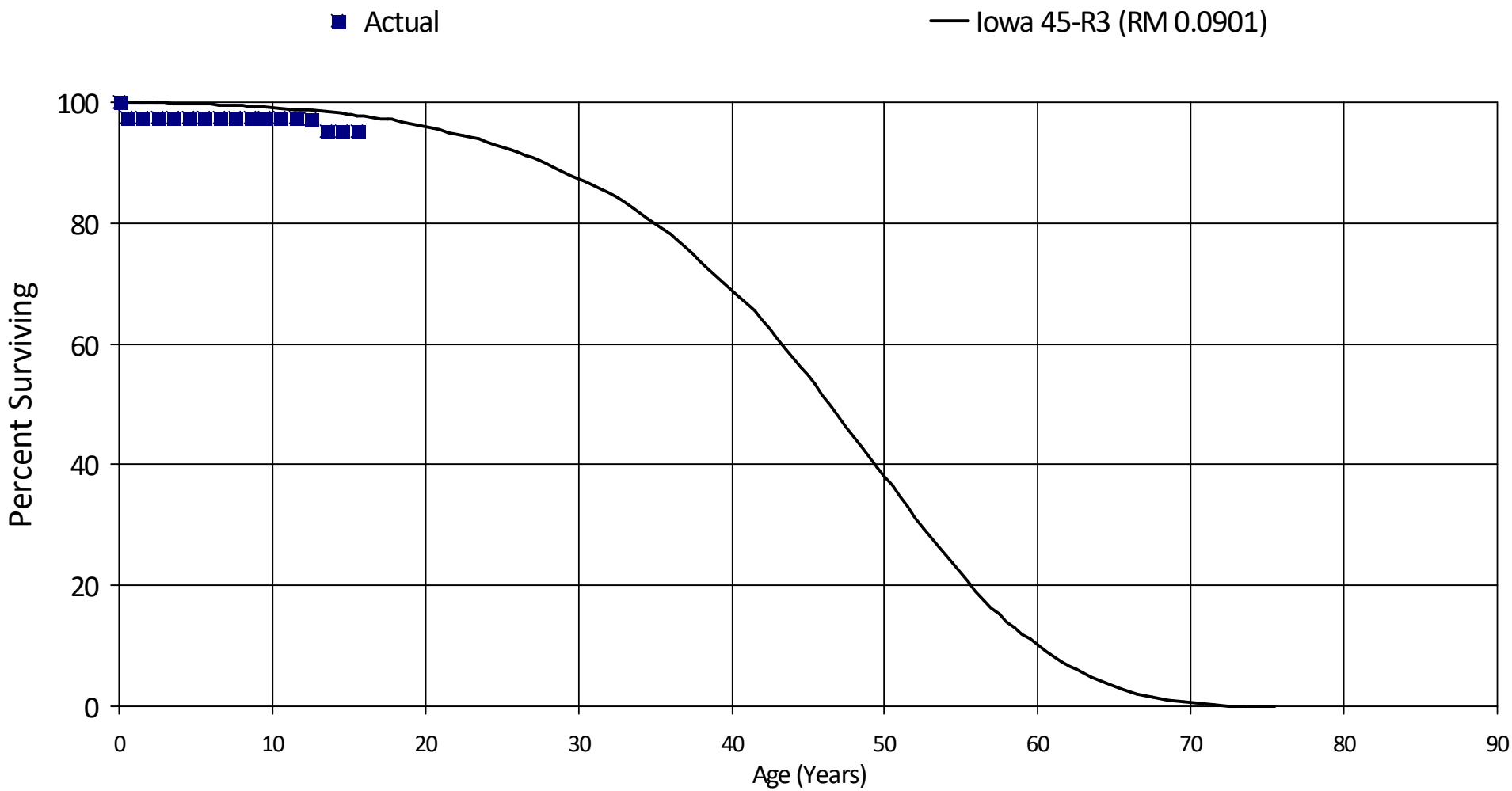
89.5	28	0	0.00000	1.00000	0.10
90.5	28	0	0.00000	1.00000	0.10
91.5	28	0	0.00000	1.00000	0.10
92.5	28	0	0.00000	1.00000	0.10
93.5	28	0	0.00000	1.00000	0.10
94.5	28	0	0.00000	1.00000	0.10
95.5	28	0	0.00000	1.00000	0.10
96.5	28	0	0.00000	1.00000	0.10
97.5	28	0	0.00000	1.00000	0.10
98.5	28	0	0.00000	1.00000	0.10
99.5	28	28	1.00974	-0.00974	0.10
100.5	0	0	0.00000	0.00000	0.00
	Totals:	1,380,815			

New Jersey - American Water Company

Account 311.530 - Pumping Equipment - Water Treatment

Placement Band - 2006 - 2022 Experience Band - 2019 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 311.530 - Pumping Equipment - Water Treatment

Placement Band - 2006 - 2022 Experience Band - 2019 - 2022

RETIREMENT RATE ANALYSIS

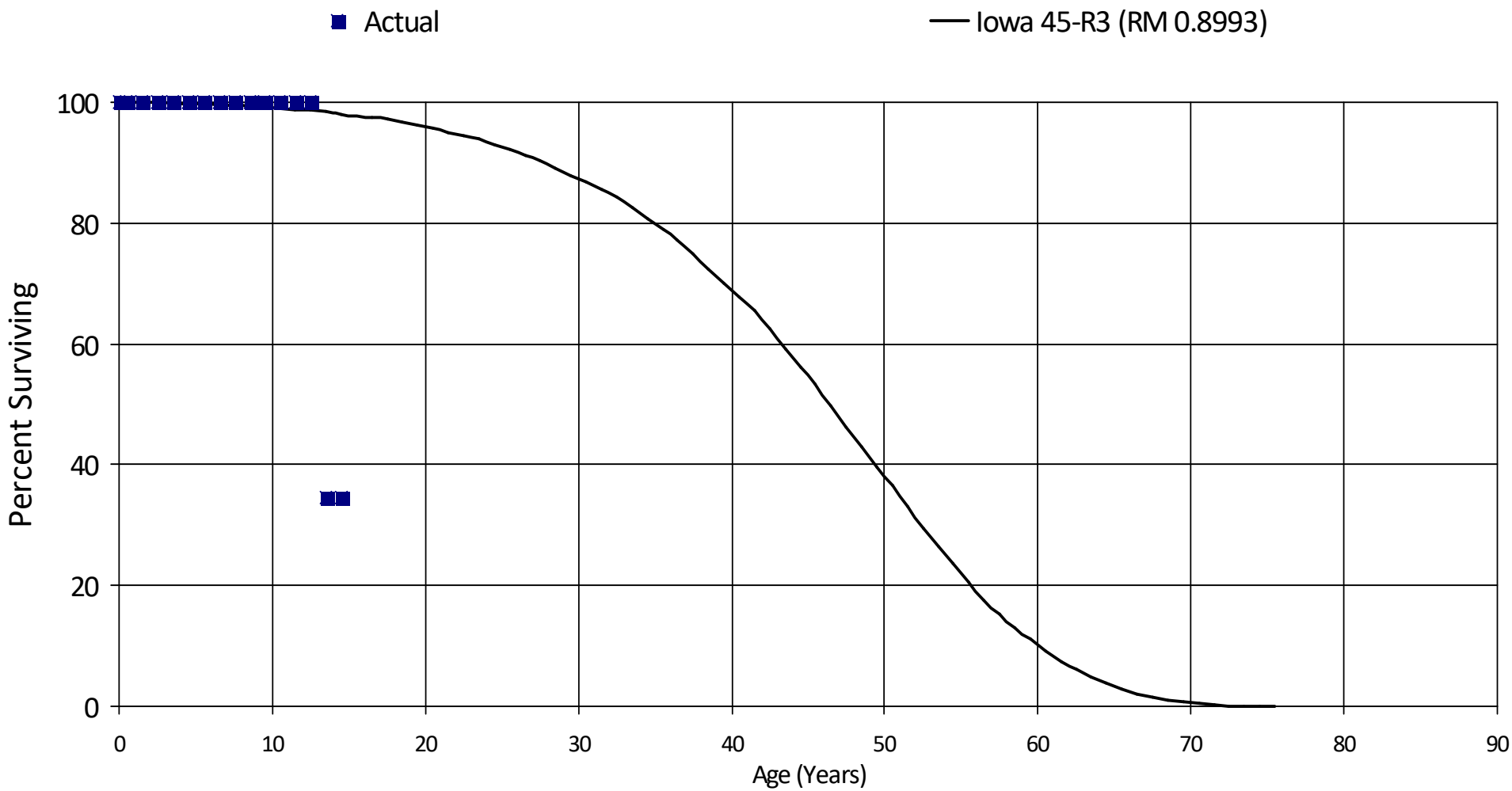
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	240,927	6,164	0.02558	0.97442	100.00
0.5	234,762	0	0.00000	1.00000	97.44
1.5	234,762	0	0.00000	1.00000	97.44
2.5	169,058	0	0.00000	1.00000	97.44
3.5	114,419	0	0.00000	1.00000	97.44
4.5	114,419	0	0.00000	1.00000	97.44
5.5	114,419	0	0.00000	1.00000	97.44
6.5	114,419	0	0.00000	1.00000	97.44
7.5	114,419	0	0.00000	1.00000	97.44
8.5	114,419	0	0.00000	1.00000	97.44
9.5	114,419	0	0.00000	1.00000	97.44
10.5	114,419	0	0.00000	1.00000	97.44
11.5	114,419	142	0.00124	0.99876	97.44
12.5	114,277	2,428	0.02125	0.97875	97.32
13.5	111,849	0	0.00000	1.00000	95.25
14.5	111,849	0	0.00000	1.00000	95.25
15.5	150	0	0.00000	1.00000	95.25
	Totals:	8,734			

New Jersey - American Water Company

Account 311.540 - Pumping Equipment - T&D

Placement Band - 2007 - 2022 Experience Band - 2020 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 311.540 - Pumping Equipment - T&D

Placement Band - 2007 - 2022 Experience Band - 2020 - 2022

RETIREMENT RATE ANALYSIS

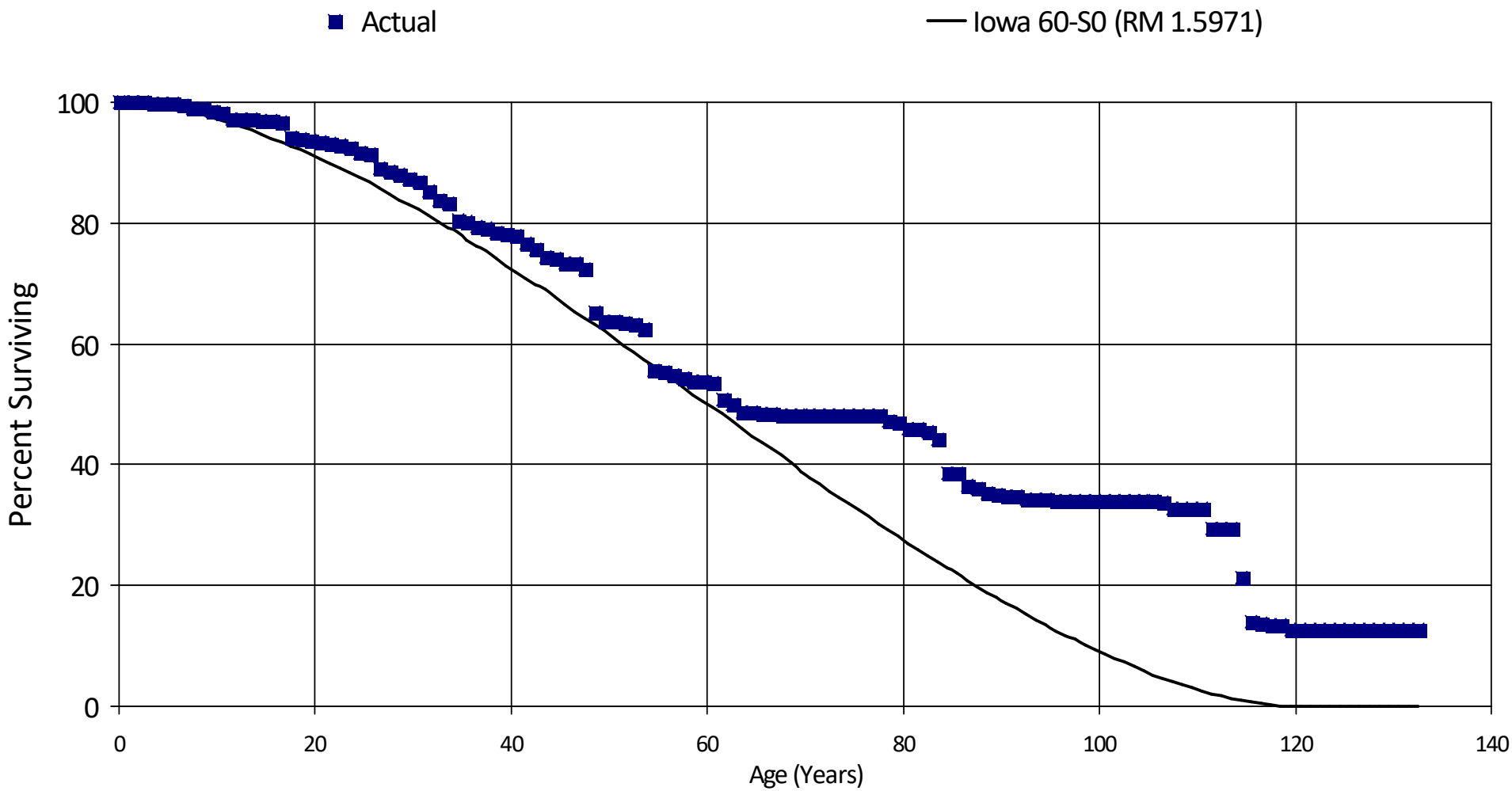
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	36,604	0	0.00000	1.00000	100.00
0.5	36,604	0	0.00000	1.00000	100.00
1.5	36,604	0	0.00000	1.00000	100.00
2.5	36,604	0	0.00000	1.00000	100.00
3.5	36,604	0	0.00000	1.00000	100.00
4.5	36,604	0	0.00000	1.00000	100.00
5.5	36,604	0	0.00000	1.00000	100.00
6.5	36,604	0	0.00000	1.00000	100.00
7.5	36,604	0	0.00000	1.00000	100.00
8.5	36,604	0	0.00000	1.00000	100.00
9.5	36,604	0	0.00000	1.00000	100.00
10.5	9,994	0	0.00000	1.00000	100.00
11.5	9,994	0	0.00000	1.00000	100.00
12.5	9,994	6,532	0.65362	0.34638	100.00
13.5	3,462	0	0.00000	1.00000	34.64
14.5	3,462	0	0.00000	1.00000	34.64
	Totals:	6,532			

New Jersey - American Water Company

Account 320.100 - Water Treatment Equipment - Non-Media

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 320.100 - Water Treatment Equipment - Non-Media

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	562,209,950	0	0.00000	1.00000	100.00
0.5	530,801,471	40,802	0.00008	0.99992	100.00
1.5	512,410,279	381,947	0.00075	0.99925	99.99
2.5	468,196,812	468,770	0.00100	0.99900	99.92
3.5	460,559,296	306,985	0.00067	0.99933	99.82
4.5	423,408,180	547,298	0.00129	0.99871	99.75
5.5	414,342,220	551,647	0.00133	0.99867	99.62
6.5	384,674,887	1,875,172	0.00487	0.99513	99.49
7.5	372,983,349	561,261	0.00150	0.99850	99.01
8.5	360,956,418	1,017,557	0.00282	0.99718	98.86
9.5	356,695,018	1,740,502	0.00488	0.99512	98.58
10.5	344,921,230	2,766,338	0.00802	0.99198	98.10
11.5	328,089,413	193,463	0.00059	0.99941	97.31
12.5	323,554,824	339,706	0.00105	0.99895	97.25
13.5	322,192,267	509,977	0.00158	0.99842	97.15
14.5	289,522,183	349,065	0.00121	0.99879	97.00
15.5	287,631,457	870,767	0.00303	0.99697	96.88
16.5	276,916,255	6,997,220	0.02527	0.97473	96.59
17.5	262,198,960	563,751	0.00215	0.99785	94.15
18.5	251,016,224	767,727	0.00306	0.99694	93.95
19.5	235,782,173	617,589	0.00262	0.99738	93.66
20.5	232,149,651	428,276	0.00184	0.99816	93.41
21.5	226,675,548	565,245	0.00249	0.99751	93.24
22.5	224,026,460	1,470,746	0.00657	0.99343	93.01
23.5	216,700,025	1,596,807	0.00737	0.99263	92.40
24.5	210,218,698	735,320	0.00350	0.99650	91.72
25.5	208,499,732	5,374,213	0.02578	0.97422	91.40
26.5	76,057,160	316,663	0.00416	0.99584	89.04

New Jersey - American Water Company

Account 320.100 - Water Treatment Equipment - Non-Media

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

27.5	74,173,171	522,594	0.00705	0.99295	88.67
28.5	68,187,661	506,662	0.00743	0.99257	88.04
29.5	65,621,137	463,634	0.00707	0.99293	87.39
30.5	60,474,262	1,079,023	0.01784	0.98216	86.77
31.5	58,561,003	1,068,401	0.01824	0.98176	85.22
32.5	47,448,206	247,367	0.00521	0.99479	83.67
33.5	38,894,544	1,317,385	0.03387	0.96613	83.23
34.5	36,557,360	48,753	0.00133	0.99867	80.41
35.5	34,475,681	320,913	0.00931	0.99069	80.30
36.5	31,979,525	99,968	0.00313	0.99687	79.55
37.5	30,105,775	342,452	0.01137	0.98863	79.30
38.5	29,635,538	60,676	0.00205	0.99795	78.40
39.5	29,309,039	94,701	0.00323	0.99677	78.24
40.5	23,384,644	387,065	0.01655	0.98345	77.99
41.5	22,009,570	289,043	0.01313	0.98687	76.70
42.5	13,285,966	248,966	0.01874	0.98126	75.69
43.5	12,981,037	41,768	0.00322	0.99678	74.27
44.5	12,927,844	118,467	0.00916	0.99084	74.03
45.5	12,443,488	18,219	0.00146	0.99854	73.35
46.5	12,132,482	142,403	0.01174	0.98826	73.24
47.5	11,932,355	1,165,869	0.09771	0.90229	72.38
48.5	10,754,655	265,422	0.02468	0.97532	65.31
49.5	7,476,670	7,845	0.00105	0.99895	63.70
50.5	7,262,204	11,086	0.00153	0.99847	63.63
51.5	6,952,948	40,874	0.00588	0.99412	63.53
52.5	6,675,547	65,701	0.00984	0.99016	63.16
53.5	6,551,493	718,674	0.10970	0.89030	62.54
54.5	5,632,468	34,040	0.00604	0.99396	55.68
55.5	5,443,490	55,537	0.01020	0.98980	55.34
56.5	4,988,024	43,601	0.00874	0.99126	54.78
57.5	4,667,122	38,181	0.00818	0.99182	54.30

New Jersey - American Water Company

Account 320.100 - Water Treatment Equipment - Non-Media

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

58.5	4,258,213	6,652	0.00156	0.99844	53.86
59.5	4,214,290	11,265	0.00267	0.99733	53.78
60.5	3,460,233	193,833	0.05602	0.94398	53.64
61.5	3,209,284	46,706	0.01455	0.98545	50.64
62.5	3,066,134	70,032	0.02284	0.97716	49.90
63.5	2,991,493	1,149	0.00038	0.99962	48.76
64.5	2,636,075	10,985	0.00417	0.99583	48.74
65.5	1,882,593	6,416	0.00341	0.99659	48.54
66.5	1,863,399	3,389	0.00182	0.99818	48.37
67.5	1,755,802	0	0.00000	1.00000	48.28
68.5	1,734,021	888	0.00051	0.99949	48.28
69.5	1,696,288	0	0.00000	1.00000	48.26
70.5	1,030,293	0	0.00000	1.00000	48.26
71.5	904,132	57	0.00006	0.99994	48.26
72.5	902,575	39	0.00004	0.99996	48.26
73.5	902,484	0	0.00000	1.00000	48.26
74.5	902,243	0	0.00000	1.00000	48.26
75.5	902,107	0	0.00000	1.00000	48.26
76.5	902,107	500	0.00055	0.99945	48.26
77.5	766,119	15,756	0.02057	0.97943	48.23
78.5	750,364	3,339	0.00445	0.99555	47.24
79.5	746,912	15,874	0.02125	0.97875	47.03
80.5	730,528	0	0.00000	1.00000	46.03
81.5	725,189	9,766	0.01347	0.98653	46.03
82.5	706,053	19,099	0.02705	0.97295	45.41
83.5	686,955	85,607	0.12462	0.87538	44.18
84.5	601,348	0	0.00000	1.00000	38.67
85.5	601,348	33,005	0.05489	0.94511	38.67
86.5	568,343	9,003	0.01584	0.98416	36.55
87.5	559,340	12,462	0.02228	0.97772	35.97
88.5	546,877	2,067	0.00378	0.99622	35.17

New Jersey - American Water Company

Account 320.100 - Water Treatment Equipment - Non-Media

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

89.5	544,810	3,286	0.00603	0.99397	35.04
90.5	141,471	745	0.00527	0.99473	34.83
91.5	139,271	1,781	0.01279	0.98721	34.65
92.5	126,192	194	0.00154	0.99846	34.21
93.5	97,359	0	0.00000	1.00000	34.16
94.5	37,233	167	0.00449	0.99551	34.16
95.5	37,066	99	0.00267	0.99733	34.01
96.5	36,967	0	0.00000	1.00000	33.92
97.5	36,967	0	0.00000	1.00000	33.92
98.5	36,798	0	0.00000	1.00000	33.92
99.5	36,798	3	0.00008	0.99992	33.92
100.5	36,794	37	0.00101	0.99899	33.92
101.5	36,757	0	0.00000	1.00000	33.89
102.5	36,757	0	0.00000	1.00000	33.89
103.5	36,757	0	0.00000	1.00000	33.89
104.5	36,757	0	0.00000	1.00000	33.89
105.5	36,757	275	0.00748	0.99252	33.89
106.5	36,482	976	0.02675	0.97325	33.64
107.5	35,506	0	0.00000	1.00000	32.74
108.5	35,506	0	0.00000	1.00000	32.74
109.5	35,215	50	0.00142	0.99858	32.74
110.5	35,165	3,500	0.09953	0.90047	32.69
111.5	31,665	0	0.00000	1.00000	29.44
112.5	31,665	0	0.00000	1.00000	29.44
113.5	31,665	8,707	0.27498	0.72502	29.44
114.5	22,957	8,040	0.35021	0.64979	21.34
115.5	14,917	38	0.00255	0.99745	13.87
116.5	14,879	482	0.03239	0.96761	13.83
117.5	14,397	0	0.00000	1.00000	13.38
118.5	14,397	763	0.05300	0.94700	13.38
119.5	11,382	5	0.00044	0.99956	12.67

New Jersey - American Water Company

Account 320.100 - Water Treatment Equipment - Non-Media

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

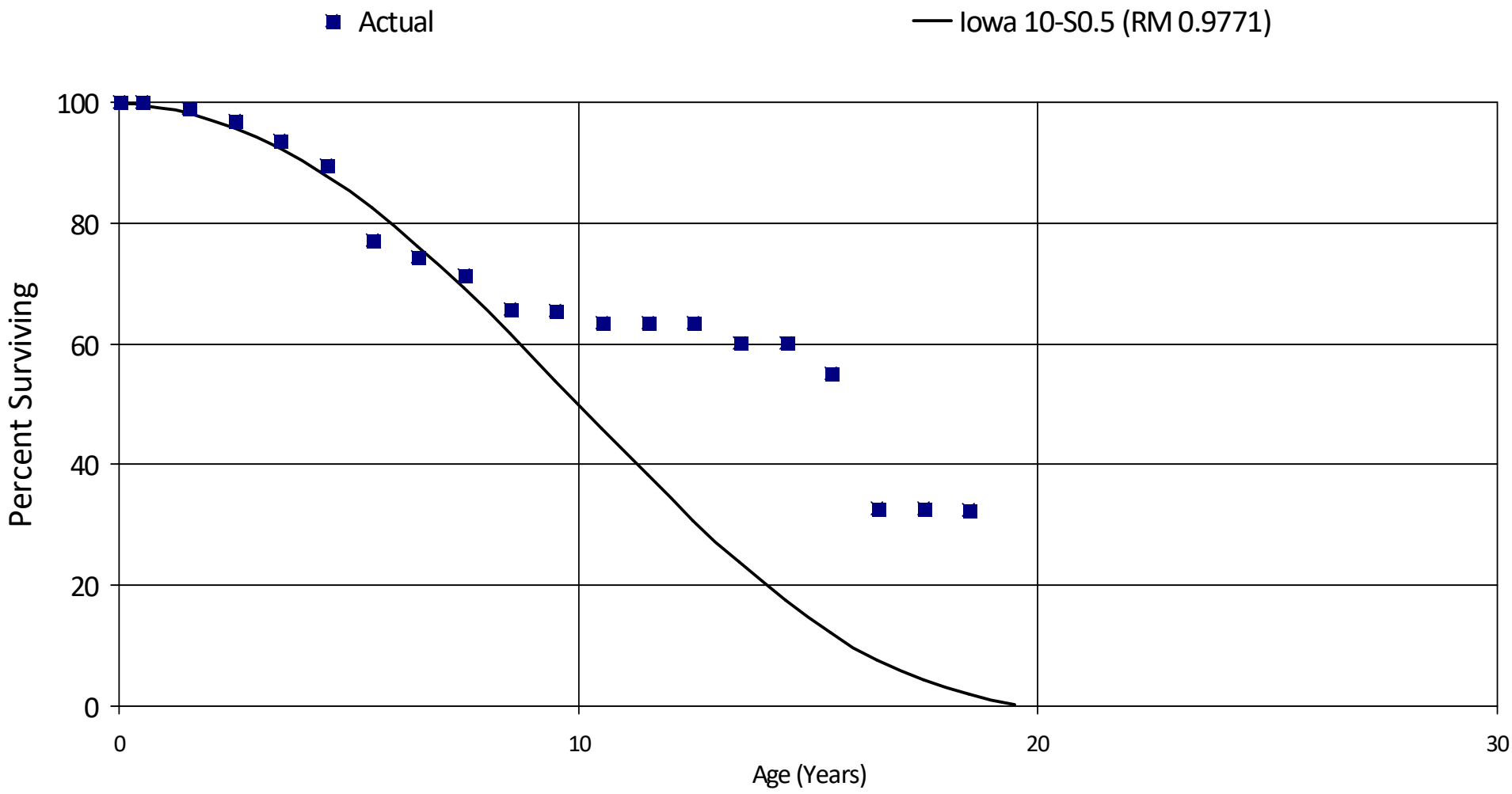
120.5	11,377	0	0.00000	1.00000	12.66
121.5	4,724	0	0.00000	1.00000	12.66
122.5	4,724	0	0.00000	1.00000	12.66
123.5	4,724	0	0.00000	1.00000	12.66
124.5	4,724	0	0.00000	1.00000	12.66
125.5	4,724	0	0.00000	1.00000	12.66
126.5	4,724	0	0.00000	1.00000	12.66
127.5	4,724	0	0.00000	1.00000	12.66
128.5	4,724	0	0.00000	1.00000	12.66
129.5	4,724	0	0.00000	1.00000	12.66
130.5	4,724	0	0.00000	1.00000	12.66
131.5	4,724	0	0.00000	1.00000	12.66
132.5	407	0	0.00000	1.00000	12.66
	Totals:	42,407,141			

New Jersey - American Water Company

Account 320.200 - Water Treatment Equipment - Filter Media

Placement Band - 1994 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 320.200 - Water Treatment Equipment - Filter Media

Placement Band - 1994 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

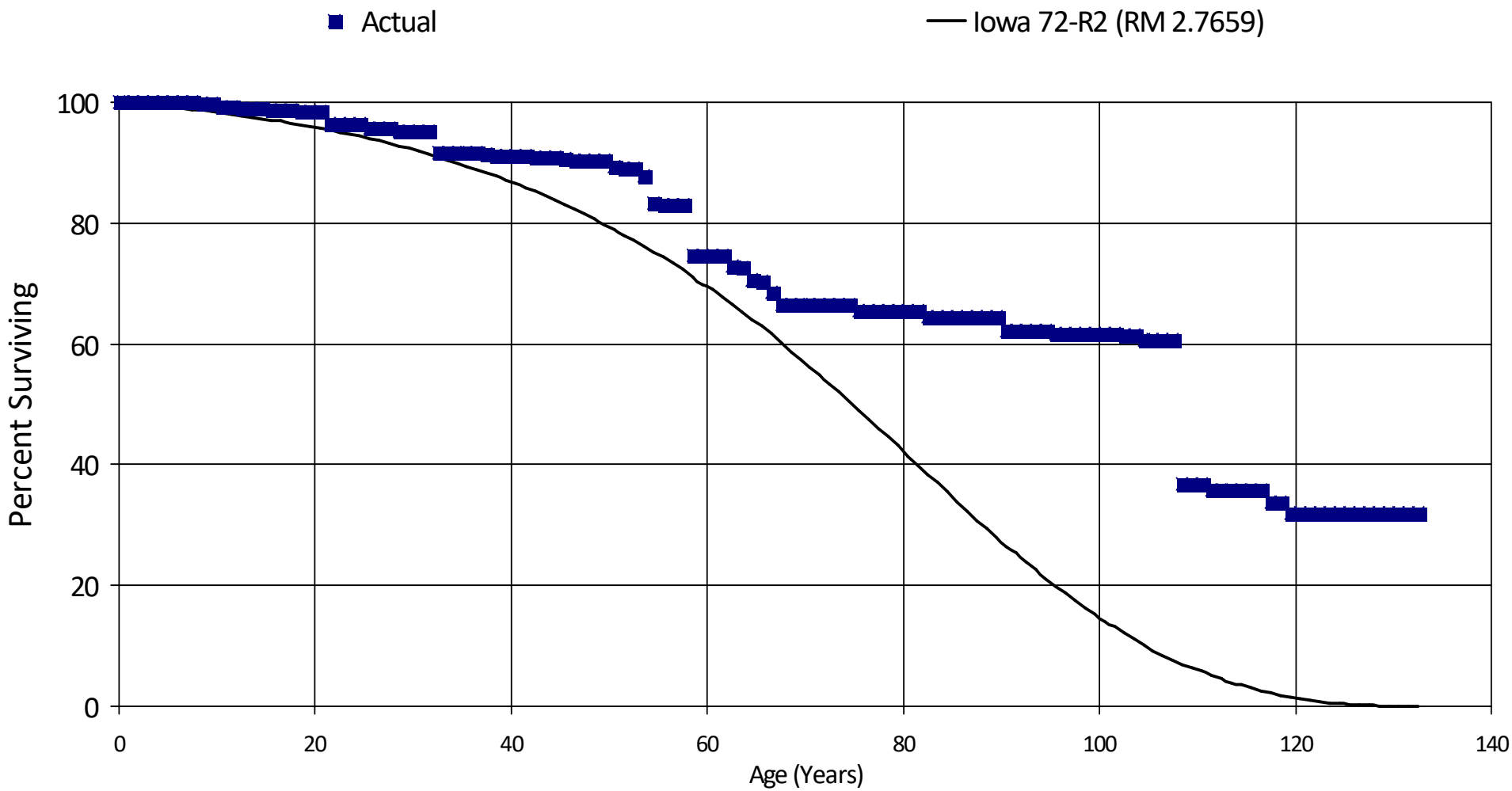
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	34,532,008	32,958	0.00095	0.99905	100.00
0.5	32,902,630	264,947	0.00805	0.99195	99.90
1.5	29,271,088	612,003	0.02091	0.97909	99.10
2.5	18,898,888	653,424	0.03457	0.96543	97.03
3.5	17,766,486	787,143	0.04430	0.95570	93.68
4.5	14,121,915	1,964,299	0.13910	0.86090	89.53
5.5	11,780,046	411,680	0.03495	0.96505	77.08
6.5	10,880,433	437,317	0.04019	0.95981	74.39
7.5	8,653,052	685,829	0.07926	0.92074	71.40
8.5	5,139,473	19,194	0.00373	0.99627	65.74
9.5	4,404,326	134,882	0.03062	0.96938	65.49
10.5	3,933,213	0	0.00000	1.00000	63.48
11.5	2,945,689	1,425	0.00048	0.99952	63.48
12.5	2,294,752	123,479	0.05381	0.94619	63.45
13.5	2,108,581	0	0.00000	1.00000	60.04
14.5	152,728	12,572	0.08232	0.91768	60.04
15.5	139,769	56,947	0.40744	0.59256	55.10
16.5	82,822	0	0.00000	1.00000	32.65
17.5	29,307	120	0.00409	0.99591	32.65
18.5	0	0	0.00000	0.00000	32.52
	Totals:	6,198,219			

New Jersey - American Water Company

Account 330.000 - Distribution Reservoirs and Standpipes

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 330.000 - Distribution Reservoirs and Standpipes

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	133,201,075	0	0.00000	1.00000	100.00
0.5	127,436,144	3,440	0.00003	0.99997	100.00
1.5	121,359,486	6	0.00000	1.00000	100.00
2.5	119,749,827	32,804	0.00027	0.99973	100.00
3.5	118,040,364	9,279	0.00008	0.99992	99.97
4.5	117,701,176	57,859	0.00049	0.99951	99.96
5.5	105,797,991	13,611	0.00013	0.99987	99.91
6.5	105,769,068	1,000	0.00001	0.99999	99.90
7.5	95,301,275	156,579	0.00164	0.99836	99.90
8.5	90,837,401	90,111	0.00099	0.99901	99.74
9.5	85,772,277	363,518	0.00424	0.99576	99.64
10.5	84,966,741	10,299	0.00012	0.99988	99.22
11.5	84,891,792	243,346	0.00287	0.99713	99.21
12.5	82,788,432	21,084	0.00025	0.99975	98.93
13.5	80,557,514	40,128	0.00050	0.99950	98.91
14.5	78,743,409	52,542	0.00067	0.99933	98.86
15.5	76,456,986	38,897	0.00051	0.99949	98.79
16.5	76,098,902	45,998	0.00060	0.99940	98.74
17.5	75,194,910	100,656	0.00134	0.99866	98.68
18.5	74,463,622	101,542	0.00136	0.99864	98.55
19.5	70,969,777	13,241	0.00019	0.99981	98.42
20.5	69,195,812	1,386,717	0.02004	0.97996	98.40
21.5	63,389,593	8,979	0.00014	0.99986	96.43
22.5	63,353,421	54,838	0.00087	0.99913	96.42
23.5	60,425,622	10,794	0.00018	0.99982	96.34
24.5	51,717,689	284,321	0.00550	0.99450	96.32
25.5	47,251,304	18,710	0.00040	0.99960	95.79
26.5	46,805,285	12,555	0.00027	0.99973	95.75

New Jersey - American Water Company

Account 330.000 - Distribution Reservoirs and Standpipes

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

27.5	46,699,068	293,993	0.00630	0.99370	95.72
28.5	40,555,058	3,507	0.00009	0.99991	95.12
29.5	35,041,790	1,632	0.00005	0.99995	95.11
30.5	29,900,796	4,958	0.00017	0.99983	95.11
31.5	29,077,963	1,084,413	0.03729	0.96271	95.09
32.5	25,188,310	1,027	0.00004	0.99996	91.54
33.5	24,866,700	3,170	0.00013	0.99987	91.54
34.5	24,179,539	912	0.00004	0.99996	91.53
35.5	23,399,915	3,077	0.00013	0.99987	91.53
36.5	19,518,465	7,181	0.00037	0.99963	91.52
37.5	17,471,141	68,825	0.00394	0.99606	91.49
38.5	16,713,206	1,618	0.00010	0.99990	91.13
39.5	15,687,947	2,890	0.00018	0.99982	91.12
40.5	14,058,192	5,999	0.00043	0.99957	91.10
41.5	11,588,272	12,320	0.00106	0.99894	91.06
42.5	11,539,799	6,998	0.00061	0.99939	90.96
43.5	10,975,240	13,116	0.00120	0.99880	90.90
44.5	10,873,132	7,301	0.00067	0.99933	90.79
45.5	10,833,782	34,593	0.00319	0.99681	90.73
46.5	10,779,719	734	0.00007	0.99993	90.44
47.5	10,778,866	128	0.00001	0.99999	90.43
48.5	10,510,845	5,165	0.00049	0.99951	90.43
49.5	10,115,285	104,046	0.01029	0.98971	90.39
50.5	10,001,769	46,300	0.00463	0.99537	89.46
51.5	9,386,993	8,360	0.00089	0.99911	89.05
52.5	8,845,828	107,378	0.01214	0.98786	88.97
53.5	8,733,479	470,794	0.05391	0.94609	87.89
54.5	6,994,045	2,761	0.00039	0.99961	83.15
55.5	5,635,150	1,123	0.00020	0.99980	83.12
56.5	5,347,453	924	0.00017	0.99983	83.10
57.5	5,017,386	508,014	0.10125	0.89875	83.09

New Jersey - American Water Company

Account 330.000 - Distribution Reservoirs and Standpipes

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

58.5	4,285,440	1,501	0.00035	0.99965	74.68
59.5	3,867,485	21	0.00001	0.99999	74.65
60.5	3,862,773	0	0.00000	1.00000	74.65
61.5	3,551,950	88,015	0.02478	0.97522	74.65
62.5	3,368,193	4,862	0.00144	0.99856	72.80
63.5	3,180,002	98,952	0.03112	0.96888	72.70
64.5	2,530,785	3,578	0.00141	0.99859	70.44
65.5	1,724,079	43,474	0.02522	0.97478	70.34
66.5	1,254,701	38,844	0.03096	0.96904	68.57
67.5	997,928	403	0.00040	0.99960	66.45
68.5	860,282	0	0.00000	1.00000	66.42
69.5	796,900	0	0.00000	1.00000	66.42
70.5	795,925	0	0.00000	1.00000	66.42
71.5	704,321	469	0.00067	0.99933	66.42
72.5	703,852	0	0.00000	1.00000	66.38
73.5	703,852	0	0.00000	1.00000	66.38
74.5	703,852	9,455	0.01343	0.98657	66.38
75.5	693,171	5	0.00001	0.99999	65.49
76.5	693,166	0	0.00000	1.00000	65.49
77.5	693,166	14	0.00002	0.99998	65.49
78.5	687,553	16	0.00002	0.99998	65.49
79.5	687,537	645	0.00094	0.99906	65.49
80.5	570,156	105	0.00018	0.99982	65.43
81.5	568,251	8,792	0.01547	0.98453	65.42
82.5	508,055	159	0.00031	0.99969	64.41
83.5	507,896	49	0.00010	0.99990	64.39
84.5	507,846	51	0.00010	0.99990	64.38
85.5	507,160	0	0.00000	1.00000	64.37
86.5	507,160	0	0.00000	1.00000	64.37
87.5	506,995	0	0.00000	1.00000	64.37
88.5	506,995	111	0.00022	0.99978	64.37

New Jersey - American Water Company

Account 330.000 - Distribution Reservoirs and Standpipes

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

89.5	506,884	16,475	0.03250	0.96750	64.36
90.5	490,265	0	0.00000	1.00000	62.27
91.5	485,765	20	0.00004	0.99996	62.27
92.5	408,468	0	0.00000	1.00000	62.27
93.5	405,222	0	0.00000	1.00000	62.27
94.5	403,082	3,036	0.00753	0.99247	62.27
95.5	399,496	0	0.00000	1.00000	61.80
96.5	399,496	0	0.00000	1.00000	61.80
97.5	399,496	0	0.00000	1.00000	61.80
98.5	399,496	0	0.00000	1.00000	61.80
99.5	376,688	0	0.00000	1.00000	61.80
100.5	375,849	5	0.00001	0.99999	61.80
101.5	371,818	2,260	0.00608	0.99392	61.80
102.5	318,316	0	0.00000	1.00000	61.42
103.5	318,316	3,917	0.01231	0.98769	61.42
104.5	314,399	0	0.00000	1.00000	60.66
105.5	314,399	0	0.00000	1.00000	60.66
106.5	303,356	69	0.00023	0.99977	60.66
107.5	303,287	119,479	0.39395	0.60605	60.65
108.5	183,808	0	0.00000	1.00000	36.76
109.5	183,808	0	0.00000	1.00000	36.76
110.5	183,808	4,634	0.02521	0.97479	36.76
111.5	179,174	0	0.00000	1.00000	35.83
112.5	179,174	0	0.00000	1.00000	35.83
113.5	48,741	0	0.00000	1.00000	35.83
114.5	46,946	0	0.00000	1.00000	35.83
115.5	46,946	0	0.00000	1.00000	35.83
116.5	46,946	2,862	0.06096	0.93904	35.83
117.5	44,084	0	0.00000	1.00000	33.65
118.5	40,130	2,019	0.05031	0.94969	33.65
119.5	38,111	0	0.00000	1.00000	31.96

New Jersey - American Water Company

Account 330.000 - Distribution Reservoirs and Standpipes

Placement Band - 1889 - 2022 Experience Band - 2007 - 2022

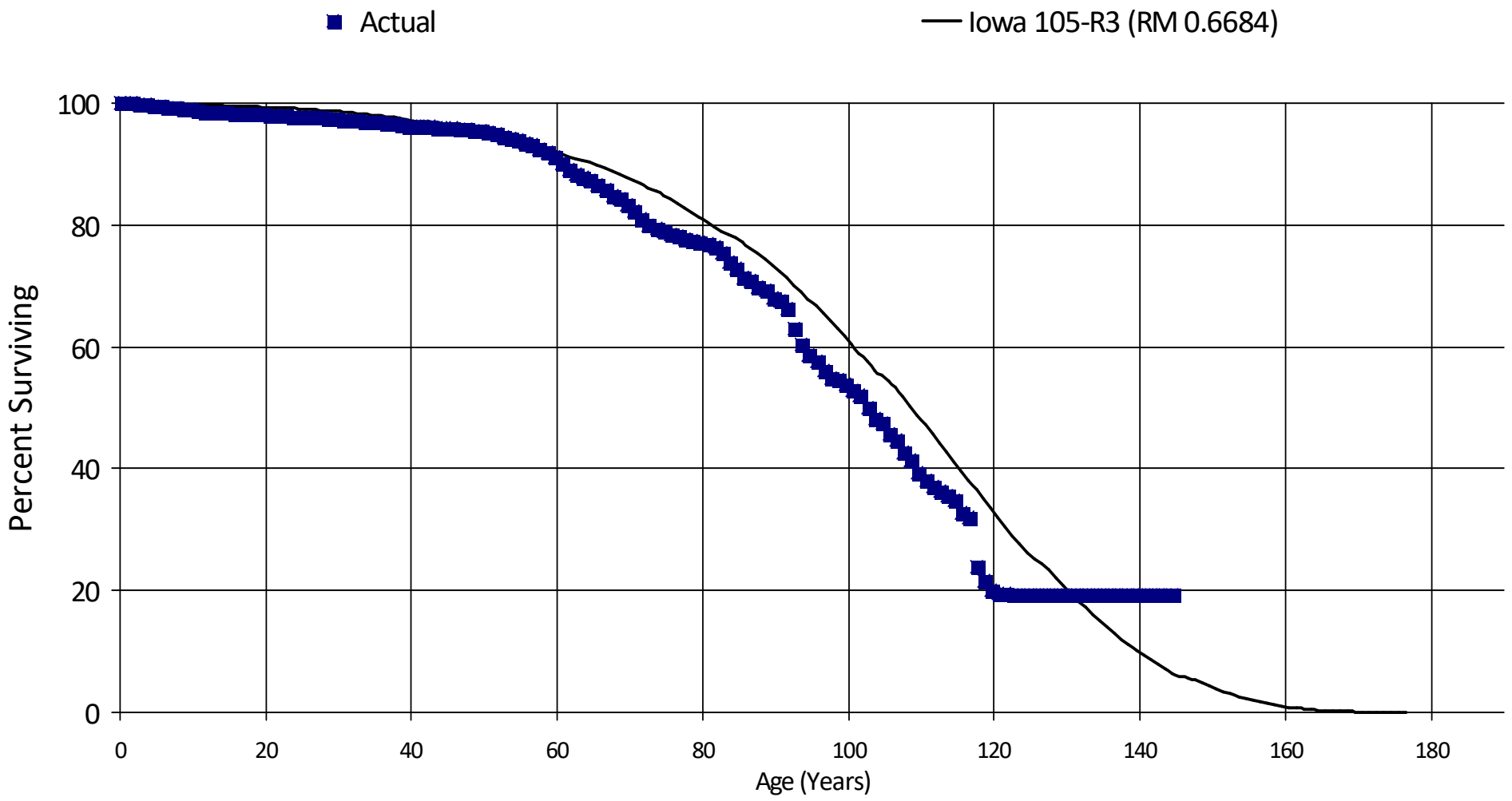
120.5	38,111	0	0.00000	1.00000	31.96
121.5	38,111	0	0.00000	1.00000	31.96
122.5	22,498	0	0.00000	1.00000	31.96
123.5	4,498	0	0.00000	1.00000	31.96
124.5	4,498	0	0.00000	1.00000	31.96
125.5	293	0	0.00000	1.00000	31.96
126.5	293	0	0.00000	1.00000	31.96
127.5	293	0	0.00000	1.00000	31.96
128.5	150	0	0.00000	1.00000	31.96
129.5	150	0	0.00000	1.00000	31.96
130.5	150	0	0.00000	1.00000	31.96
131.5	150	0	0.00000	1.00000	31.96
132.5	150	0	0.00000	1.00000	31.96
	Totals:	6,440,408			

New Jersey - American Water Company

Account 331.001 - Mains

Placement Band - 1877 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 331.001 - Mains

Placement Band - 1877 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	2,845,553,199	1,279,976	0.00045	0.99955	100.00
0.5	2,635,391,810	1,281,019	0.00049	0.99951	99.96
1.5	2,437,631,191	1,204,977	0.00049	0.99951	99.91
2.5	2,252,651,176	1,610,524	0.00071	0.99929	99.86
3.5	2,123,646,025	4,040,318	0.00190	0.99810	99.79
4.5	1,989,277,745	3,203,807	0.00161	0.99839	99.60
5.5	1,870,424,746	2,210,736	0.00118	0.99882	99.44
6.5	1,747,408,279	2,697,453	0.00154	0.99846	99.32
7.5	1,628,731,732	2,036,931	0.00125	0.99875	99.17
8.5	1,524,553,079	2,390,478	0.00157	0.99843	99.05
9.5	1,412,255,170	2,152,957	0.00152	0.99848	98.89
10.5	1,365,404,884	1,965,374	0.00144	0.99856	98.74
11.5	1,321,459,013	1,234,932	0.00093	0.99907	98.60
12.5	1,285,874,691	924,543	0.00072	0.99928	98.51
13.5	1,247,403,362	987,982	0.00079	0.99921	98.44
14.5	1,169,655,517	397,072	0.00034	0.99966	98.36
15.5	1,109,785,148	311,160	0.00028	0.99972	98.33
16.5	992,532,603	148,993	0.00015	0.99985	98.30
17.5	979,952,937	894,828	0.00091	0.99909	98.29
18.5	971,071,583	884,727	0.00091	0.99909	98.20
19.5	893,299,908	1,021,456	0.00114	0.99886	98.11
20.5	851,978,754	271,271	0.00032	0.99968	98.00
21.5	834,116,161	320,227	0.00038	0.99962	97.97
22.5	783,499,082	1,051,415	0.00134	0.99866	97.93
23.5	751,972,425	491,824	0.00065	0.99935	97.80
24.5	693,414,704	274,306	0.00040	0.99960	97.74
25.5	646,579,598	284,335	0.00044	0.99956	97.70
26.5	547,567,411	370,955	0.00068	0.99932	97.66

New Jersey - American Water Company

Account 331.001 - Mains

Placement Band - 1877 - 2022 Experience Band - 2007 - 2022

27.5	523,490,344	313,718	0.00060	0.99940	97.59
28.5	492,682,511	889,684	0.00181	0.99819	97.53
29.5	454,604,438	287,711	0.00063	0.99937	97.35
30.5	416,209,985	574,766	0.00138	0.99862	97.29
31.5	385,542,289	295,805	0.00077	0.99923	97.16
32.5	358,118,016	159,058	0.00044	0.99956	97.09
33.5	313,915,990	292,717	0.00093	0.99907	97.05
34.5	286,343,811	90,282	0.00032	0.99968	96.96
35.5	262,853,050	739,325	0.00281	0.99719	96.93
36.5	242,368,534	85,318	0.00035	0.99965	96.66
37.5	220,227,596	356,079	0.00162	0.99838	96.63
38.5	202,077,751	359,033	0.00178	0.99822	96.47
39.5	193,229,921	107,198	0.00055	0.99945	96.30
40.5	182,959,185	167,846	0.00092	0.99908	96.25
41.5	173,471,237	104,543	0.00060	0.99940	96.16
42.5	162,844,188	192,521	0.00118	0.99882	96.10
43.5	155,427,622	184,597	0.00119	0.99881	95.99
44.5	150,767,856	43,842	0.00029	0.99971	95.88
45.5	145,917,635	110,361	0.00076	0.99924	95.85
46.5	137,507,284	98,199	0.00071	0.99929	95.78
47.5	134,993,171	274,377	0.00203	0.99797	95.71
48.5	131,109,129	269,364	0.00205	0.99795	95.52
49.5	125,241,994	341,237	0.00272	0.99728	95.32
50.5	120,161,057	323,303	0.00269	0.99731	95.06
51.5	113,427,214	386,515	0.00341	0.99659	94.80
52.5	107,938,945	248,928	0.00231	0.99769	94.48
53.5	100,162,360	422,856	0.00422	0.99578	94.26
54.5	93,333,465	341,022	0.00365	0.99635	93.86
55.5	86,496,850	409,933	0.00474	0.99526	93.52
56.5	79,180,551	510,702	0.00645	0.99355	93.08
57.5	70,970,956	451,139	0.00636	0.99364	92.48

New Jersey - American Water Company

Account 331.001 - Mains

Placement Band - 1877 - 2022 Experience Band - 2007 - 2022

58.5	66,243,092	562,974	0.00850	0.99150	91.89
59.5	63,485,317	665,843	0.01049	0.98951	91.11
60.5	59,214,563	683,086	0.01154	0.98846	90.15
61.5	56,050,294	509,427	0.00909	0.99091	89.11
62.5	52,786,207	217,660	0.00412	0.99588	88.30
63.5	50,347,990	411,512	0.00817	0.99183	87.94
64.5	46,382,892	349,915	0.00754	0.99246	87.22
65.5	43,808,473	343,484	0.00784	0.99216	86.56
66.5	38,084,836	477,859	0.01255	0.98745	85.88
67.5	30,254,250	231,071	0.00764	0.99236	84.80
68.5	26,698,237	275,502	0.01032	0.98968	84.15
69.5	25,203,341	285,734	0.01134	0.98866	83.28
70.5	23,415,872	401,955	0.01717	0.98283	82.34
71.5	22,120,941	258,461	0.01168	0.98832	80.93
72.5	21,422,385	161,997	0.00756	0.99244	79.98
73.5	20,802,260	124,852	0.00600	0.99400	79.38
74.5	20,279,694	108,468	0.00535	0.99465	78.90
75.5	19,699,383	66,078	0.00335	0.99665	78.48
76.5	19,276,378	107,660	0.00559	0.99441	78.22
77.5	17,302,907	88,239	0.00510	0.99490	77.78
78.5	10,767,215	29,183	0.00271	0.99729	77.38
79.5	10,706,462	38,354	0.00358	0.99642	77.17
80.5	10,624,772	78,411	0.00738	0.99262	76.89
81.5	10,464,659	120,237	0.01149	0.98851	76.32
82.5	9,970,323	202,173	0.02028	0.97972	75.44
83.5	9,637,622	145,823	0.01513	0.98487	73.91
84.5	9,446,859	187,322	0.01983	0.98017	72.79
85.5	9,115,400	84,653	0.00929	0.99071	71.35
86.5	8,840,658	112,113	0.01268	0.98732	70.69
87.5	7,938,416	58,227	0.00733	0.99267	69.79
88.5	7,719,912	148,975	0.01930	0.98070	69.28

New Jersey - American Water Company

Account 331.001 - Mains

Placement Band - 1877 - 2022 Experience Band - 2007 - 2022

89.5	7,403,234	41,971	0.00567	0.99433	67.94
90.5	7,190,991	133,468	0.01856	0.98144	67.55
91.5	6,731,535	336,365	0.04997	0.95003	66.30
92.5	6,065,061	240,313	0.03962	0.96038	62.99
93.5	5,555,491	163,300	0.02939	0.97061	60.49
94.5	4,917,508	100,082	0.02035	0.97965	58.71
95.5	4,517,462	109,150	0.02416	0.97584	57.52
96.5	3,931,979	84,048	0.02138	0.97862	56.13
97.5	3,596,271	26,657	0.00741	0.99259	54.93
98.5	3,458,585	50,192	0.01451	0.98549	54.52
99.5	3,217,820	56,640	0.01760	0.98240	53.73
100.5	3,085,380	45,969	0.01490	0.98510	52.78
101.5	2,998,312	109,702	0.03659	0.96341	51.99
102.5	2,726,444	98,123	0.03599	0.96401	50.09
103.5	2,568,459	41,458	0.01614	0.98386	48.29
104.5	2,518,634	96,639	0.03837	0.96163	47.51
105.5	2,295,437	48,126	0.02097	0.97903	45.69
106.5	2,182,625	101,172	0.04635	0.95365	44.73
107.5	2,031,305	66,032	0.03251	0.96749	42.66
108.5	1,922,880	89,431	0.04651	0.95349	41.27
109.5	1,755,736	60,165	0.03427	0.96573	39.35
110.5	1,656,837	38,644	0.02332	0.97668	38.00
111.5	1,587,461	38,805	0.02444	0.97556	37.11
112.5	1,525,495	25,752	0.01688	0.98312	36.20
113.5	1,438,234	29,292	0.02037	0.97963	35.59
114.5	1,385,663	87,442	0.06310	0.93690	34.87
115.5	1,227,064	21,569	0.01758	0.98242	32.67
116.5	1,116,869	286,772	0.25676	0.74324	32.10
117.5	814,258	73,712	0.09053	0.90947	23.86
118.5	729,995	56,014	0.07673	0.92327	21.70
119.5	657,060	16,259	0.02475	0.97525	20.03

New Jersey - American Water Company

Account 331.001 - Mains

Placement Band - 1877 - 2022 Experience Band - 2007 - 2022

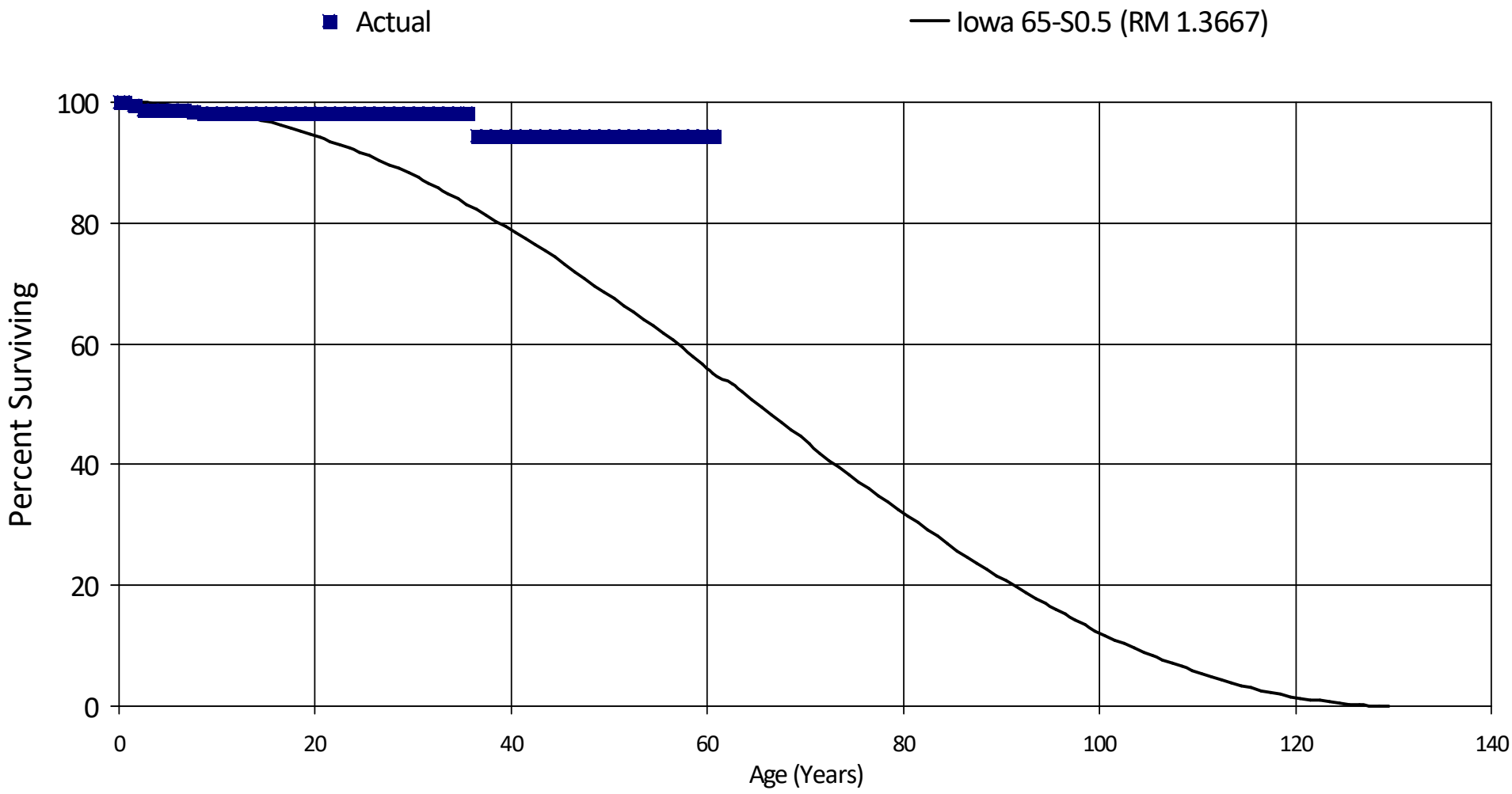
120.5	327,788	637	0.00194	0.99806	19.53
121.5	325,540	2,583	0.00793	0.99207	19.49
122.5	244,632	0	0.00000	1.00000	19.34
123.5	235,586	0	0.00000	1.00000	19.34
124.5	227,142	0	0.00000	1.00000	19.34
125.5	225,670	0	0.00000	1.00000	19.34
126.5	221,623	0	0.00000	1.00000	19.34
127.5	220,102	0	0.00000	1.00000	19.34
128.5	213,107	0	0.00000	1.00000	19.34
129.5	210,445	0	0.00000	1.00000	19.34
130.5	195,154	0	0.00000	1.00000	19.34
131.5	195,154	0	0.00000	1.00000	19.34
132.5	195,154	0	0.00000	1.00000	19.34
133.5	190,274	0	0.00000	1.00000	19.34
134.5	188,988	0	0.00000	1.00000	19.34
135.5	188,988	0	0.00000	1.00000	19.34
136.5	65,714	0	0.00000	1.00000	19.34
137.5	65,526	0	0.00000	1.00000	19.34
138.5	65,526	0	0.00000	1.00000	19.34
139.5	64,854	0	0.00000	1.00000	19.34
140.5	47,392	0	0.00000	1.00000	19.34
141.5	47,392	0	0.00000	1.00000	19.34
142.5	47,383	0	0.00000	1.00000	19.34
143.5	47,383	0	0.00000	1.00000	19.34
144.5	47,383	0	0.00000	1.00000	19.34
	Totals:	55,690,287			

New Jersey - American Water Company

Account 332.000 - Fire Mains

Placement Band - 1961 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 332.000 - Fire Mains

Placement Band - 1961 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	2,171,713	0	0.00000	1.00000	100.00
0.5	2,153,407	13,254	0.00615	0.99385	100.00
1.5	2,132,734	14,226	0.00667	0.99333	99.38
2.5	2,079,535	865	0.00042	0.99958	98.72
3.5	2,064,444	117	0.00006	0.99994	98.68
4.5	2,064,327	10	0.00000	1.00000	98.67
5.5	2,064,317	36	0.00002	0.99998	98.67
6.5	2,064,281	5,791	0.00281	0.99719	98.67
7.5	2,057,247	3,668	0.00178	0.99822	98.39
8.5	2,035,704	0	0.00000	1.00000	98.21
9.5	1,866,722	0	0.00000	1.00000	98.21
10.5	1,816,004	12	0.00001	0.99999	98.21
11.5	1,774,583	0	0.00000	1.00000	98.21
12.5	1,760,502	0	0.00000	1.00000	98.21
13.5	1,734,107	1,320	0.00076	0.99924	98.21
14.5	1,517,614	464	0.00031	0.99969	98.14
15.5	268,710	0	0.00000	1.00000	98.11
16.5	257,046	0	0.00000	1.00000	98.11
17.5	254,787	0	0.00000	1.00000	98.11
18.5	249,204	0	0.00000	1.00000	98.11
19.5	233,750	0	0.00000	1.00000	98.11
20.5	222,602	0	0.00000	1.00000	98.11
21.5	213,068	0	0.00000	1.00000	98.11
22.5	209,768	0	0.00000	1.00000	98.11
23.5	209,768	0	0.00000	1.00000	98.11
24.5	205,715	0	0.00000	1.00000	98.11
25.5	192,293	0	0.00000	1.00000	98.11
26.5	190,646	0	0.00000	1.00000	98.11

New Jersey - American Water Company

Account 332.000 - Fire Mains

Placement Band - 1961 - 2022 Experience Band - 2008 - 2022

27.5	176,661	0	0.00000	1.00000	98.11
28.5	173,271	0	0.00000	1.00000	98.11
29.5	160,421	0	0.00000	1.00000	98.11
30.5	150,308	0	0.00000	1.00000	98.11
31.5	138,193	0	0.00000	1.00000	98.11
32.5	126,948	0	0.00000	1.00000	98.11
33.5	101,190	0	0.00000	1.00000	98.11
34.5	96,259	0	0.00000	1.00000	98.11
35.5	88,907	3,426	0.03853	0.96147	98.11
36.5	66,027	0	0.00000	1.00000	94.33
37.5	66,027	0	0.00000	1.00000	94.33
38.5	66,027	0	0.00000	1.00000	94.33
39.5	66,027	0	0.00000	1.00000	94.33
40.5	64,875	0	0.00000	1.00000	94.33
41.5	39,385	0	0.00000	1.00000	94.33
42.5	39,385	0	0.00000	1.00000	94.33
43.5	35,483	3	0.00008	0.99992	94.33
44.5	31,226	0	0.00000	1.00000	94.32
45.5	14,884	0	0.00000	1.00000	94.32
46.5	13,764	0	0.00000	1.00000	94.32
47.5	12,325	0	0.00000	1.00000	94.32
48.5	11,761	0	0.00000	1.00000	94.32
49.5	11,761	0	0.00000	1.00000	94.32
50.5	11,761	0	0.00000	1.00000	94.32
51.5	11,761	0	0.00000	1.00000	94.32
52.5	11,761	0	0.00000	1.00000	94.32
53.5	11,761	0	0.00000	1.00000	94.32
54.5	11,761	0	0.00000	1.00000	94.32
55.5	11,761	0	0.00000	1.00000	94.32
56.5	11,761	0	0.00000	1.00000	94.32
57.5	11,761	0	0.00000	1.00000	94.32

New Jersey - American Water Company

Account 332.000 - Fire Mains

Placement Band - 1961 - 2022 Experience Band - 2008 - 2022

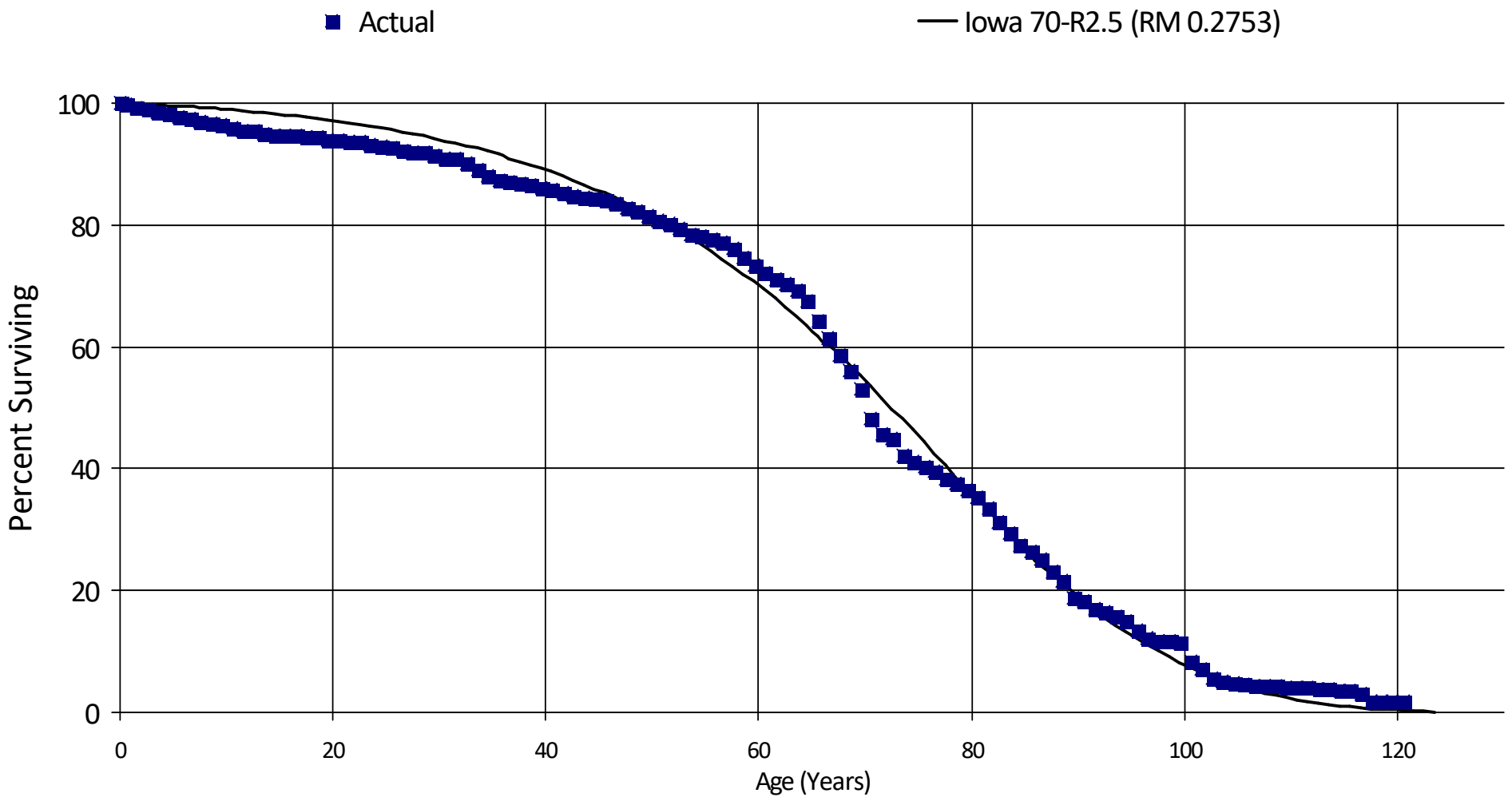
58.5	10,006	0	0.00000	1.00000	94.32
59.5	7,212	0	0.00000	1.00000	94.32
60.5	405	0	0.00000	1.00000	94.32
	Totals:	43,192			

New Jersey - American Water Company

Account 333.000 - Services

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 333.000 - Services

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	785,847,224	1,628,440	0.00207	0.99793	100.00
0.5	726,284,437	3,090,639	0.00426	0.99574	99.79
1.5	672,106,632	2,753,424	0.00410	0.99590	99.36
2.5	619,849,144	2,452,846	0.00396	0.99604	98.95
3.5	576,093,864	2,504,529	0.00435	0.99565	98.56
4.5	524,255,815	1,865,374	0.00356	0.99644	98.13
5.5	477,121,875	1,972,640	0.00413	0.99587	97.78
6.5	432,352,466	1,374,712	0.00318	0.99682	97.38
7.5	397,624,575	1,062,386	0.00267	0.99733	97.07
8.5	361,492,494	1,269,709	0.00351	0.99649	96.81
9.5	330,607,986	1,524,684	0.00461	0.99539	96.47
10.5	315,697,335	1,578,536	0.00500	0.99500	96.03
11.5	301,787,139	723,729	0.00240	0.99760	95.55
12.5	291,614,736	1,087,361	0.00373	0.99627	95.32
13.5	272,127,977	693,398	0.00255	0.99745	94.96
14.5	260,578,892	236,196	0.00091	0.99909	94.72
15.5	251,375,319	57,657	0.00023	0.99977	94.63
16.5	215,764,901	201,665	0.00093	0.99907	94.61
17.5	211,070,644	36,442	0.00017	0.99983	94.52
18.5	210,171,385	1,491,051	0.00709	0.99291	94.50
19.5	189,517,158	37,019	0.00020	0.99980	93.83
20.5	182,093,594	145,855	0.00080	0.99920	93.81
21.5	176,685,942	164,328	0.00093	0.99907	93.73
22.5	159,817,511	663,745	0.00415	0.99585	93.64
23.5	147,876,682	508,937	0.00344	0.99656	93.25
24.5	137,806,132	436,290	0.00317	0.99683	92.93
25.5	125,318,638	709,307	0.00566	0.99434	92.64
26.5	116,889,015	155,053	0.00133	0.99867	92.12

New Jersey - American Water Company

Account 333.000 - Services

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

27.5	108,520,713	176,064	0.00162	0.99838	92.00
28.5	99,335,870	430,368	0.00433	0.99567	91.85
29.5	91,042,404	521,084	0.00572	0.99428	91.45
30.5	83,022,469	143,748	0.00173	0.99827	90.93
31.5	76,970,731	532,158	0.00691	0.99309	90.77
32.5	70,293,738	842,017	0.01198	0.98802	90.14
33.5	63,283,709	778,277	0.01230	0.98770	89.06
34.5	57,294,958	460,329	0.00803	0.99197	87.96
35.5	51,384,474	68,322	0.00133	0.99867	87.25
36.5	45,559,380	126,412	0.00277	0.99723	87.13
37.5	41,633,028	129,116	0.00310	0.99690	86.89
38.5	38,281,072	285,624	0.00746	0.99254	86.62
39.5	36,083,988	120,425	0.00334	0.99666	85.97
40.5	34,356,384	207,605	0.00604	0.99396	85.68
41.5	32,486,052	110,823	0.00341	0.99659	85.16
42.5	30,710,072	121,068	0.00394	0.99606	84.87
43.5	29,140,826	103,221	0.00354	0.99646	84.54
44.5	27,762,897	110,935	0.00400	0.99600	84.24
45.5	26,450,338	107,306	0.00406	0.99594	83.90
46.5	25,360,375	232,585	0.00917	0.99083	83.56
47.5	23,922,539	179,226	0.00749	0.99251	82.79
48.5	22,962,446	220,158	0.00959	0.99041	82.17
49.5	21,443,734	151,354	0.00706	0.99294	81.38
50.5	20,245,885	154,951	0.00765	0.99235	80.81
51.5	19,118,272	193,200	0.01011	0.98989	80.19
52.5	18,140,312	215,250	0.01187	0.98813	79.38
53.5	17,087,651	85,965	0.00503	0.99497	78.44
54.5	16,208,545	94,791	0.00585	0.99415	78.05
55.5	15,375,164	97,261	0.00633	0.99367	77.59
56.5	14,515,928	187,407	0.01291	0.98709	77.10
57.5	13,191,817	258,994	0.01963	0.98037	76.10

New Jersey - American Water Company

Account 333.000 - Services

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

58.5	12,364,722	203,936	0.01649	0.98351	74.61
59.5	11,537,887	216,730	0.01878	0.98122	73.38
60.5	10,715,314	130,839	0.01221	0.98779	72.00
61.5	9,926,243	105,991	0.01068	0.98932	71.12
62.5	9,184,602	131,091	0.01427	0.98573	70.36
63.5	8,338,876	235,095	0.02819	0.97181	69.36
64.5	7,587,172	365,402	0.04816	0.95184	67.40
65.5	6,468,775	283,173	0.04378	0.95622	64.15
66.5	5,627,496	255,725	0.04544	0.95456	61.34
67.5	4,827,472	198,290	0.04108	0.95892	58.55
68.5	4,255,398	231,587	0.05442	0.94558	56.14
69.5	3,760,186	340,669	0.09060	0.90940	53.08
70.5	3,184,800	167,413	0.05257	0.94743	48.27
71.5	2,814,802	57,502	0.02043	0.97957	45.73
72.5	2,746,657	168,508	0.06135	0.93865	44.80
73.5	2,359,369	54,124	0.02294	0.97706	42.05
74.5	2,163,744	40,911	0.01891	0.98109	41.09
75.5	2,066,025	33,424	0.01618	0.98382	40.31
76.5	1,990,624	61,954	0.03112	0.96888	39.66
77.5	1,787,117	37,501	0.02098	0.97902	38.43
78.5	1,748,589	48,056	0.02748	0.97252	37.62
79.5	1,699,579	59,111	0.03478	0.96522	36.59
80.5	1,639,030	82,668	0.05044	0.94956	35.32
81.5	1,556,136	102,884	0.06612	0.93388	33.54
82.5	1,443,799	85,503	0.05922	0.94078	31.32
83.5	1,358,033	99,784	0.07348	0.92652	29.47
84.5	1,258,249	36,891	0.02932	0.97068	27.30
85.5	1,199,661	59,377	0.04949	0.95051	26.50
86.5	1,125,626	97,418	0.08655	0.91345	25.19
87.5	1,013,185	64,238	0.06340	0.93660	23.01
88.5	948,913	119,957	0.12642	0.87358	21.55

New Jersey - American Water Company

Account 333.000 - Services

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

89.5	828,711	21,081	0.02544	0.97456	18.83
90.5	807,576	61,230	0.07582	0.92418	18.35
91.5	746,214	21,831	0.02926	0.97074	16.96
92.5	722,640	27,504	0.03806	0.96194	16.46
93.5	695,135	36,533	0.05256	0.94744	15.83
94.5	631,902	68,266	0.10803	0.89197	15.00
95.5	545,642	50,713	0.09294	0.90706	13.38
96.5	462,429	13,801	0.02984	0.97016	12.14
97.5	361,482	1,650	0.00456	0.99544	11.78
98.5	358,885	5,829	0.01624	0.98376	11.73
99.5	353,056	94,523	0.26773	0.73227	11.54
100.5	46,942	6,988	0.14886	0.85114	8.45
101.5	39,954	8,465	0.21187	0.78813	7.19
102.5	31,231	3,806	0.12187	0.87813	5.67
103.5	27,425	1,484	0.05411	0.94589	4.98
104.5	25,942	760	0.02930	0.97070	4.71
105.5	25,182	1,188	0.04718	0.95282	4.57
106.5	23,994	380	0.01584	0.98416	4.35
107.5	23,615	280	0.01186	0.98814	4.28
108.5	23,334	603	0.02584	0.97416	4.23
109.5	22,732	494	0.02173	0.97827	4.12
110.5	22,238	267	0.01201	0.98799	4.03
111.5	21,971	333	0.01516	0.98484	3.98
112.5	21,638	188	0.00869	0.99131	3.92
113.5	21,450	2,113	0.09851	0.90149	3.89
114.5	19,338	27	0.00140	0.99860	3.51
115.5	19,311	2,488	0.12884	0.87116	3.51
116.5	16,822	7,274	0.43240	0.56760	3.06
117.5	9,549	38	0.00398	0.99602	1.74
118.5	9,511	0	0.00000	1.00000	1.73
119.5	9,511	0	0.00000	1.00000	1.73

New Jersey - American Water Company

Account 333.000 - Services

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

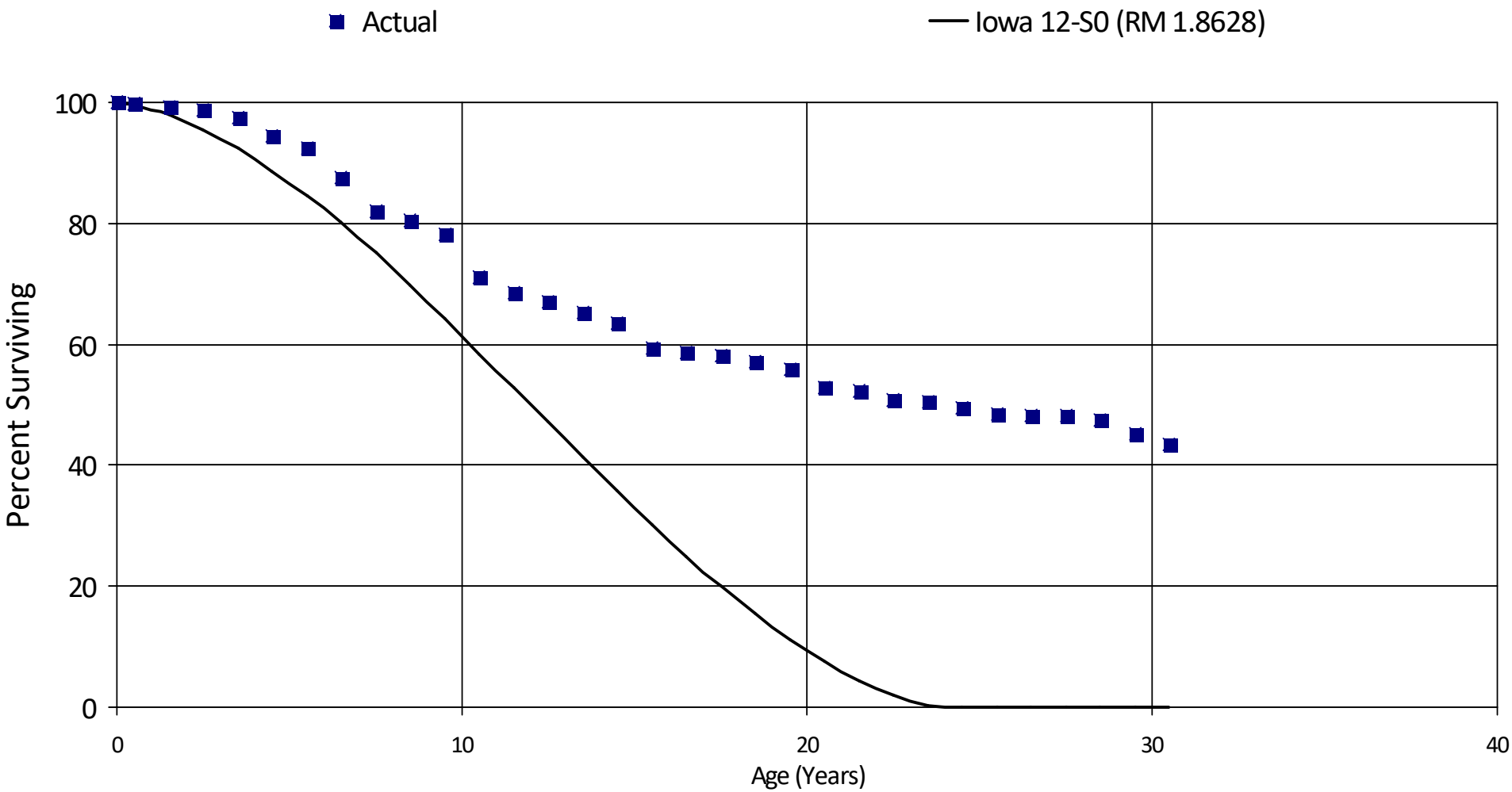
120.5	0	0	0.00000	0.00000	1.73
	Totals:	42,487,885			

New Jersey - American Water Company

Account 334.100 - Meters

Placement Band - 1921 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 334.100 - Meters

Placement Band - 1921 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	402,996,486	1,103,242	0.00274	0.99726	100.00
0.5	364,198,794	1,968,674	0.00541	0.99459	99.73
1.5	342,798,535	1,735,023	0.00506	0.99494	99.19
2.5	319,647,136	3,755,747	0.01175	0.98825	98.69
3.5	284,214,754	9,299,489	0.03272	0.96728	97.53
4.5	240,017,609	5,180,320	0.02158	0.97842	94.34
5.5	211,211,939	10,644,389	0.05040	0.94960	92.30
6.5	183,147,816	11,619,510	0.06344	0.93656	87.65
7.5	159,963,357	3,331,157	0.02082	0.97918	82.09
8.5	148,449,555	4,294,558	0.02893	0.97107	80.38
9.5	134,920,209	11,864,985	0.08794	0.91206	78.05
10.5	116,090,100	4,182,170	0.03603	0.96397	71.19
11.5	100,187,109	2,463,797	0.02459	0.97541	68.63
12.5	85,935,126	2,206,258	0.02567	0.97433	66.94
13.5	65,567,395	1,851,035	0.02823	0.97177	65.22
14.5	58,192,867	3,668,516	0.06304	0.93696	63.38
15.5	51,703,125	705,970	0.01365	0.98635	59.38
16.5	42,132,865	286,460	0.00680	0.99320	58.57
17.5	39,968,991	678,668	0.01698	0.98302	58.17
18.5	39,250,605	936,497	0.02386	0.97614	57.18
19.5	28,298,296	1,529,469	0.05405	0.94595	55.82
20.5	24,383,731	244,079	0.01001	0.98999	52.80
21.5	24,120,395	679,890	0.02819	0.97181	52.27
22.5	20,445,391	151,010	0.00739	0.99261	50.80
23.5	17,498,126	341,344	0.01951	0.98049	50.42
24.5	16,418,417	317,232	0.01932	0.98068	49.44
25.5	13,468,273	49,538	0.00368	0.99632	48.48
26.5	11,267,186	46,814	0.00415	0.99585	48.30

New Jersey - American Water Company

Account 334.100 - Meters

Placement Band - 1921 - 2022 Experience Band - 2007 - 2022

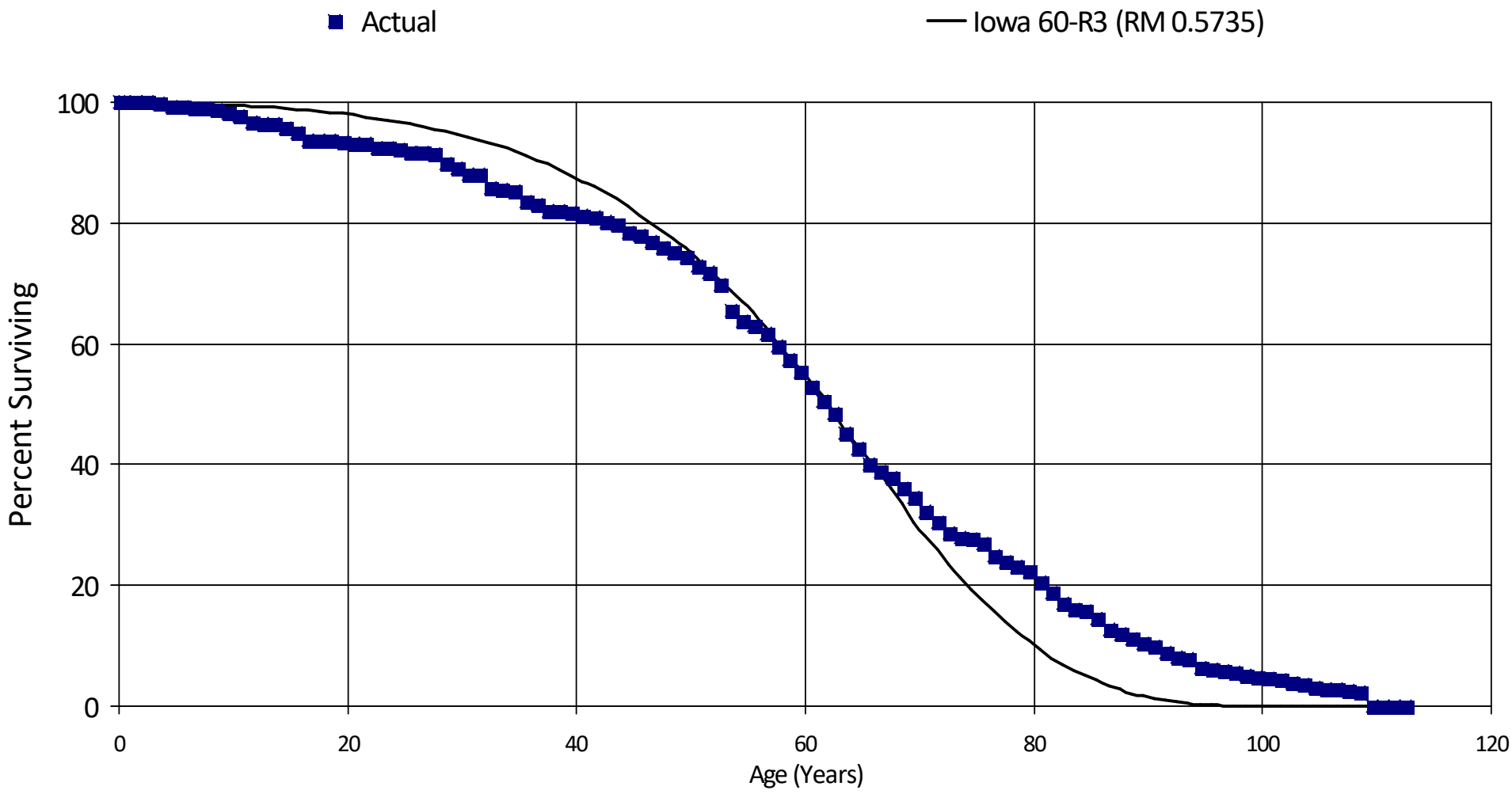
27.5	9,627,483	150,083	0.01559	0.98441	48.10
28.5	8,233,737	371,936	0.04517	0.95483	47.35
29.5	5,881,045	223,593	0.03802	0.96198	45.21
30.5	4,743,454	8,987	0.00189	0.99811	43.49
	Totals:	85,890,440			

New Jersey - American Water Company

Account 334.200 - Meter Installations

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 334.200 - Meter Installations

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	197,995,406	12,681	0.00006	0.99994	100.00
0.5	186,413,197	123,386	0.00066	0.99934	99.99
1.5	177,955,363	50,218	0.00028	0.99972	99.92
2.5	170,037,028	348,436	0.00205	0.99795	99.89
3.5	162,679,002	578,546	0.00356	0.99644	99.69
4.5	155,099,296	139,828	0.00090	0.99910	99.34
5.5	147,070,815	238,312	0.00162	0.99838	99.25
6.5	139,716,522	166,839	0.00119	0.99881	99.09
7.5	131,462,714	458,881	0.00349	0.99651	98.97
8.5	122,141,499	456,811	0.00374	0.99626	98.62
9.5	110,702,617	591,962	0.00535	0.99465	98.25
10.5	106,317,304	1,003,777	0.00944	0.99056	97.72
11.5	102,295,000	254,042	0.00248	0.99752	96.80
12.5	98,878,531	200,479	0.00203	0.99797	96.56
13.5	88,312,184	661,760	0.00749	0.99251	96.36
14.5	85,378,268	633,370	0.00742	0.99258	95.64
15.5	83,423,878	1,033,326	0.01239	0.98761	94.93
16.5	63,992,233	61,032	0.00095	0.99905	93.75
17.5	63,773,552	38,161	0.00060	0.99940	93.66
18.5	62,235,552	215,425	0.00346	0.99654	93.60
19.5	55,689,396	26,721	0.00048	0.99952	93.28
20.5	55,651,157	29,339	0.00053	0.99947	93.24
21.5	55,601,688	411,834	0.00741	0.99259	93.19
22.5	55,145,801	31,700	0.00057	0.99943	92.50
23.5	51,914,775	151,621	0.00292	0.99708	92.45
24.5	46,997,423	233,188	0.00496	0.99504	92.18
25.5	41,185,399	87,408	0.00212	0.99788	91.72
26.5	37,023,924	87,011	0.00235	0.99765	91.53

New Jersey - American Water Company

Account 334.200 - Meter Installations

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

27.5	30,018,782	443,453	0.01477	0.98523	91.31
28.5	26,843,876	232,158	0.00865	0.99135	89.96
29.5	23,709,056	265,295	0.01119	0.98881	89.18
30.5	20,779,066	21,815	0.00105	0.99895	88.18
31.5	19,575,056	510,356	0.02607	0.97393	88.09
32.5	16,086,167	53,264	0.00331	0.99669	85.79
33.5	13,497,606	44,364	0.00329	0.99671	85.51
34.5	11,149,172	241,897	0.02170	0.97830	85.23
35.5	9,140,029	51,737	0.00566	0.99434	83.38
36.5	7,622,004	81,446	0.01069	0.98931	82.91
37.5	6,370,158	9,235	0.00145	0.99855	82.02
38.5	5,468,666	20,175	0.00369	0.99631	81.90
39.5	4,836,208	18,215	0.00377	0.99623	81.60
40.5	4,466,793	15,422	0.00345	0.99655	81.29
41.5	4,078,017	43,043	0.01055	0.98945	81.01
42.5	3,717,440	17,656	0.00475	0.99525	80.16
43.5	3,447,799	55,344	0.01605	0.98395	79.78
44.5	3,135,039	21,654	0.00691	0.99309	78.50
45.5	2,857,209	42,288	0.01480	0.98520	77.96
46.5	2,527,600	28,781	0.01139	0.98861	76.81
47.5	2,410,206	27,079	0.01124	0.98876	75.94
48.5	2,338,811	21,014	0.00898	0.99102	75.09
49.5	2,179,754	43,775	0.02008	0.97992	74.42
50.5	2,049,698	33,846	0.01651	0.98349	72.93
51.5	1,966,638	49,782	0.02531	0.97469	71.73
52.5	1,859,522	116,182	0.06248	0.93752	69.91
53.5	1,696,230	50,525	0.02979	0.97021	65.54
54.5	1,601,752	13,157	0.00821	0.99179	63.59
55.5	1,547,931	36,987	0.02389	0.97611	63.07
56.5	1,463,040	44,653	0.03052	0.96948	61.56
57.5	1,260,636	49,801	0.03950	0.96050	59.68

New Jersey - American Water Company

Account 334.200 - Meter Installations

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

58.5	1,176,445	38,296	0.03255	0.96745	57.32
59.5	1,110,320	51,790	0.04664	0.95336	55.45
60.5	1,015,008	43,754	0.04311	0.95689	52.86
61.5	921,415	39,410	0.04277	0.95723	50.58
62.5	844,110	56,795	0.06728	0.93272	48.42
63.5	750,031	42,646	0.05686	0.94314	45.16
64.5	673,237	37,883	0.05627	0.94373	42.59
65.5	590,519	20,966	0.03550	0.96450	40.19
66.5	523,978	11,803	0.02253	0.97747	38.76
67.5	477,281	24,867	0.05210	0.94790	37.89
68.5	431,067	16,046	0.03722	0.96278	35.92
69.5	407,276	26,121	0.06414	0.93586	34.58
70.5	375,253	20,656	0.05505	0.94495	32.36
71.5	347,688	21,020	0.06046	0.93954	30.58
72.5	319,795	8,294	0.02594	0.97406	28.73
73.5	308,421	3,276	0.01062	0.98938	27.98
74.5	302,377	9,610	0.03178	0.96822	27.68
75.5	292,629	19,803	0.06767	0.93233	26.80
76.5	272,827	11,629	0.04262	0.95738	24.99
77.5	261,197	8,346	0.03195	0.96805	23.92
78.5	252,851	8,478	0.03353	0.96647	23.16
79.5	244,373	20,358	0.08331	0.91669	22.38
80.5	224,015	20,050	0.08950	0.91050	20.52
81.5	203,826	18,924	0.09284	0.90716	18.68
82.5	184,849	9,850	0.05329	0.94671	16.95
83.5	175,000	4,604	0.02631	0.97369	16.05
84.5	170,066	11,726	0.06895	0.93105	15.63
85.5	157,680	21,359	0.13546	0.86454	14.55
86.5	135,960	7,249	0.05332	0.94668	12.58
87.5	128,712	8,041	0.06247	0.93753	11.91
88.5	120,671	7,173	0.05944	0.94056	11.17

New Jersey - American Water Company

Account 334.200 - Meter Installations

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

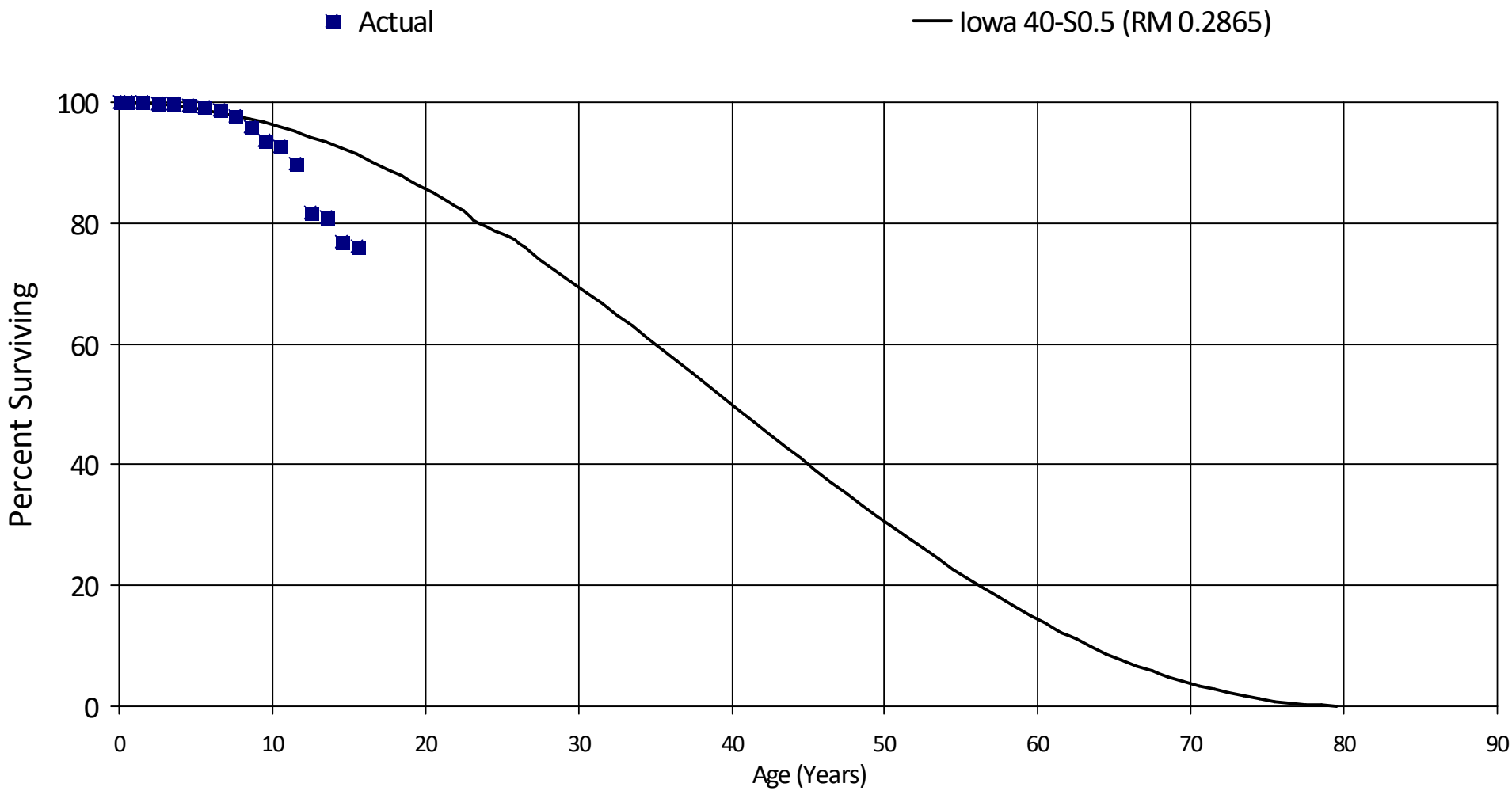
89.5	113,498	6,905	0.06084	0.93916	10.51
90.5	106,213	10,603	0.09983	0.90017	9.87
91.5	94,599	8,713	0.09211	0.90789	8.88
92.5	85,459	2,288	0.02677	0.97323	8.06
93.5	75,000	14,249	0.18999	0.81001	7.84
94.5	53,544	2,714	0.05069	0.94931	6.35
95.5	42,148	1,787	0.04240	0.95760	6.03
96.5	28,252	894	0.03164	0.96836	5.77
97.5	24,420	2,060	0.08436	0.91564	5.59
98.5	16,608	699	0.04209	0.95791	5.12
99.5	11,723	602	0.05135	0.94865	4.90
100.5	8,537	575	0.06736	0.93264	4.65
101.5	5,963	744	0.12477	0.87523	4.34
102.5	4,448	362	0.08138	0.91862	3.80
103.5	4,086	445	0.10891	0.89109	3.49
104.5	3,567	291	0.08159	0.91841	3.11
105.5	3,275	155	0.04733	0.95267	2.86
106.5	3,120	171	0.05480	0.94520	2.72
107.5	2,950	330	0.11188	0.88812	2.57
108.5	2,620	2,486	0.94884	0.05116	2.28
109.5	134	0	0.00000	1.00000	0.12
110.5	134	0	0.00000	1.00000	0.12
111.5	134	134	0.99673	0.00327	0.12
112.5	0	0	0.00000	0.00000	0.00
	Totals:	11,738,523			

New Jersey - American Water Company

Account 334.300 - Meter Vaults

Placement Band - 1998 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 334.300 - Meter Vaults

Placement Band - 1998 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

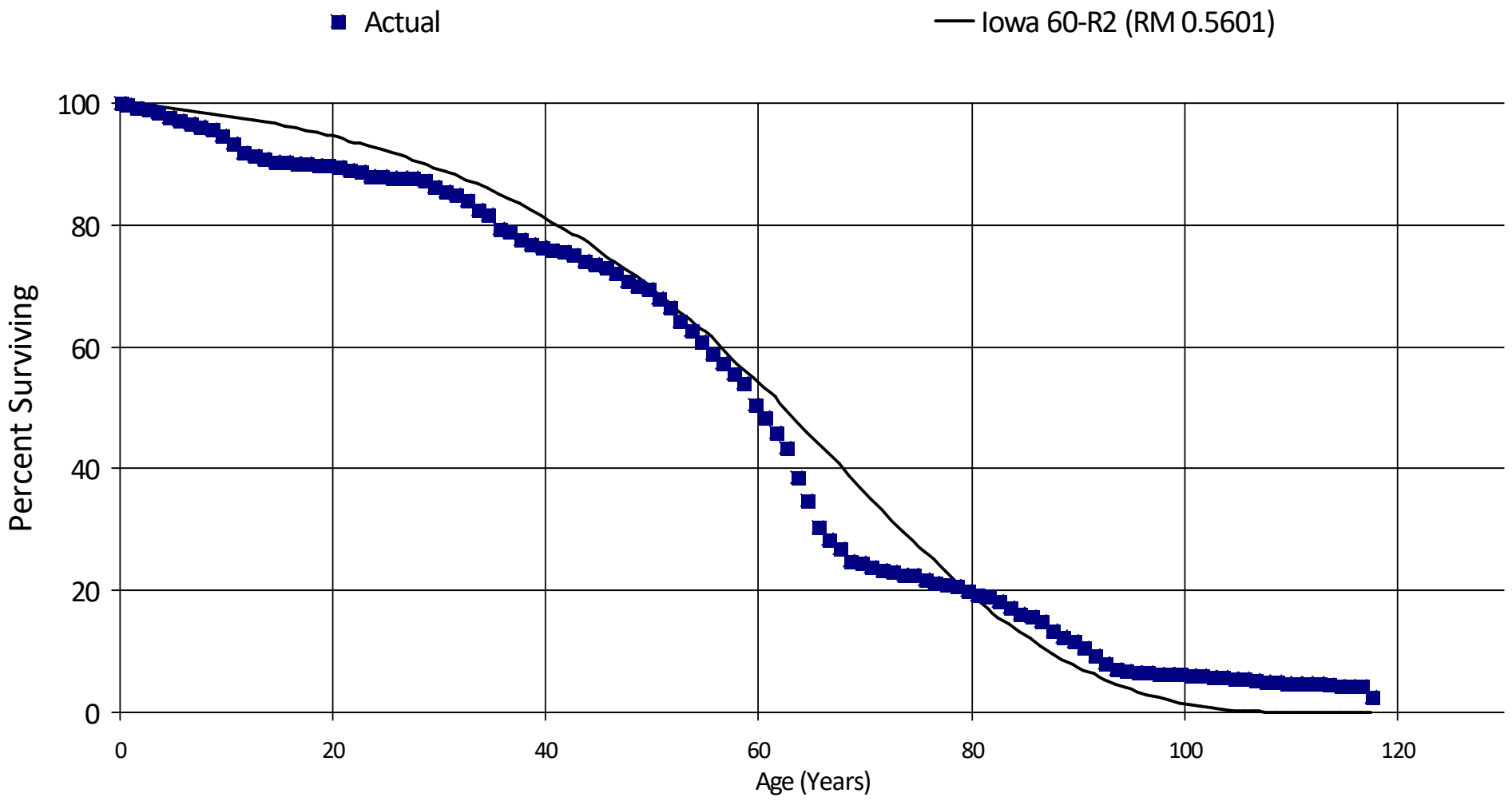
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	74,670,779	8,264	0.00011	0.99989	100.00
0.5	70,313,120	47,547	0.00068	0.99932	99.99
1.5	67,279,476	42,300	0.00063	0.99937	99.92
2.5	62,805,857	48,174	0.00077	0.99923	99.86
3.5	56,719,704	100,970	0.00178	0.99822	99.78
4.5	50,408,482	186,946	0.00371	0.99629	99.60
5.5	43,812,406	193,412	0.00441	0.99559	99.23
6.5	37,013,689	440,789	0.01191	0.98809	98.79
7.5	30,358,160	483,954	0.01594	0.98406	97.61
8.5	25,064,850	601,937	0.02402	0.97598	96.05
9.5	18,329,569	233,575	0.01274	0.98726	93.74
10.5	15,038,814	450,088	0.02993	0.97007	92.55
11.5	11,049,616	977,428	0.08846	0.91154	89.78
12.5	7,194,914	76,483	0.01063	0.98937	81.84
13.5	3,014,310	153,582	0.05095	0.94905	80.97
14.5	708,451	5,902	0.00833	0.99167	76.84
15.5	0	0	0.00000	0.00000	76.20
	Totals:	4,051,351			

New Jersey - American Water Company

Account 335.000 - Hydrants

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 335.000 - Hydrants

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	215,215,237	390,088	0.00181	0.99819	100.00
0.5	201,831,712	1,015,054	0.00503	0.99497	99.82
1.5	192,568,585	807,259	0.00419	0.99581	99.32
2.5	177,071,722	813,113	0.00459	0.99541	98.90
3.5	162,424,267	999,519	0.00615	0.99385	98.45
4.5	149,030,440	961,547	0.00645	0.99355	97.84
5.5	134,045,586	774,244	0.00578	0.99422	97.21
6.5	119,546,727	672,106	0.00562	0.99438	96.65
7.5	106,549,683	584,405	0.00548	0.99452	96.11
8.5	98,054,530	825,052	0.00841	0.99159	95.58
9.5	83,501,657	1,212,371	0.01452	0.98548	94.78
10.5	78,709,504	1,176,268	0.01494	0.98506	93.40
11.5	73,494,996	592,363	0.00806	0.99194	92.00
12.5	68,876,715	394,905	0.00573	0.99427	91.26
13.5	64,018,832	234,933	0.00367	0.99633	90.74
14.5	60,427,278	116,521	0.00193	0.99807	90.41
15.5	57,658,385	35,219	0.00061	0.99939	90.24
16.5	48,259,247	106,323	0.00220	0.99780	90.18
17.5	47,309,567	37,509	0.00079	0.99921	89.98
18.5	46,840,453	30,891	0.00066	0.99934	89.91
19.5	43,731,890	165,035	0.00377	0.99623	89.85
20.5	42,619,512	221,685	0.00520	0.99480	89.51
21.5	41,372,931	146,311	0.00354	0.99646	89.04
22.5	40,132,788	251,858	0.00628	0.99372	88.72
23.5	38,405,812	59,279	0.00154	0.99846	88.16
24.5	35,975,095	32,267	0.00090	0.99910	88.02
25.5	34,139,016	19,184	0.00056	0.99944	87.94
26.5	32,398,750	68,100	0.00210	0.99790	87.89

New Jersey - American Water Company

Account 335.000 - Hydrants

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

27.5	30,491,671	141,449	0.00464	0.99536	87.71
28.5	28,652,645	315,485	0.01101	0.98899	87.30
29.5	26,654,223	223,745	0.00839	0.99161	86.34
30.5	24,434,113	161,903	0.00663	0.99337	85.62
31.5	22,586,796	251,139	0.01112	0.98888	85.05
32.5	20,726,035	383,238	0.01849	0.98151	84.10
33.5	18,310,414	173,098	0.00945	0.99055	82.54
34.5	16,554,096	476,785	0.02880	0.97120	81.76
35.5	14,531,479	88,343	0.00608	0.99392	79.41
36.5	12,967,489	214,360	0.01653	0.98347	78.93
37.5	11,459,659	114,431	0.00999	0.99001	77.63
38.5	10,508,239	73,423	0.00699	0.99301	76.85
39.5	10,098,815	48,031	0.00476	0.99524	76.31
40.5	9,498,286	51,233	0.00539	0.99461	75.95
41.5	8,963,099	40,838	0.00456	0.99544	75.54
42.5	8,409,035	110,481	0.01314	0.98686	75.20
43.5	7,856,230	56,089	0.00714	0.99286	74.21
44.5	7,379,483	47,395	0.00642	0.99358	73.68
45.5	7,045,099	115,493	0.01639	0.98361	73.21
46.5	6,622,554	115,454	0.01743	0.98257	72.01
47.5	6,297,294	52,116	0.00828	0.99172	70.75
48.5	5,964,224	43,189	0.00724	0.99276	70.16
49.5	5,691,025	133,718	0.02350	0.97650	69.65
50.5	5,242,650	123,577	0.02357	0.97643	68.01
51.5	4,847,452	165,595	0.03416	0.96584	66.41
52.5	4,432,502	101,757	0.02296	0.97704	64.14
53.5	4,071,484	121,558	0.02986	0.97014	62.67
54.5	3,694,259	117,700	0.03186	0.96814	60.80
55.5	3,326,603	86,155	0.02590	0.97410	58.86
56.5	3,025,516	91,923	0.03038	0.96962	57.34
57.5	2,718,041	78,622	0.02893	0.97107	55.60

New Jersey - American Water Company

Account 335.000 - Hydrants

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

58.5	2,459,333	153,682	0.06249	0.93751	53.99
59.5	2,167,252	93,653	0.04321	0.95679	50.62
60.5	1,943,271	104,226	0.05363	0.94637	48.43
61.5	1,713,364	86,315	0.05038	0.94962	45.83
62.5	1,550,783	173,751	0.11204	0.88796	43.52
63.5	1,270,077	123,931	0.09758	0.90242	38.64
64.5	1,090,389	137,175	0.12580	0.87420	34.87
65.5	914,266	58,183	0.06364	0.93636	30.48
66.5	847,424	50,569	0.05967	0.94033	28.54
67.5	752,672	51,760	0.06877	0.93123	26.84
68.5	700,047	12,949	0.01850	0.98150	24.99
69.5	683,514	17,018	0.02490	0.97510	24.53
70.5	665,451	14,682	0.02206	0.97794	23.92
71.5	650,141	10,399	0.01599	0.98401	23.39
72.5	639,559	9,964	0.01558	0.98442	23.02
73.5	629,506	2,947	0.00468	0.99532	22.66
74.5	625,999	17,901	0.02860	0.97140	22.55
75.5	605,863	13,708	0.02263	0.97737	21.91
76.5	591,249	8,593	0.01453	0.98547	21.41
77.5	581,110	8,389	0.01444	0.98556	21.10
78.5	570,405	22,106	0.03875	0.96125	20.80
79.5	548,044	16,012	0.02922	0.97078	19.99
80.5	529,688	12,431	0.02347	0.97653	19.41
81.5	516,414	21,878	0.04237	0.95763	18.95
82.5	490,848	25,673	0.05230	0.94770	18.15
83.5	461,664	25,484	0.05520	0.94480	17.20
84.5	431,249	16,998	0.03942	0.96058	16.25
85.5	410,758	13,599	0.03311	0.96689	15.61
86.5	391,662	41,823	0.10678	0.89322	15.09
87.5	345,494	24,850	0.07193	0.92807	13.48
88.5	318,291	23,461	0.07371	0.92629	12.51

New Jersey - American Water Company

Account 335.000 - Hydrants

Placement Band - 1900 - 2022 Experience Band - 2007 - 2022

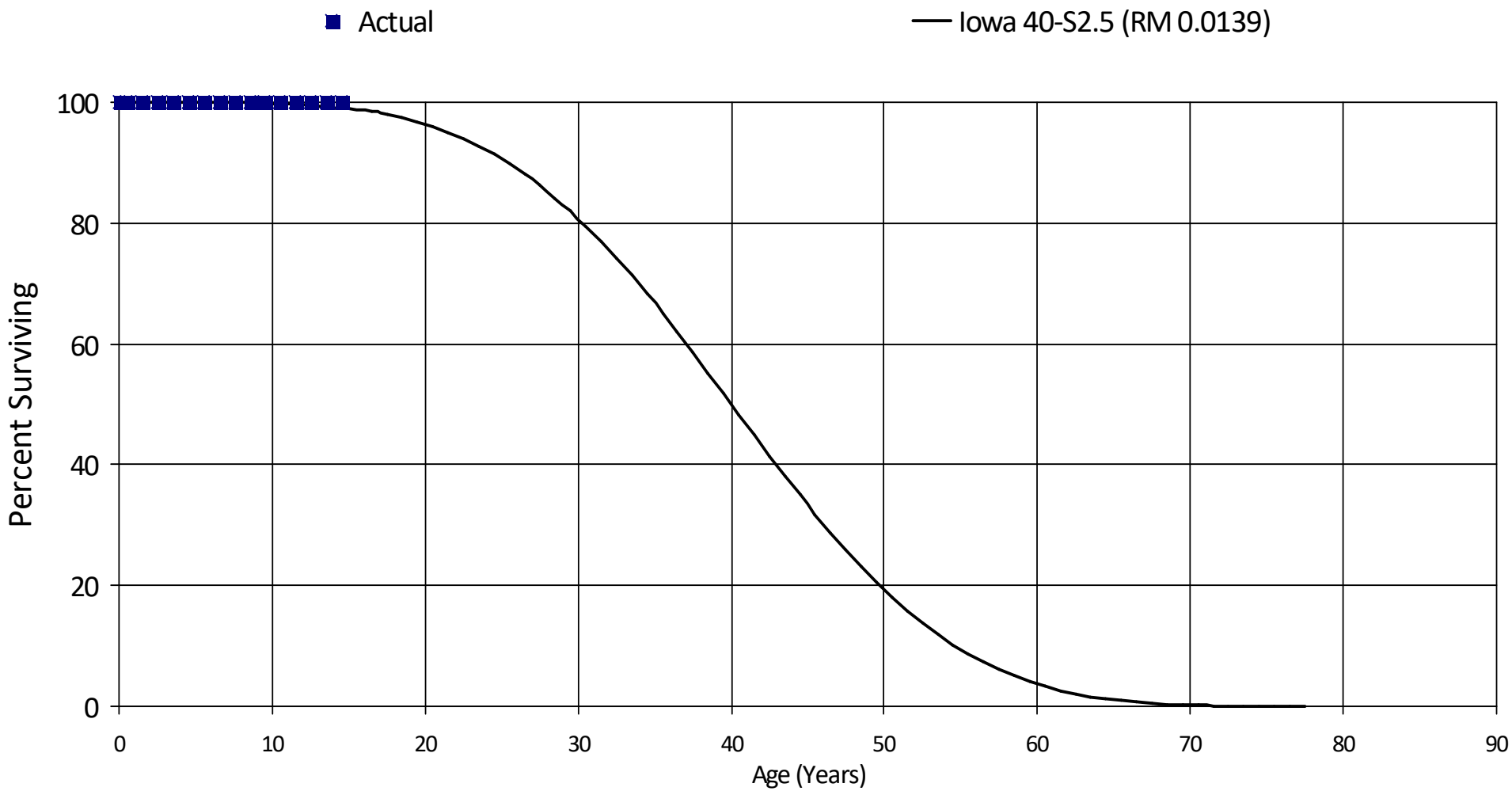
89.5	290,580	25,243	0.08687	0.91313	11.59
90.5	263,751	28,431	0.10779	0.89221	10.58
91.5	230,839	32,012	0.13868	0.86132	9.44
92.5	196,706	22,946	0.11665	0.88335	8.13
93.5	171,657	6,388	0.03721	0.96279	7.18
94.5	163,549	4,863	0.02973	0.97027	6.91
95.5	157,805	3,427	0.02172	0.97828	6.70
96.5	153,290	2,522	0.01645	0.98355	6.55
97.5	150,524	2,857	0.01898	0.98102	6.44
98.5	147,596	2,222	0.01505	0.98495	6.32
99.5	144,995	1,916	0.01321	0.98679	6.22
100.5	143,079	2,573	0.01798	0.98202	6.14
101.5	140,453	3,805	0.02709	0.97291	6.03
102.5	136,605	1,819	0.01332	0.98668	5.87
103.5	134,709	2,392	0.01776	0.98224	5.79
104.5	132,275	3,889	0.02940	0.97060	5.69
105.5	128,387	3,135	0.02442	0.97558	5.52
106.5	125,252	6,139	0.04901	0.95099	5.39
107.5	119,113	3,382	0.02839	0.97161	5.13
108.5	115,699	3,762	0.03252	0.96748	4.98
109.5	111,938	1,193	0.01066	0.98934	4.82
110.5	110,679	1,411	0.01275	0.98725	4.77
111.5	109,216	309	0.00283	0.99717	4.71
112.5	108,907	5,181	0.04757	0.95243	4.70
113.5	103,726	2,968	0.02861	0.97139	4.48
114.5	100,758	1,842	0.01828	0.98172	4.35
115.5	98,916	1,703	0.01722	0.98278	4.27
116.5	97,213	38,453	0.39555	0.60445	4.20
117.5	58,760	58,760	1.00000		2.54
	Totals:	18,731,385			

New Jersey - American Water Company

Account 336.000 - Backflow Prevention Devices

Placement Band - 2007 - 2022 Experience Band - 2022 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 336.000 - Backflow Prevention Devices

Placement Band - 2007 - 2022 Experience Band - 2022 - 2022

RETIREMENT RATE ANALYSIS

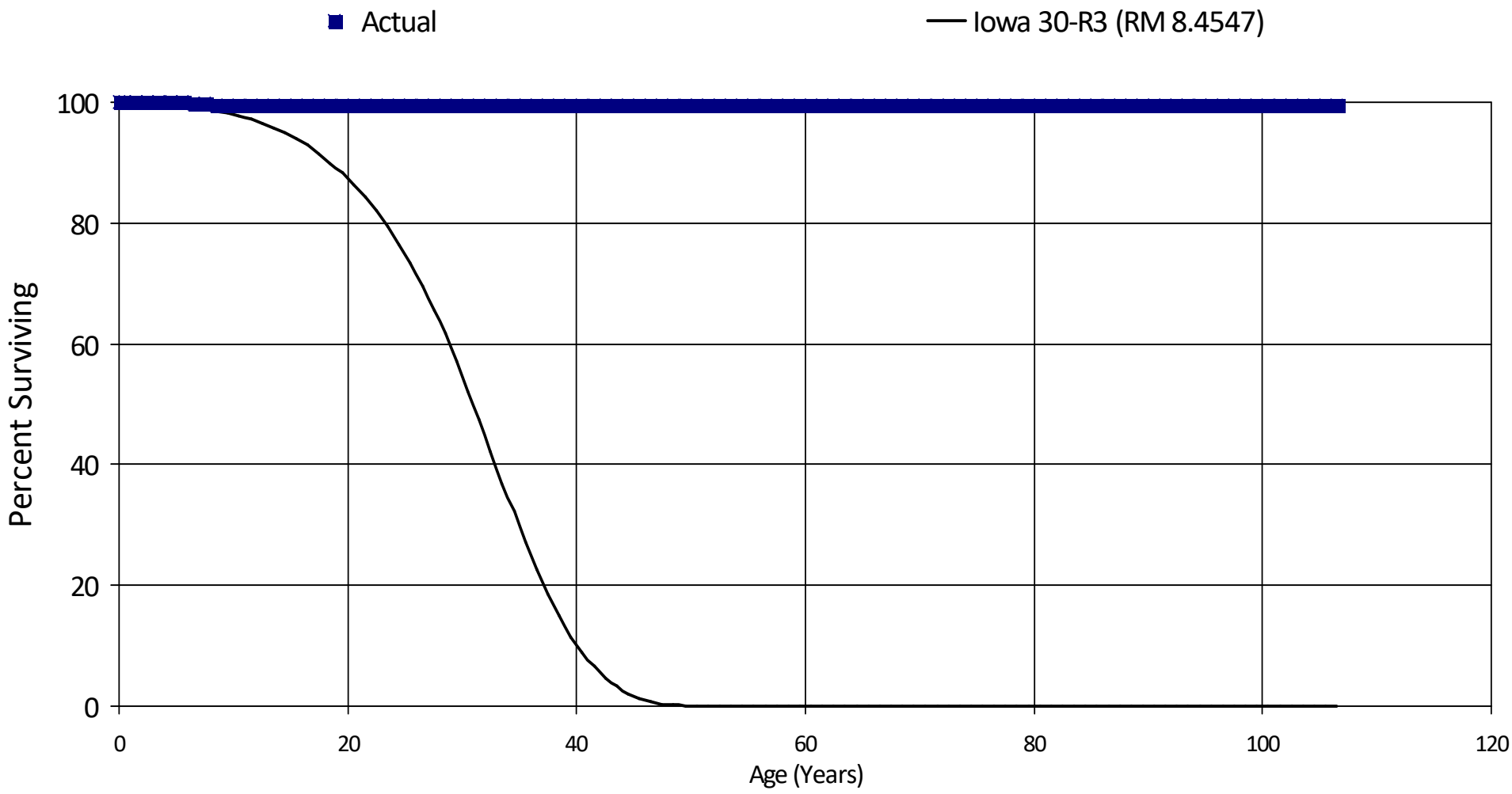
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	231,963	0	0.00000	1.00000	100.00
0.5	152,672	0	0.00000	1.00000	100.00
1.5	94,285	0	0.00000	1.00000	100.00
2.5	2,335	0	0.00000	1.00000	100.00
3.5	328	0	0.00000	1.00000	100.00
4.5	328	0	0.00000	1.00000	100.00
5.5	328	0	0.00000	1.00000	100.00
6.5	328	0	0.00000	1.00000	100.00
7.5	328	0	0.00000	1.00000	100.00
8.5	328	0	0.00000	1.00000	100.00
9.5	328	0	0.00000	1.00000	100.00
10.5	328	0	0.00000	1.00000	100.00
11.5	328	0	0.00000	1.00000	100.00
12.5	328	0	0.00000	1.00000	100.00
13.5	328	0	0.00000	1.00000	100.00
14.5	328	0	0.00000	1.00000	100.00
	Totals:	0			

New Jersey - American Water Company

Account 339.100 - Other P/E - Intangible

Placement Band - 1915 - 2022 Experience Band - 2010 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 339.100 - Other P/E - Intangible

Placement Band - 1915 - 2022 Experience Band - 2010 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	5,147,254	0	0.00000	1.00000	100.00
0.5	3,433,988	0	0.00000	1.00000	100.00
1.5	3,321,637	0	0.00000	1.00000	100.00
2.5	2,913,347	0	0.00000	1.00000	100.00
3.5	1,745,152	0	0.00000	1.00000	100.00
4.5	1,448,132	0	0.00000	1.00000	100.00
5.5	1,176,293	2,278	0.00194	0.99806	100.00
6.5	1,048,353	0	0.00000	1.00000	99.81
7.5	930,032	3,184	0.00342	0.99658	99.81
8.5	926,848	0	0.00000	1.00000	99.47
9.5	827,372	0	0.00000	1.00000	99.47
10.5	814,787	0	0.00000	1.00000	99.47
11.5	814,787	0	0.00000	1.00000	99.47
12.5	814,787	0	0.00000	1.00000	99.47
13.5	814,787	0	0.00000	1.00000	99.47
14.5	814,787	0	0.00000	1.00000	99.47
15.5	802,525	0	0.00000	1.00000	99.47
16.5	802,525	0	0.00000	1.00000	99.47
17.5	802,525	0	0.00000	1.00000	99.47
18.5	786,127	0	0.00000	1.00000	99.47
19.5	786,127	0	0.00000	1.00000	99.47
20.5	770,582	0	0.00000	1.00000	99.47
21.5	770,582	0	0.00000	1.00000	99.47
22.5	770,582	0	0.00000	1.00000	99.47
23.5	770,582	0	0.00000	1.00000	99.47
24.5	766,457	0	0.00000	1.00000	99.47
25.5	356,816	0	0.00000	1.00000	99.47
26.5	356,816	0	0.00000	1.00000	99.47

New Jersey - American Water Company

Account 339.100 - Other P/E - Intangible

Placement Band - 1915 - 2022 Experience Band - 2010 - 2022

27.5	350,816	0	0.00000	1.00000	99.47
28.5	350,816	0	0.00000	1.00000	99.47
29.5	350,816	0	0.00000	1.00000	99.47
30.5	350,816	0	0.00000	1.00000	99.47
31.5	350,816	0	0.00000	1.00000	99.47
32.5	350,816	0	0.00000	1.00000	99.47
33.5	350,816	0	0.00000	1.00000	99.47
34.5	350,816	0	0.00000	1.00000	99.47
35.5	350,816	0	0.00000	1.00000	99.47
36.5	350,816	0	0.00000	1.00000	99.47
37.5	350,816	0	0.00000	1.00000	99.47
38.5	350,816	0	0.00000	1.00000	99.47
39.5	350,816	0	0.00000	1.00000	99.47
40.5	350,816	0	0.00000	1.00000	99.47
41.5	350,816	0	0.00000	1.00000	99.47
42.5	350,816	0	0.00000	1.00000	99.47
43.5	350,816	0	0.00000	1.00000	99.47
44.5	350,816	0	0.00000	1.00000	99.47
45.5	350,816	0	0.00000	1.00000	99.47
46.5	350,816	0	0.00000	1.00000	99.47
47.5	350,816	0	0.00000	1.00000	99.47
48.5	350,816	0	0.00000	1.00000	99.47
49.5	350,816	0	0.00000	1.00000	99.47
50.5	350,816	0	0.00000	1.00000	99.47
51.5	350,816	0	0.00000	1.00000	99.47
52.5	350,816	0	0.00000	1.00000	99.47
53.5	350,816	0	0.00000	1.00000	99.47
54.5	350,816	0	0.00000	1.00000	99.47
55.5	350,816	0	0.00000	1.00000	99.47
56.5	350,816	0	0.00000	1.00000	99.47
57.5	329,392	0	0.00000	1.00000	99.47

New Jersey - American Water Company

Account 339.100 - Other P/E - Intangible

Placement Band - 1915 - 2022 Experience Band - 2010 - 2022

58.5	329,392	0	0.00000	1.00000	99.47
59.5	329,392	0	0.00000	1.00000	99.47
60.5	329,392	0	0.00000	1.00000	99.47
61.5	329,392	0	0.00000	1.00000	99.47
62.5	329,392	0	0.00000	1.00000	99.47
63.5	329,392	0	0.00000	1.00000	99.47
64.5	329,392	0	0.00000	1.00000	99.47
65.5	329,392	0	0.00000	1.00000	99.47
66.5	329,392	0	0.00000	1.00000	99.47
67.5	329,392	0	0.00000	1.00000	99.47
68.5	329,392	0	0.00000	1.00000	99.47
69.5	329,392	0	0.00000	1.00000	99.47
70.5	329,392	0	0.00000	1.00000	99.47
71.5	329,392	0	0.00000	1.00000	99.47
72.5	329,392	0	0.00000	1.00000	99.47
73.5	329,392	0	0.00000	1.00000	99.47
74.5	329,392	0	0.00000	1.00000	99.47
75.5	329,392	0	0.00000	1.00000	99.47
76.5	329,392	0	0.00000	1.00000	99.47
77.5	150,198	0	0.00000	1.00000	99.47
78.5	150,198	0	0.00000	1.00000	99.47
79.5	150,198	0	0.00000	1.00000	99.47
80.5	150,198	0	0.00000	1.00000	99.47
81.5	150,198	0	0.00000	1.00000	99.47
82.5	150,198	0	0.00000	1.00000	99.47
83.5	150,198	0	0.00000	1.00000	99.47
84.5	150,198	0	0.00000	1.00000	99.47
85.5	150,198	0	0.00000	1.00000	99.47
86.5	150,198	0	0.00000	1.00000	99.47
87.5	150,198	0	0.00000	1.00000	99.47
88.5	150,198	0	0.00000	1.00000	99.47

New Jersey - American Water Company

Account 339.100 - Other P/E - Intangible

Placement Band - 1915 - 2022 Experience Band - 2010 - 2022

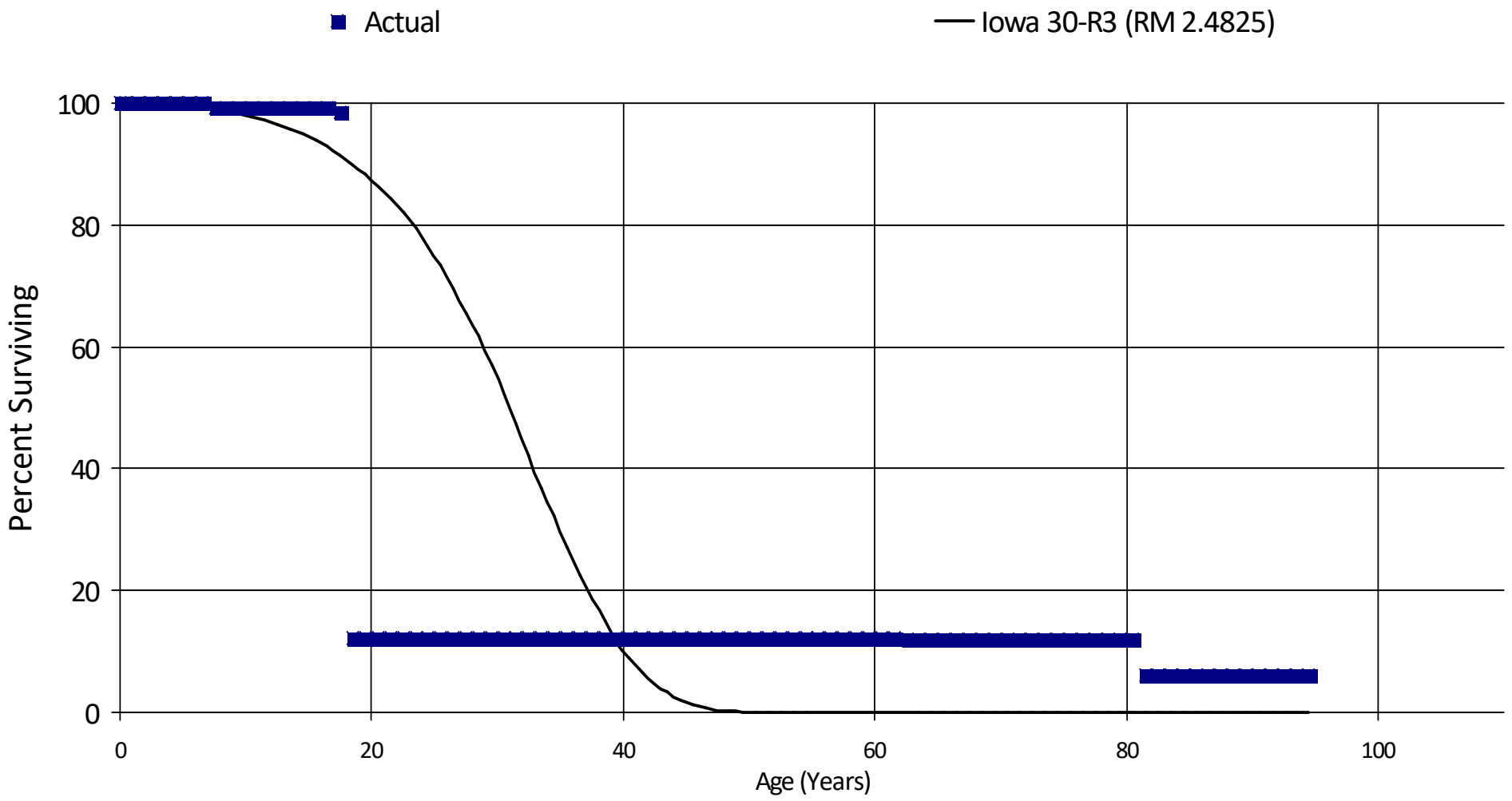
89.5	150,198	0	0.00000	1.00000	99.47
90.5	150,198	0	0.00000	1.00000	99.47
91.5	150,198	0	0.00000	1.00000	99.47
92.5	150,198	0	0.00000	1.00000	99.47
93.5	150,198	0	0.00000	1.00000	99.47
94.5	150,198	0	0.00000	1.00000	99.47
95.5	150,198	0	0.00000	1.00000	99.47
96.5	150,198	0	0.00000	1.00000	99.47
97.5	150,198	0	0.00000	1.00000	99.47
98.5	150,198	0	0.00000	1.00000	99.47
99.5	150,198	0	0.00000	1.00000	99.47
100.5	150,198	0	0.00000	1.00000	99.47
101.5	150,198	0	0.00000	1.00000	99.47
102.5	150,198	0	0.00000	1.00000	99.47
103.5	150,198	0	0.00000	1.00000	99.47
104.5	150,198	0	0.00000	1.00000	99.47
105.5	150,198	0	0.00000	1.00000	99.47
106.5	150,198	0	0.00000	1.00000	99.47
	Totals:	5,462			

New Jersey - American Water Company

Account 339.200 - Other P/E - Supply

Placement Band - 1927 - 2022 Experience Band - 2011 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 339.200 - Other P/E - Supply

Placement Band - 1927 - 2022 Experience Band - 2011 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	1,129,032	0	0.00000	1.00000	100.00
0.5	1,129,032	0	0.00000	1.00000	100.00
1.5	1,129,032	0	0.00000	1.00000	100.00
2.5	1,129,032	0	0.00000	1.00000	100.00
3.5	1,129,032	0	0.00000	1.00000	100.00
4.5	1,129,032	0	0.00000	1.00000	100.00
5.5	1,093,119	0	0.00000	1.00000	100.00
6.5	1,093,119	9,000	0.00823	0.99177	100.00
7.5	544,768	0	0.00000	1.00000	99.18
8.5	544,768	0	0.00000	1.00000	99.18
9.5	544,768	0	0.00000	1.00000	99.18
10.5	544,768	0	0.00000	1.00000	99.18
11.5	544,768	0	0.00000	1.00000	99.18
12.5	544,768	0	0.00000	1.00000	99.18
13.5	544,768	0	0.00000	1.00000	99.18
14.5	544,768	0	0.00000	1.00000	99.18
15.5	544,768	0	0.00000	1.00000	99.18
16.5	544,768	3,357	0.00616	0.99384	99.18
17.5	541,411	474,739	0.87686	0.12314	98.57
18.5	11,141	0	0.00000	1.00000	12.14
19.5	11,141	0	0.00000	1.00000	12.14
20.5	11,141	0	0.00000	1.00000	12.14
21.5	11,141	0	0.00000	1.00000	12.14
22.5	11,141	0	0.00000	1.00000	12.14
23.5	11,141	0	0.00000	1.00000	12.14
24.5	11,141	0	0.00000	1.00000	12.14
25.5	11,141	0	0.00000	1.00000	12.14
26.5	11,141	0	0.00000	1.00000	12.14

New Jersey - American Water Company

Account 339.200 - Other P/E - Supply

Placement Band - 1927 - 2022 Experience Band - 2011 - 2022

27.5	11,141	0	0.00000	1.00000	12.14
28.5	11,141	0	0.00000	1.00000	12.14
29.5	11,141	0	0.00000	1.00000	12.14
30.5	11,141	0	0.00000	1.00000	12.14
31.5	11,141	0	0.00000	1.00000	12.14
32.5	11,141	0	0.00000	1.00000	12.14
33.5	11,141	0	0.00000	1.00000	12.14
34.5	11,141	0	0.00000	1.00000	12.14
35.5	11,141	0	0.00000	1.00000	12.14
36.5	11,141	0	0.00000	1.00000	12.14
37.5	11,141	0	0.00000	1.00000	12.14
38.5	11,141	0	0.00000	1.00000	12.14
39.5	11,141	0	0.00000	1.00000	12.14
40.5	11,141	0	0.00000	1.00000	12.14
41.5	11,141	0	0.00000	1.00000	12.14
42.5	11,141	0	0.00000	1.00000	12.14
43.5	11,141	0	0.00000	1.00000	12.14
44.5	11,141	0	0.00000	1.00000	12.14
45.5	11,141	0	0.00000	1.00000	12.14
46.5	11,141	0	0.00000	1.00000	12.14
47.5	11,141	0	0.00000	1.00000	12.14
48.5	11,141	0	0.00000	1.00000	12.14
49.5	11,141	0	0.00000	1.00000	12.14
50.5	11,141	0	0.00000	1.00000	12.14
51.5	11,141	0	0.00000	1.00000	12.14
52.5	11,141	0	0.00000	1.00000	12.14
53.5	11,141	0	0.00000	1.00000	12.14
54.5	11,141	0	0.00000	1.00000	12.14
55.5	11,141	0	0.00000	1.00000	12.14
56.5	11,141	0	0.00000	1.00000	12.14
57.5	11,141	0	0.00000	1.00000	12.14

New Jersey - American Water Company

Account 339.200 - Other P/E - Supply

Placement Band - 1927 - 2022 Experience Band - 2011 - 2022

58.5	11,141	0	0.00000	1.00000	12.14
59.5	11,141	0	0.00000	1.00000	12.14
60.5	11,141	0	0.00000	1.00000	12.14
61.5	11,141	255	0.02289	0.97711	12.14
62.5	10,886	0	0.00000	1.00000	11.86
63.5	10,886	0	0.00000	1.00000	11.86
64.5	10,886	0	0.00000	1.00000	11.86
65.5	10,886	0	0.00000	1.00000	11.86
66.5	10,797	0	0.00000	1.00000	11.86
67.5	10,797	0	0.00000	1.00000	11.86
68.5	10,797	0	0.00000	1.00000	11.86
69.5	10,797	0	0.00000	1.00000	11.86
70.5	10,797	0	0.00000	1.00000	11.86
71.5	10,797	0	0.00000	1.00000	11.86
72.5	10,797	0	0.00000	1.00000	11.86
73.5	102	0	0.00000	1.00000	11.86
74.5	102	0	0.00000	1.00000	11.86
75.5	102	0	0.00000	1.00000	11.86
76.5	102	0	0.00000	1.00000	11.86
77.5	102	0	0.00000	1.00000	11.86
78.5	102	0	0.00000	1.00000	11.86
79.5	102	0	0.00000	1.00000	11.86
80.5	102	50	0.49232	0.50768	11.86
81.5	51	0	0.00000	1.00000	6.02
82.5	51	0	0.00000	1.00000	6.02
83.5	51	0	0.00000	1.00000	6.02
84.5	51	0	0.00000	1.00000	6.02
85.5	51	0	0.00000	1.00000	6.02
86.5	51	0	0.00000	1.00000	6.02
87.5	51	0	0.00000	1.00000	6.02
88.5	51	0	0.00000	1.00000	6.02

New Jersey - American Water Company

Account 339.200 - Other P/E - Supply

Placement Band - 1927 - 2022 Experience Band - 2011 - 2022

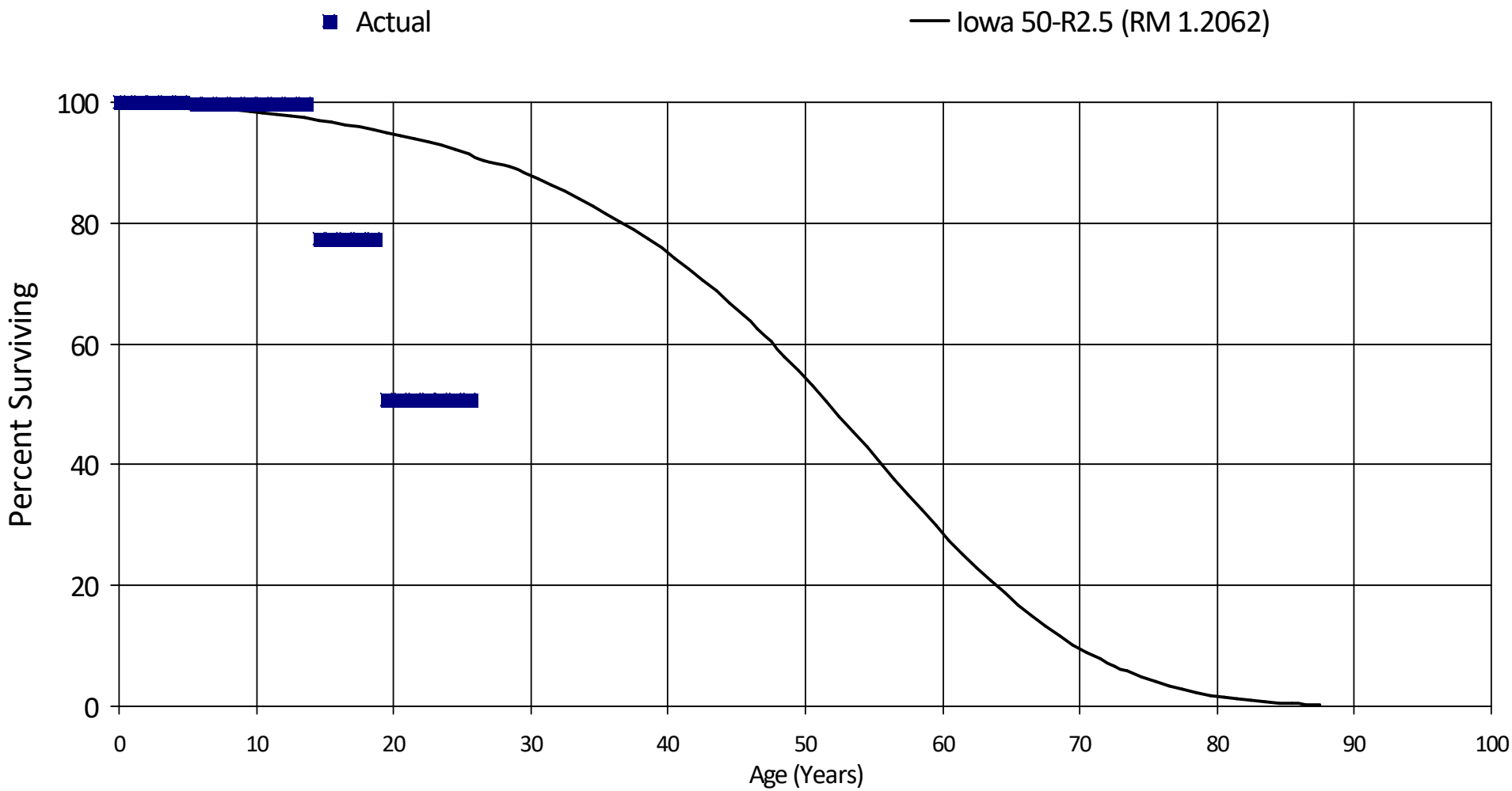
89.5	51	0	0.00000	1.00000	6.02
90.5	51	0	0.00000	1.00000	6.02
91.5	51	0	0.00000	1.00000	6.02
92.5	51	0	0.00000	1.00000	6.02
93.5	51	0	0.00000	1.00000	6.02
94.5	51	0	0.00000	1.00000	6.02
	Totals:	487,401			

New Jersey - American Water Company

Account 339.300 - Other P/E - Treatment

Placement Band - 1995 - 2022 Experience Band - 2013 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 339.300 - Other P/E - Treatment

Placement Band - 1995 - 2022 Experience Band - 2013 - 2022

RETIREMENT RATE ANALYSIS

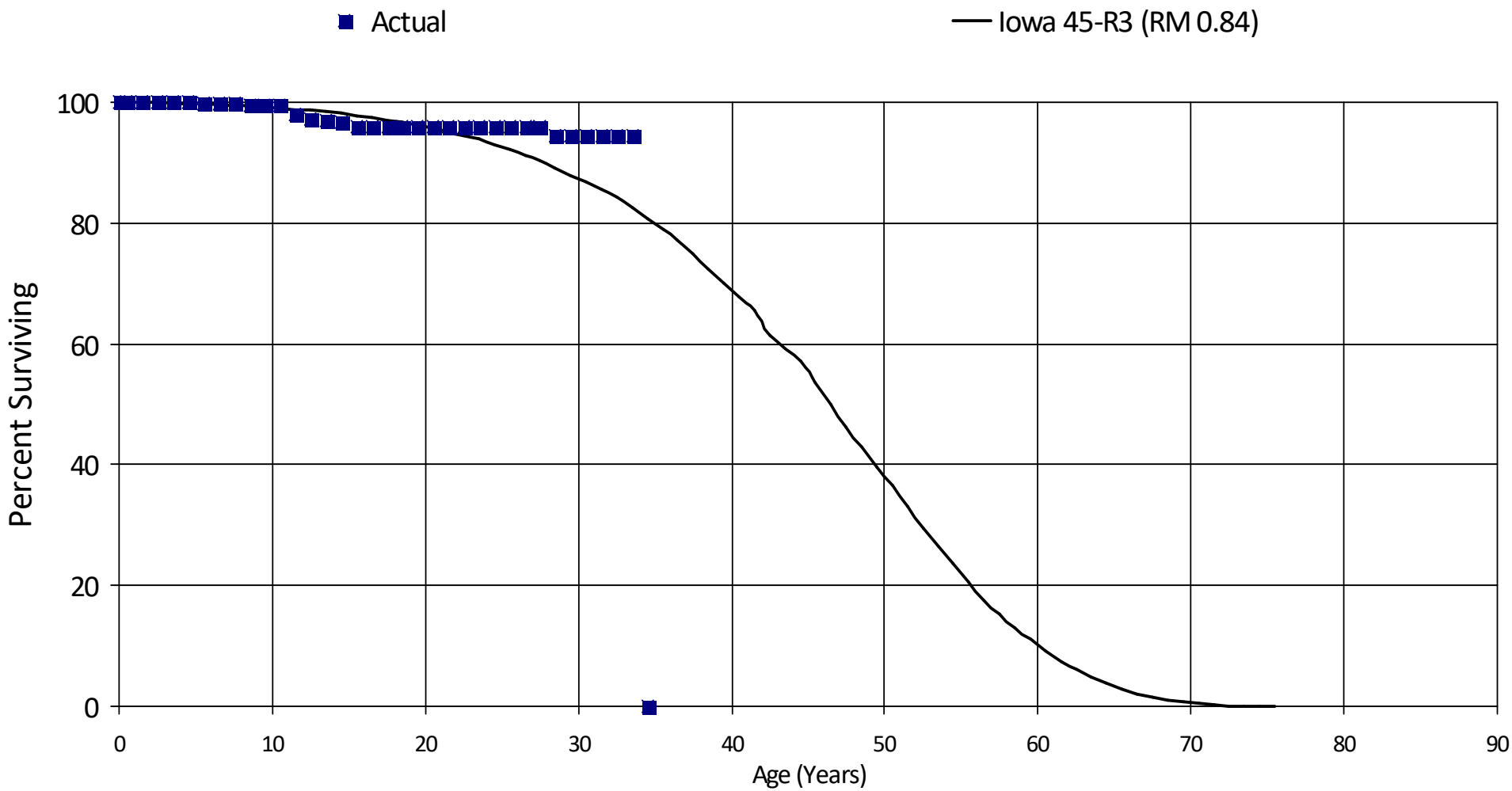
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	1,286,316	0	0.00000	1.00000	100.00
0.5	1,286,316	0	0.00000	1.00000	100.00
1.5	1,286,316	0	0.00000	1.00000	100.00
2.5	1,286,316	0	0.00000	1.00000	100.00
3.5	1,286,316	0	0.00000	1.00000	100.00
4.5	1,286,316	3,834	0.00298	0.99702	100.00
5.5	1,282,482	0	0.00000	1.00000	99.70
6.5	1,074,057	0	0.00000	1.00000	99.70
7.5	1,074,057	0	0.00000	1.00000	99.70
8.5	1,074,057	0	0.00000	1.00000	99.70
9.5	1,061,424	0	0.00000	1.00000	99.70
10.5	302,100	0	0.00000	1.00000	99.70
11.5	299,787	0	0.00000	1.00000	99.70
12.5	299,787	0	0.00000	1.00000	99.70
13.5	299,787	66,988	0.22345	0.77655	99.70
14.5	232,799	0	0.00000	1.00000	77.42
15.5	37,407	0	0.00000	1.00000	77.42
16.5	37,407	0	0.00000	1.00000	77.42
17.5	37,407	0	0.00000	1.00000	77.42
18.5	37,407	12,939	0.34589	0.65411	77.42
19.5	24,469	0	0.00000	1.00000	50.64
20.5	24,469	0	0.00000	1.00000	50.64
21.5	24,469	0	0.00000	1.00000	50.64
22.5	17,880	0	0.00000	1.00000	50.64
23.5	17,880	0	0.00000	1.00000	50.64
24.5	17,880	0	0.00000	1.00000	50.64
25.5	0	0	0.00000	0.00000	50.64
	Totals:	83,761			

New Jersey - American Water Company

Account 339.400 - Other P/E - WT Res Hand Equip

Placement Band - 1979 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 339.400 - Other P/E - WT Res Hand Equip

Placement Band - 1979 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	6,129,626	0	0.00000	1.00000	100.00
0.5	3,556,576	0	0.00000	1.00000	100.00
1.5	3,556,576	0	0.00000	1.00000	100.00
2.5	3,556,576	0	0.00000	1.00000	100.00
3.5	3,556,576	0	0.00000	1.00000	100.00
4.5	3,556,576	11,382	0.00320	0.99680	100.00
5.5	3,545,194	0	0.00000	1.00000	99.68
6.5	3,545,194	1,590	0.00045	0.99955	99.68
7.5	3,543,604	4,770	0.00135	0.99865	99.64
8.5	3,538,834	0	0.00000	1.00000	99.51
9.5	3,538,834	4,224	0.00119	0.99881	99.51
10.5	3,534,610	47,985	0.01358	0.98642	99.39
11.5	3,486,625	27,040	0.00776	0.99224	98.04
12.5	3,459,585	7,210	0.00208	0.99792	97.28
13.5	3,452,375	9,762	0.00283	0.99717	97.08
14.5	3,442,613	26,722	0.00776	0.99224	96.81
15.5	3,415,892	5,153	0.00151	0.99849	96.06
16.5	3,410,739	1,332	0.00039	0.99961	95.91
17.5	3,409,407	0	0.00000	1.00000	95.87
18.5	3,390,234	0	0.00000	1.00000	95.87
19.5	3,390,234	0	0.00000	1.00000	95.87
20.5	3,390,234	0	0.00000	1.00000	95.87
21.5	3,331,858	0	0.00000	1.00000	95.87
22.5	3,315,703	0	0.00000	1.00000	95.87
23.5	2,075,090	0	0.00000	1.00000	95.87
24.5	2,043,925	0	0.00000	1.00000	95.87
25.5	2,043,925	0	0.00000	1.00000	95.87
26.5	2,043,925	0	0.00000	1.00000	95.87

New Jersey - American Water Company

Account 339.400 - Other P/E - WT Res Hand Equip

Placement Band - 1979 - 2022 Experience Band - 2008 - 2022

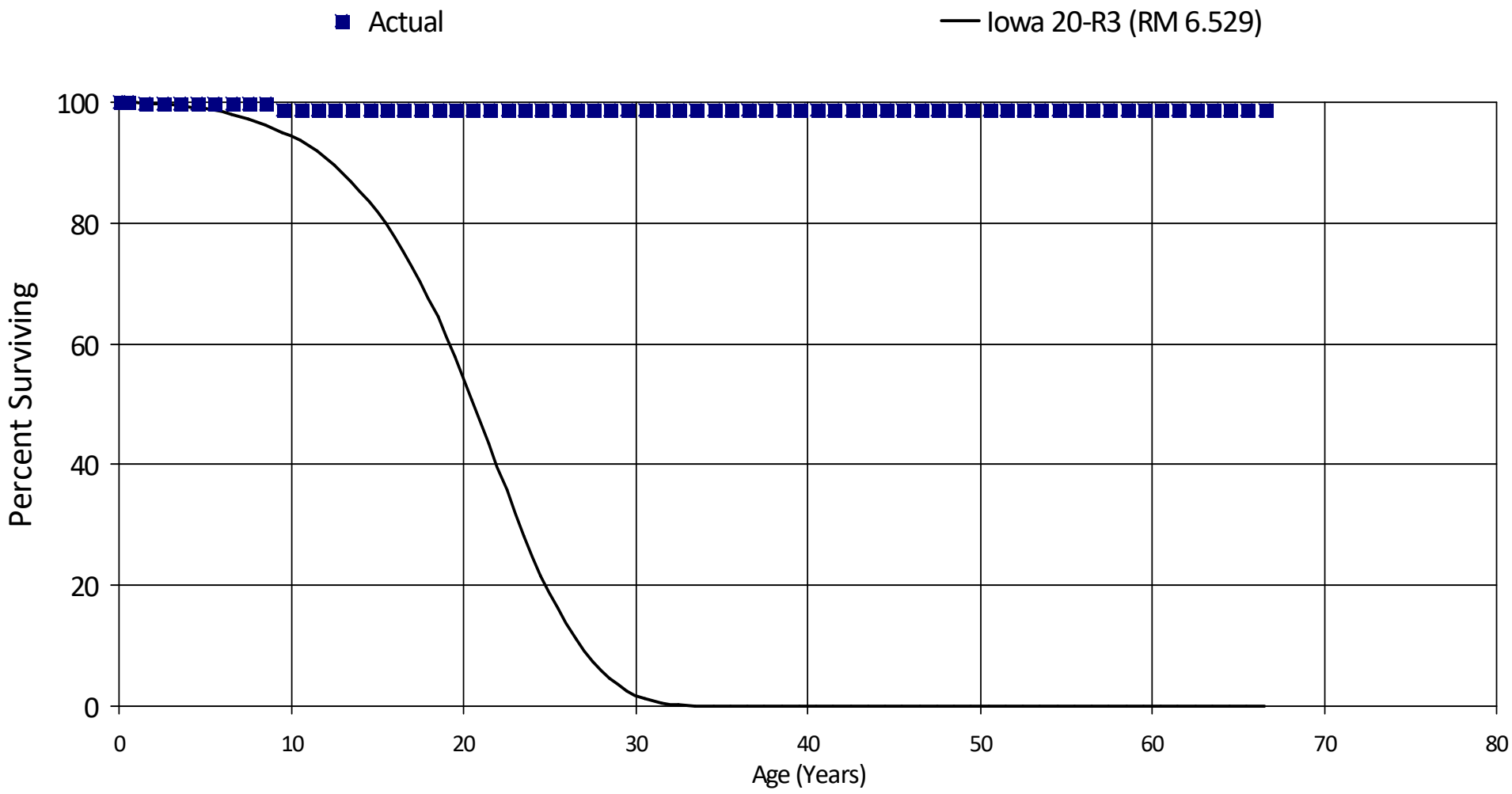
27.5	2,043,925	30,832	0.01508	0.98492	95.87
28.5	4,181	0	0.00000	1.00000	94.42
29.5	4,181	0	0.00000	1.00000	94.42
30.5	4,181	0	0.00000	1.00000	94.42
31.5	4,181	0	0.00000	1.00000	94.42
32.5	4,181	0	0.00000	1.00000	94.42
33.5	4,181	4,181	1.00011	-0.00011	94.42
34.5	0	0	0.00000	0.00000	-0.01
	Totals:	182,183			

New Jersey - American Water Company

Account 339.500 - Other P/E - T&D

Placement Band - 1955 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 339.500 - Other P/E - T&D

Placement Band - 1955 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	598,302	0	0.00000	1.00000	100.00
0.5	598,302	1,094	0.00183	0.99817	100.00
1.5	597,208	0	0.00000	1.00000	99.82
2.5	545,086	0	0.00000	1.00000	99.82
3.5	540,458	0	0.00000	1.00000	99.82
4.5	92,053	0	0.00000	1.00000	99.82
5.5	92,053	0	0.00000	1.00000	99.82
6.5	92,053	0	0.00000	1.00000	99.82
7.5	78,006	0	0.00000	1.00000	99.82
8.5	67,061	750	0.01118	0.98882	99.82
9.5	29,456	0	0.00000	1.00000	98.70
10.5	16,604	0	0.00000	1.00000	98.70
11.5	16,604	0	0.00000	1.00000	98.70
12.5	16,595	0	0.00000	1.00000	98.70
13.5	16,595	0	0.00000	1.00000	98.70
14.5	16,595	0	0.00000	1.00000	98.70
15.5	16,595	0	0.00000	1.00000	98.70
16.5	16,595	0	0.00000	1.00000	98.70
17.5	16,577	0	0.00000	1.00000	98.70
18.5	16,577	0	0.00000	1.00000	98.70
19.5	16,577	0	0.00000	1.00000	98.70
20.5	16,577	0	0.00000	1.00000	98.70
21.5	13,968	0	0.00000	1.00000	98.70
22.5	13,911	0	0.00000	1.00000	98.70
23.5	1,411	0	0.00000	1.00000	98.70
24.5	1,411	0	0.00000	1.00000	98.70
25.5	1,411	0	0.00000	1.00000	98.70
26.5	1,411	0	0.00000	1.00000	98.70

New Jersey - American Water Company

Account 339.500 - Other P/E - T&D

Placement Band - 1955 - 2022 Experience Band - 2008 - 2022

27.5	1,225	0	0.00000	1.00000	98.70
28.5	1,225	0	0.00000	1.00000	98.70
29.5	1,225	0	0.00000	1.00000	98.70
30.5	1,225	0	0.00000	1.00000	98.70
31.5	1,225	0	0.00000	1.00000	98.70
32.5	1,115	0	0.00000	1.00000	98.70
33.5	1,115	0	0.00000	1.00000	98.70
34.5	1,115	0	0.00000	1.00000	98.70
35.5	1,115	0	0.00000	1.00000	98.70
36.5	1,115	0	0.00000	1.00000	98.70
37.5	974	0	0.00000	1.00000	98.70
38.5	974	0	0.00000	1.00000	98.70
39.5	974	0	0.00000	1.00000	98.70
40.5	974	0	0.00000	1.00000	98.70
41.5	974	0	0.00000	1.00000	98.70
42.5	864	0	0.00000	1.00000	98.70
43.5	864	0	0.00000	1.00000	98.70
44.5	864	0	0.00000	1.00000	98.70
45.5	864	0	0.00000	1.00000	98.70
46.5	864	0	0.00000	1.00000	98.70
47.5	713	0	0.00000	1.00000	98.70
48.5	713	0	0.00000	1.00000	98.70
49.5	713	0	0.00000	1.00000	98.70
50.5	713	0	0.00000	1.00000	98.70
51.5	713	0	0.00000	1.00000	98.70
52.5	558	0	0.00000	1.00000	98.70
53.5	558	0	0.00000	1.00000	98.70
54.5	558	0	0.00000	1.00000	98.70
55.5	558	0	0.00000	1.00000	98.70
56.5	558	0	0.00000	1.00000	98.70
57.5	349	0	0.00000	1.00000	98.70

New Jersey - American Water Company

Account 339.500 - Other P/E - T&D

Placement Band - 1955 - 2022 Experience Band - 2008 - 2022

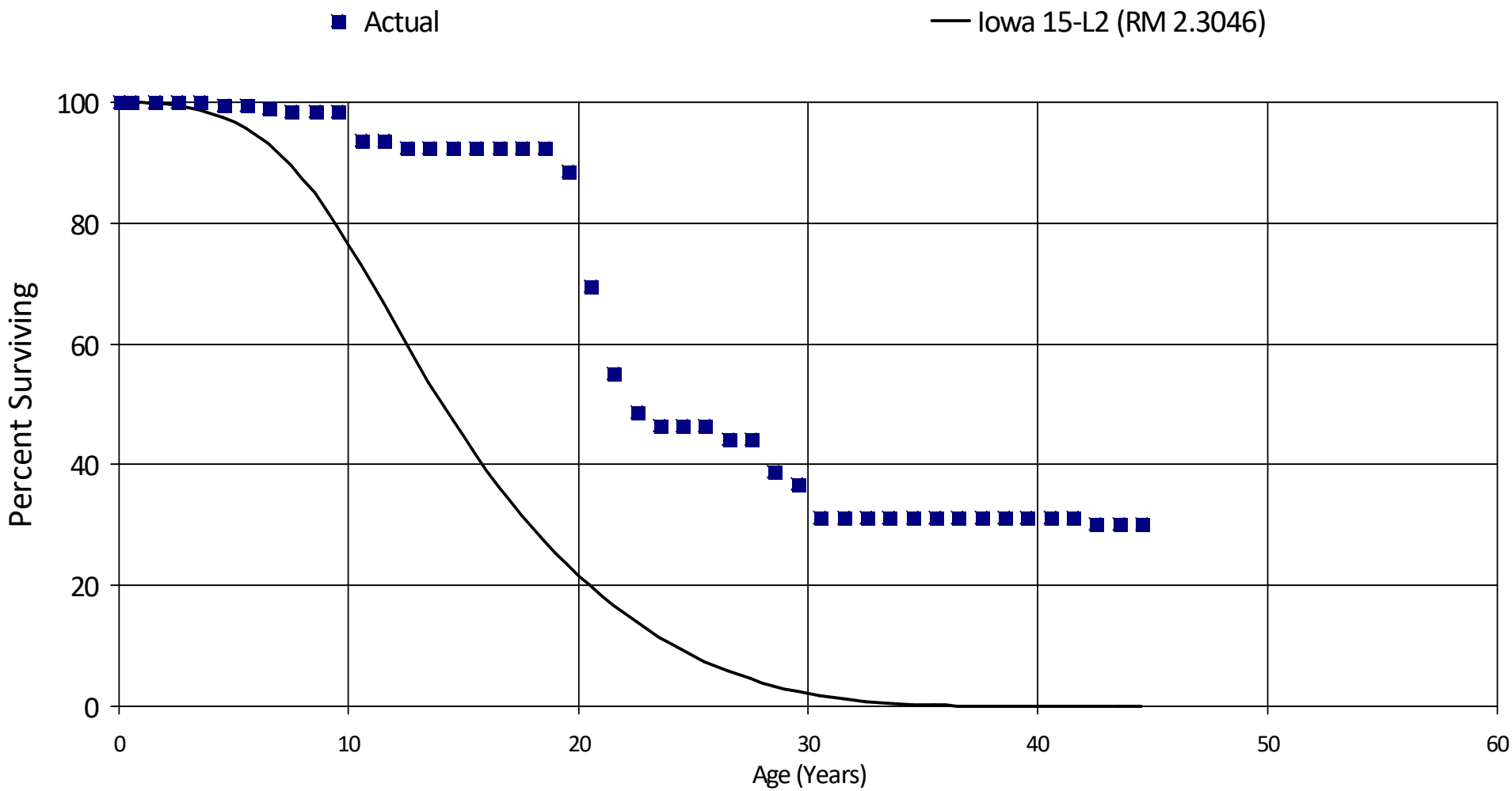
58.5	349	0	0.00000	1.00000	98.70
59.5	349	0	0.00000	1.00000	98.70
60.5	349	0	0.00000	1.00000	98.70
61.5	349	0	0.00000	1.00000	98.70
62.5	180	0	0.00000	1.00000	98.70
63.5	180	0	0.00000	1.00000	98.70
64.5	180	0	0.00000	1.00000	98.70
65.5	180	0	0.00000	1.00000	98.70
66.5	180	0	0.00000	1.00000	98.70
	Totals:	1,844			

New Jersey - American Water Company

Account 341.001 - Transportation Equipment - Not Classified

Placement Band - 1967 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 341.001 - Transportation Equipment - Not Classified

Placement Band - 1967 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	5,099,896	0	0.00000	1.00000	100.00
0.5	3,414,138	0	0.00000	1.00000	100.00
1.5	2,004,036	0	0.00000	1.00000	100.00
2.5	2,004,036	0	0.00000	1.00000	100.00
3.5	2,004,036	12,525	0.00625	0.99375	100.00
4.5	1,919,566	0	0.00000	1.00000	99.38
5.5	1,919,566	10,013	0.00522	0.99478	99.38
6.5	1,894,930	8,132	0.00429	0.99571	98.86
7.5	1,859,337	0	0.00000	1.00000	98.44
8.5	1,711,043	0	0.00000	1.00000	98.44
9.5	1,700,519	84,846	0.04989	0.95011	98.44
10.5	1,576,524	0	0.00000	1.00000	93.53
11.5	1,568,173	19,427	0.01239	0.98761	93.53
12.5	1,444,774	0	0.00000	1.00000	92.37
13.5	1,433,248	0	0.00000	1.00000	92.37
14.5	1,427,310	0	0.00000	1.00000	92.37
15.5	1,427,310	0	0.00000	1.00000	92.37
16.5	1,192,216	0	0.00000	1.00000	92.37
17.5	1,192,216	0	0.00000	1.00000	92.37
18.5	1,192,216	47,924	0.04020	0.95980	92.37
19.5	1,062,596	227,860	0.21444	0.78556	88.66
20.5	791,628	164,489	0.20779	0.79221	69.65
21.5	566,530	66,037	0.11656	0.88344	55.18
22.5	308,867	15,000	0.04856	0.95144	48.75
23.5	179,878	0	0.00000	1.00000	46.38
24.5	179,878	0	0.00000	1.00000	46.38
25.5	175,014	8,153	0.04658	0.95342	46.38
26.5	129,508	0	0.00000	1.00000	44.22

New Jersey - American Water Company

Account 341.001 - Transportation Equipment - Not Classified

Placement Band - 1967 - 2022 Experience Band - 2009 - 2022

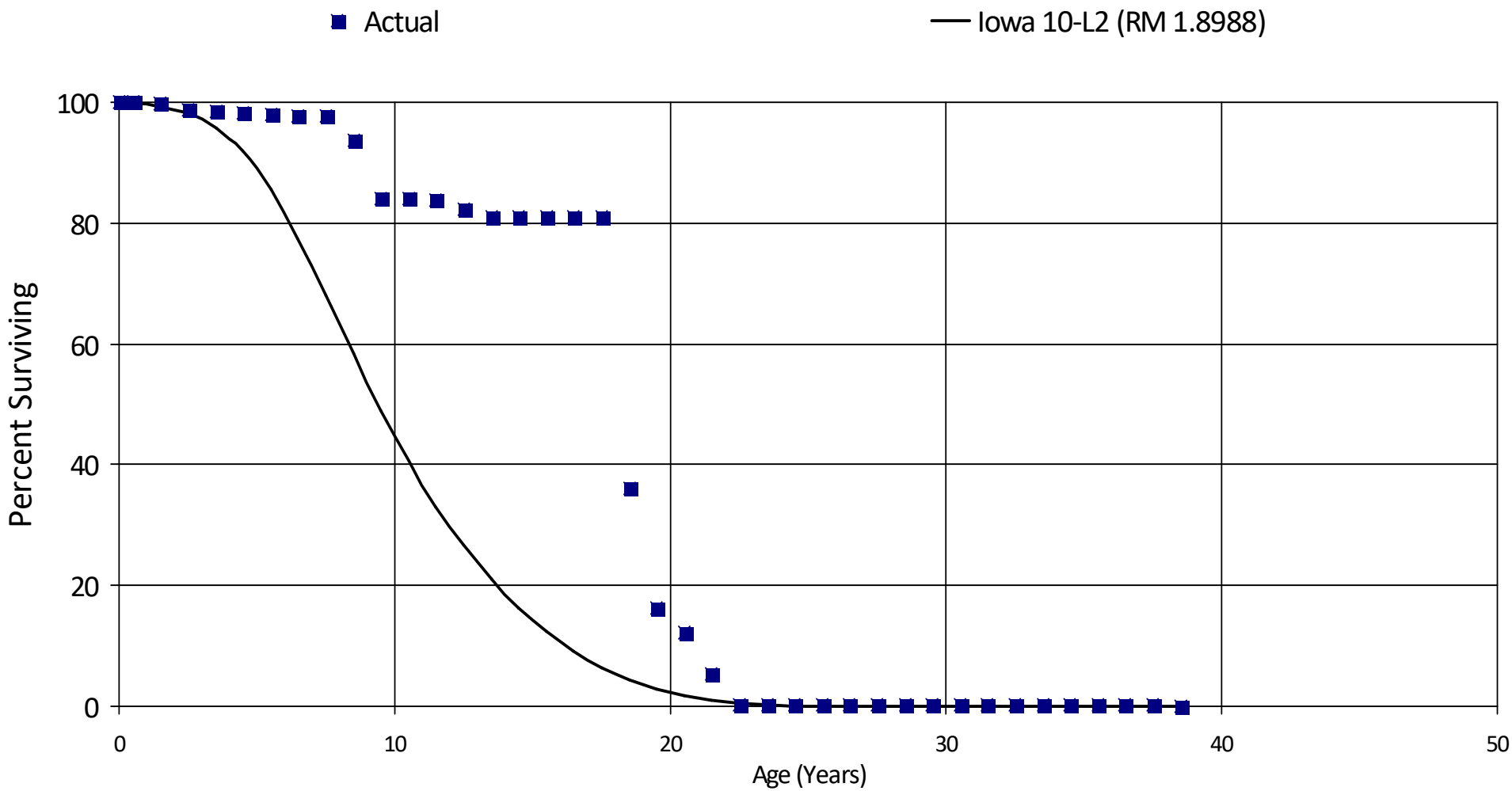
27.5	124,554	14,937	0.11992	0.88008	44.22
28.5	109,303	5,866	0.05367	0.94633	38.92
29.5	103,437	15,582	0.15064	0.84936	36.83
30.5	87,855	0	0.00000	1.00000	31.28
31.5	87,855	0	0.00000	1.00000	31.28
32.5	81,696	0	0.00000	1.00000	31.28
33.5	81,696	0	0.00000	1.00000	31.28
34.5	81,696	0	0.00000	1.00000	31.28
35.5	77,240	0	0.00000	1.00000	31.28
36.5	77,240	0	0.00000	1.00000	31.28
37.5	77,107	0	0.00000	1.00000	31.28
38.5	33,772	0	0.00000	1.00000	31.28
39.5	33,772	0	0.00000	1.00000	31.28
40.5	33,772	0	0.00000	1.00000	31.28
41.5	33,772	1,250	0.03701	0.96299	31.28
42.5	32,522	0	0.00000	1.00000	30.12
43.5	32,522	0	0.00000	1.00000	30.12
44.5	0	0	0.00000	0.00000	30.12
	Totals:	702,041			

New Jersey - American Water Company

Account 341.100 - Transportation Equipment - Light Duty Trucks

Placement Band - 1971 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 341.100 - Transportation Equipment - Light Duty Trucks

Placement Band - 1971 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	19,949,421	0	0.00000	1.00000	100.00
0.5	19,706,620	25,375	0.00129	0.99871	100.00
1.5	13,524,739	158,081	0.01169	0.98831	99.87
2.5	11,469,120	23,611	0.00206	0.99794	98.70
3.5	11,377,682	29,747	0.00261	0.99739	98.50
4.5	9,028,938	25,207	0.00279	0.99721	98.24
5.5	6,538,799	13,042	0.00199	0.99801	97.97
6.5	5,411,346	0	0.00000	1.00000	97.78
7.5	4,766,892	198,993	0.04174	0.95826	97.78
8.5	1,074,506	110,277	0.10263	0.89737	93.70
9.5	964,230	0	0.00000	1.00000	84.08
10.5	731,446	3,795	0.00519	0.99481	84.08
11.5	727,651	11,508	0.01582	0.98418	83.64
12.5	716,142	11,508	0.01607	0.98393	82.32
13.5	704,634	0	0.00000	1.00000	81.00
14.5	704,634	0	0.00000	1.00000	81.00
15.5	704,634	0	0.00000	1.00000	81.00
16.5	704,634	0	0.00000	1.00000	81.00
17.5	704,634	391,398	0.55546	0.44454	81.00
18.5	313,237	172,086	0.54938	0.45062	36.01
19.5	141,151	35,921	0.25449	0.74551	16.23
20.5	105,230	58,767	0.55846	0.44154	12.10
21.5	46,463	44,470	0.95711	0.04289	5.34
22.5	1,993	0	0.00000	1.00000	0.23
23.5	1,993	0	0.00000	1.00000	0.23
24.5	1,993	0	0.00000	1.00000	0.23
25.5	1,993	0	0.00000	1.00000	0.23
26.5	1,993	0	0.00000	1.00000	0.23

New Jersey - American Water Company

Account 341.100 - Transportation Equipment - Light Duty Trucks

Placement Band - 1971 - 2022 Experience Band - 2009 - 2022

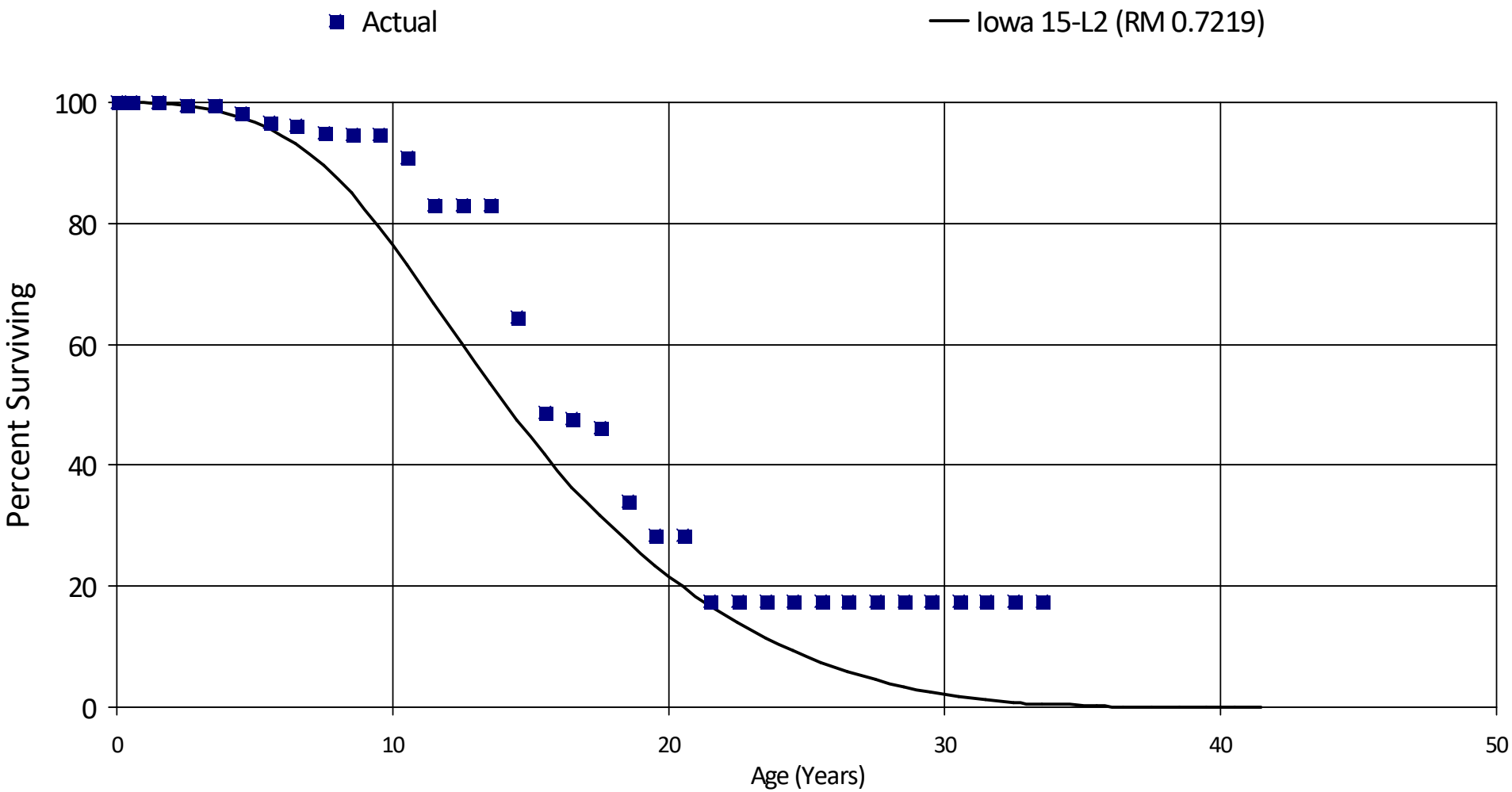
27.5	1,993	0	0.00000	1.00000	0.23
28.5	1,993	0	0.00000	1.00000	0.23
29.5	1,993	0	0.00000	1.00000	0.23
30.5	1,993	255	0.12796	0.87204	0.23
31.5	1,738	0	0.00000	1.00000	0.20
32.5	1,738	0	0.00000	1.00000	0.20
33.5	1,738	0	0.00000	1.00000	0.20
34.5	1,738	0	0.00000	1.00000	0.20
35.5	1,738	0	0.00000	1.00000	0.20
36.5	1,738	0	0.00000	1.00000	0.20
37.5	1,738	1,738	0.99981	0.00019	0.20
38.5	0	0	0.00000	0.00000	0.00
	Totals:	1,315,779			

New Jersey - American Water Company

Account 341.200 - Transportation Equipment - Heavy Duty Trucks

Placement Band - 1988 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 341.200 - Transportation Equipment - Heavy Duty Trucks

Placement Band - 1988 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	25,297,147	0	0.00000	1.00000	100.00
0.5	24,209,100	0	0.00000	1.00000	100.00
1.5	22,430,759	111,854	0.00499	0.99501	100.00
2.5	19,398,803	0	0.00000	1.00000	99.50
3.5	16,721,739	213,302	0.01276	0.98724	99.50
4.5	14,469,954	232,212	0.01605	0.98395	98.23
5.5	13,913,769	71,955	0.00517	0.99483	96.65
6.5	12,161,589	142,128	0.01169	0.98831	96.15
7.5	9,775,837	26,797	0.00274	0.99726	95.03
8.5	6,916,892	13,179	0.00191	0.99809	94.77
9.5	6,903,712	263,983	0.03824	0.96176	94.59
10.5	4,122,256	355,691	0.08629	0.91371	90.97
11.5	3,764,321	0	0.00000	1.00000	83.12
12.5	1,410,372	0	0.00000	1.00000	83.12
13.5	1,410,372	318,210	0.22562	0.77438	83.12
14.5	799,437	193,958	0.24262	0.75738	64.37
15.5	605,479	12,954	0.02139	0.97861	48.75
16.5	592,525	18,121	0.03058	0.96942	47.71
17.5	574,404	151,708	0.26411	0.73589	46.25
18.5	422,696	68,416	0.16186	0.83814	34.03
19.5	300,846	0	0.00000	1.00000	28.52
20.5	152,837	58,764	0.38449	0.61551	28.52
21.5	41,430	0	0.00000	1.00000	17.55
22.5	41,430	0	0.00000	1.00000	17.55
23.5	41,430	0	0.00000	1.00000	17.55
24.5	41,430	0	0.00000	1.00000	17.55
25.5	41,430	0	0.00000	1.00000	17.55
26.5	41,430	0	0.00000	1.00000	17.55

New Jersey - American Water Company

Account 341.200 - Transportation Equipment - Heavy Duty Trucks

Placement Band - 1988 - 2022 Experience Band - 2009 - 2022

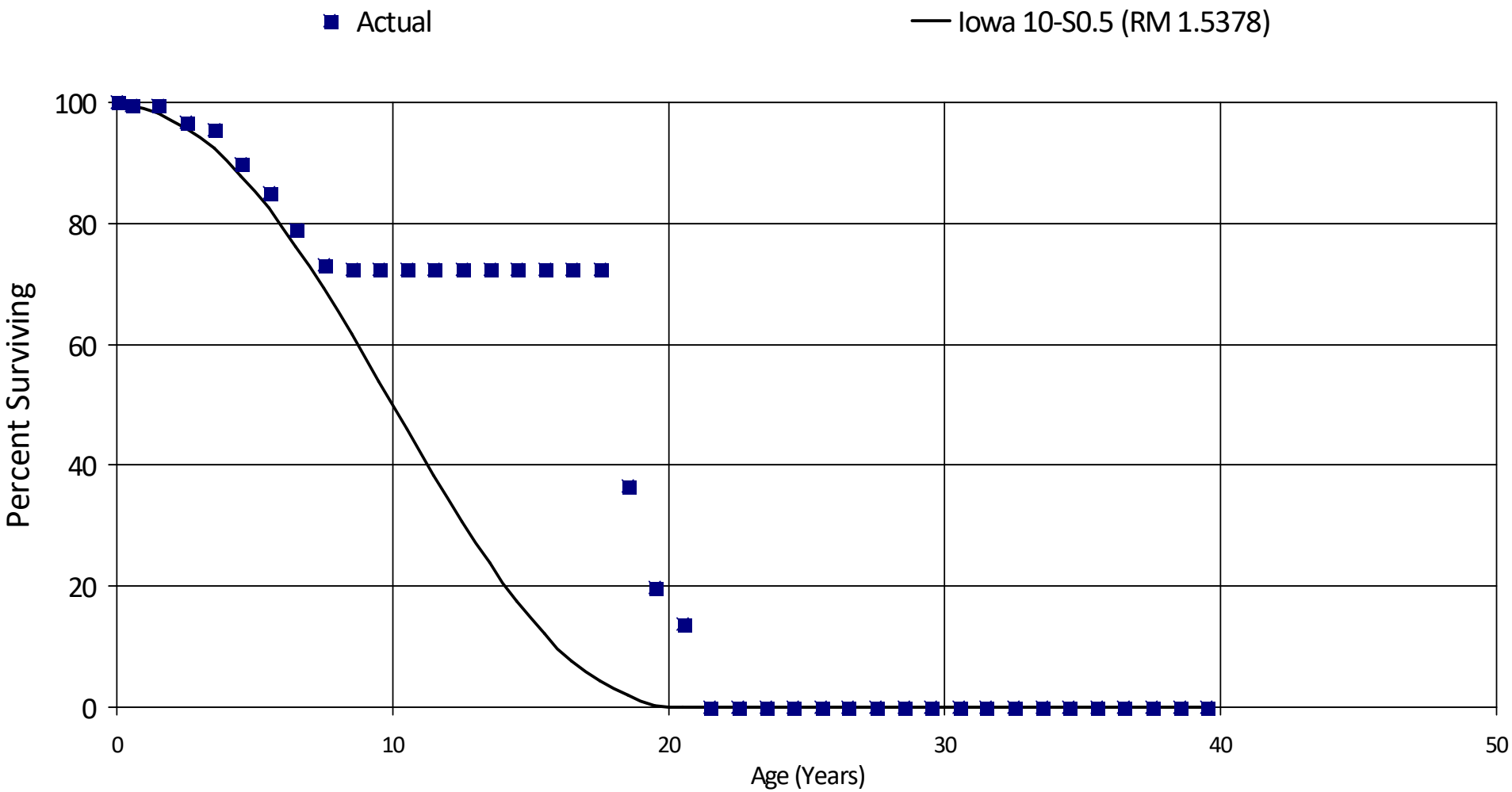
27.5	41,430	0	0.00000	1.00000	17.55
28.5	41,430	0	0.00000	1.00000	17.55
29.5	41,430	0	0.00000	1.00000	17.55
30.5	41,430	0	0.00000	1.00000	17.55
31.5	41,430	0	0.00000	1.00000	17.55
32.5	41,430	0	0.00000	1.00000	17.55
33.5	41,430	0	0.00000	1.00000	17.55
	Totals:	2,253,232			

New Jersey - American Water Company

Account 341.300 - Transportation Equipment - Autos

Placement Band - 1973 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 341.300 - Transportation Equipment - Autos

Placement Band - 1973 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	5,690,107	26,613	0.00468	0.99532	100.00
0.5	4,303,196	6,553	0.00152	0.99848	99.53
1.5	3,416,191	93,631	0.02741	0.97259	99.38
2.5	3,322,560	38,523	0.01159	0.98841	96.66
3.5	3,284,037	191,914	0.05844	0.94156	95.54
4.5	3,092,123	167,277	0.05410	0.94590	89.96
5.5	2,924,847	208,413	0.07126	0.92874	85.09
6.5	2,716,434	204,041	0.07511	0.92489	79.03
7.5	2,512,393	24,238	0.00965	0.99035	73.09
8.5	2,421,246	0	0.00000	1.00000	72.38
9.5	2,421,246	1,280	0.00053	0.99947	72.38
10.5	1,536,545	0	0.00000	1.00000	72.34
11.5	1,536,545	853	0.00056	0.99944	72.34
12.5	141,201	0	0.00000	1.00000	72.30
13.5	141,201	0	0.00000	1.00000	72.30
14.5	131,247	0	0.00000	1.00000	72.30
15.5	131,247	0	0.00000	1.00000	72.30
16.5	131,247	0	0.00000	1.00000	72.30
17.5	131,247	64,918	0.49463	0.50537	72.30
18.5	66,329	30,434	0.45883	0.54117	36.54
19.5	35,895	10,836	0.30188	0.69812	19.77
20.5	25,059	25,059	0.99999	0.00001	13.80
21.5	0	0	0.00000	1.00000	0.00
22.5	0	0	0.00000	1.00000	0.00
23.5	0	0	0.00000	1.00000	0.00
24.5	0	0	0.00000	1.00000	0.00
25.5	0	0	0.00000	1.00000	0.00
26.5	0	0	0.00000	1.00000	0.00

New Jersey - American Water Company

Account 341.300 - Transportation Equipment - Autos

Placement Band - 1973 - 2022 Experience Band - 2009 - 2022

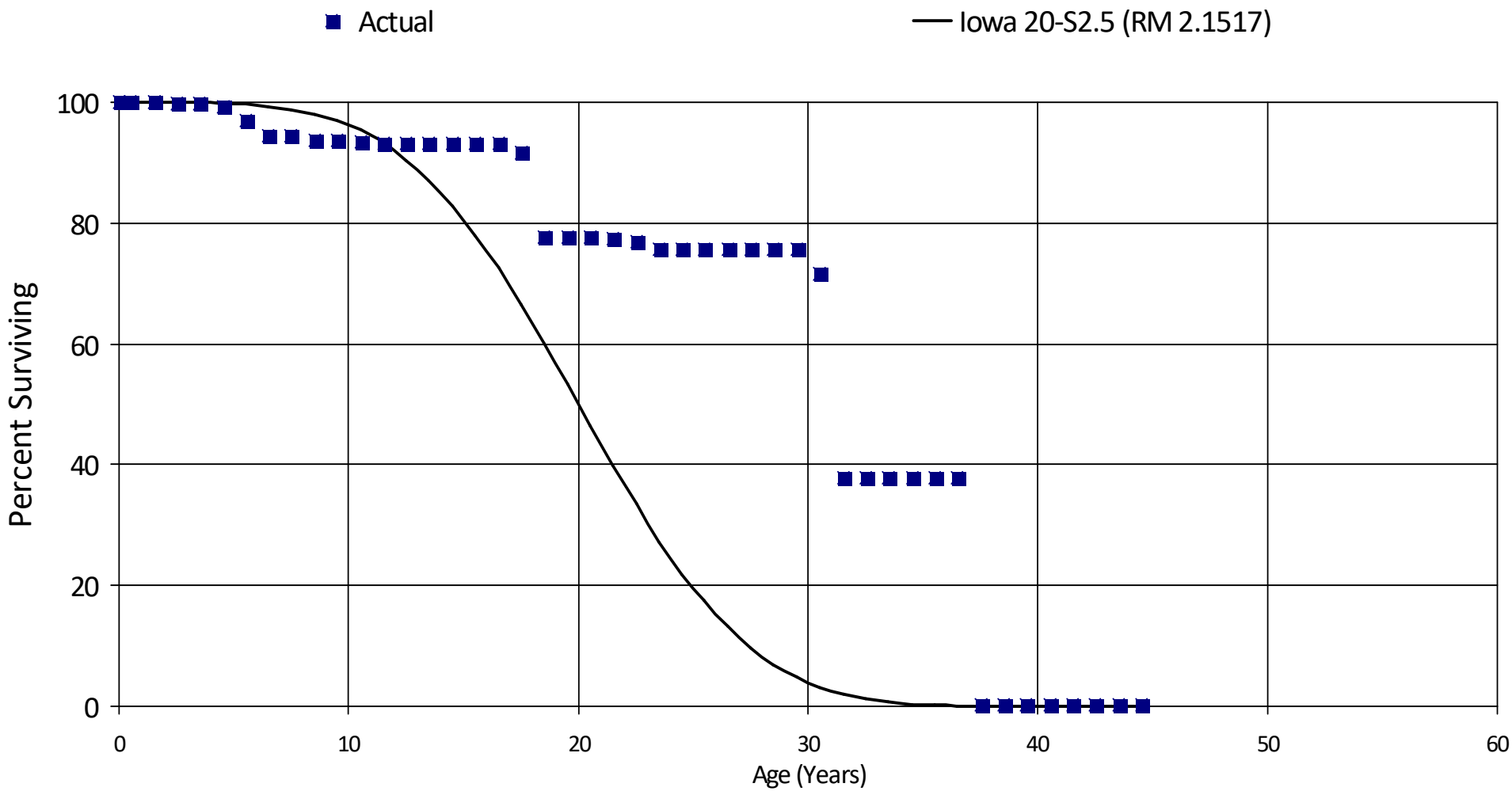
27.5	0	0	0.00000	1.00000	0.00
28.5	0	0	0.00000	1.00000	0.00
29.5	0	0	0.00000	1.00000	0.00
30.5	0	0	0.00000	1.00000	0.00
31.5	0	0	0.00000	1.00000	0.00
32.5	0	0	0.00000	1.00000	0.00
33.5	0	0	0.00000	1.00000	0.00
34.5	0	0	0.00000	1.00000	0.00
35.5	0	0	0.00000	1.00000	0.00
36.5	0	0	0.00000	1.00000	0.00
37.5	0	0	0.00000	1.00000	0.00
38.5	0	0	0.00000	1.00000	0.00
39.5	0	0	0.00000	0.00000	0.00
	Totals:	1,094,583			

New Jersey - American Water Company

Account 341.400 - Transportation Equipment - Other

Placement Band - 1972 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 341.400 - Transportation Equipment - Other

Placement Band - 1972 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	8,338,432	0	0.00000	1.00000	100.00
0.5	8,338,432	0	0.00000	1.00000	100.00
1.5	7,551,054	11,885	0.00157	0.99843	100.00
2.5	7,051,041	0	0.00000	1.00000	99.84
3.5	6,942,678	47,345	0.00682	0.99318	99.84
4.5	5,702,743	127,851	0.02242	0.97758	99.16
5.5	4,593,190	124,607	0.02713	0.97287	96.94
6.5	4,130,627	0	0.00000	1.00000	94.31
7.5	2,509,035	20,476	0.00816	0.99184	94.31
8.5	2,453,559	0	0.00000	1.00000	93.54
9.5	2,162,727	1,706	0.00079	0.99921	93.54
10.5	1,784,158	3,828	0.00215	0.99785	93.47
11.5	1,581,808	0	0.00000	1.00000	93.27
12.5	668,262	0	0.00000	1.00000	93.27
13.5	668,262	694	0.00104	0.99896	93.27
14.5	524,854	0	0.00000	1.00000	93.17
15.5	371,513	0	0.00000	1.00000	93.17
16.5	350,297	5,564	0.01588	0.98412	93.17
17.5	344,733	52,791	0.15314	0.84686	91.69
18.5	242,886	0	0.00000	1.00000	77.65
19.5	242,886	0	0.00000	1.00000	77.65
20.5	174,071	450	0.00259	0.99741	77.65
21.5	99,086	696	0.00702	0.99298	77.45
22.5	98,389	1,572	0.01598	0.98402	76.91
23.5	96,817	0	0.00000	1.00000	75.68
24.5	96,817	0	0.00000	1.00000	75.68
25.5	96,817	0	0.00000	1.00000	75.68
26.5	96,817	0	0.00000	1.00000	75.68

New Jersey - American Water Company

Account 341.400 - Transportation Equipment - Other

Placement Band - 1972 - 2022 Experience Band - 2009 - 2022

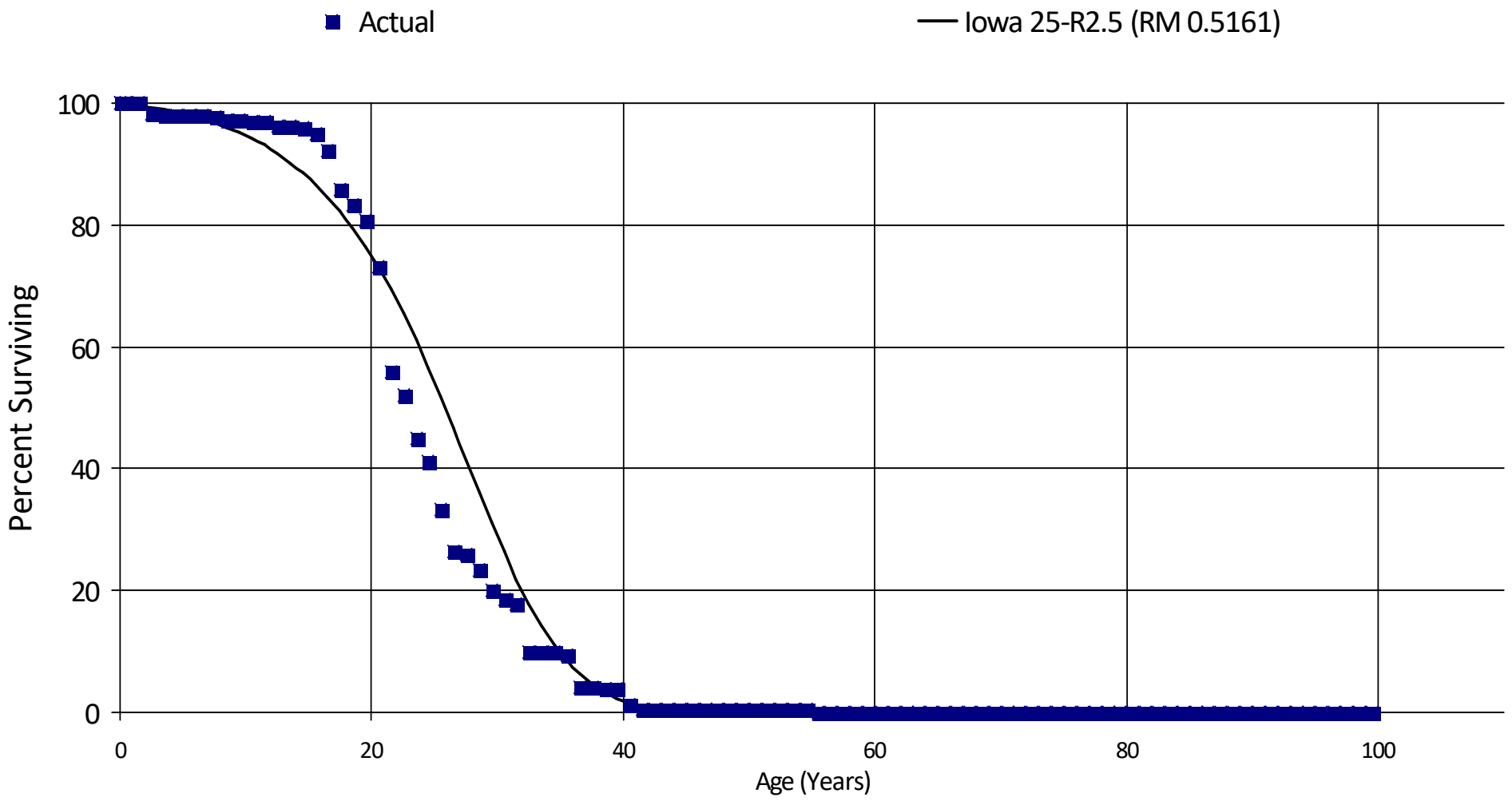
27.5	96,817	0	0.00000	1.00000	75.68
28.5	95,369	0	0.00000	1.00000	75.68
29.5	20,602	1,109	0.05383	0.94617	75.68
30.5	17,515	8,272	0.47228	0.52772	71.61
31.5	9,243	0	0.00000	1.00000	37.79
32.5	9,243	0	0.00000	1.00000	37.79
33.5	9,243	0	0.00000	1.00000	37.79
34.5	9,243	0	0.00000	1.00000	37.79
35.5	8,089	0	0.00000	1.00000	37.79
36.5	8,089	8,054	0.99573	0.00427	37.79
37.5	35	0	0.00000	1.00000	0.16
38.5	35	0	0.00000	1.00000	0.16
39.5	35	0	0.00000	1.00000	0.16
40.5	35	0	0.00000	1.00000	0.16
41.5	35	0	0.00000	1.00000	0.16
42.5	35	0	0.00000	1.00000	0.16
43.5	35	0	0.00000	1.00000	0.16
44.5	0	0	0.00000	0.00000	0.16
	Totals:	416,900			

New Jersey - American Water Company

Account 345.000 - Power Operated Equipment

Placement Band - 1910 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 345.000 - Power Operated Equipment

Placement Band - 1910 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	4,773,868	0	0.00000	1.00000	100.00
0.5	4,638,615	0	0.00000	1.00000	100.00
1.5	4,628,011	77,284	0.01670	0.98330	100.00
2.5	4,520,945	17,130	0.00379	0.99621	98.33
3.5	4,269,178	0	0.00000	1.00000	97.96
4.5	4,232,719	0	0.00000	1.00000	97.96
5.5	4,219,943	3,549	0.00084	0.99916	97.96
6.5	4,068,720	4,368	0.00107	0.99893	97.88
7.5	4,032,955	23,844	0.00591	0.99409	97.78
8.5	4,009,112	3,996	0.00100	0.99900	97.20
9.5	3,864,908	5,450	0.00141	0.99859	97.10
10.5	3,857,655	741	0.00019	0.99981	96.96
11.5	3,549,183	30,108	0.00848	0.99152	96.94
12.5	3,516,667	0	0.00000	1.00000	96.12
13.5	2,176,713	2,015	0.00093	0.99907	96.12
14.5	2,063,717	24,712	0.01197	0.98803	96.03
15.5	1,971,300	56,150	0.02848	0.97152	94.88
16.5	1,822,540	128,009	0.07024	0.92976	92.18
17.5	1,694,531	48,897	0.02886	0.97114	85.71
18.5	1,615,596	49,580	0.03069	0.96931	83.24
19.5	1,553,441	147,672	0.09506	0.90494	80.69
20.5	1,384,515	327,388	0.23646	0.76354	73.02
21.5	1,057,127	71,346	0.06749	0.93251	55.75
22.5	985,781	135,430	0.13738	0.86262	51.99
23.5	850,351	70,215	0.08257	0.91743	44.85
24.5	780,136	148,524	0.19038	0.80962	41.15
25.5	631,611	129,976	0.20578	0.79422	33.32
26.5	501,635	9,827	0.01959	0.98041	26.46

New Jersey - American Water Company

Account 345.000 - Power Operated Equipment

Placement Band - 1910 - 2022 Experience Band - 2008 - 2022

27.5	491,808	49,849	0.10136	0.89864	25.94
28.5	441,959	60,915	0.13783	0.86217	23.31
29.5	381,045	31,668	0.08311	0.91689	20.10
30.5	349,377	14,147	0.04049	0.95951	18.43
31.5	335,230	149,139	0.44489	0.55511	17.68
32.5	186,091	0	0.00000	1.00000	9.81
33.5	186,091	0	0.00000	1.00000	9.81
34.5	186,091	5,598	0.03008	0.96992	9.81
35.5	180,492	104,334	0.57805	0.42195	9.51
36.5	76,158	0	0.00000	1.00000	4.01
37.5	76,158	3,339	0.04384	0.95616	4.01
38.5	72,819	307	0.00422	0.99578	3.83
39.5	72,512	49,089	0.67698	0.32302	3.81
40.5	23,423	13,600	0.58062	0.41938	1.23
41.5	9,824	0	0.00000	1.00000	0.52
42.5	9,824	0	0.00000	1.00000	0.52
43.5	9,824	0	0.00000	1.00000	0.52
44.5	9,824	0	0.00000	1.00000	0.52
45.5	9,824	1,003	0.10210	0.89790	0.52
46.5	8,821	0	0.00000	1.00000	0.47
47.5	8,821	227	0.02573	0.97427	0.47
48.5	8,594	0	0.00000	1.00000	0.46
49.5	8,594	0	0.00000	1.00000	0.46
50.5	8,594	0	0.00000	1.00000	0.46
51.5	8,594	471	0.05481	0.94519	0.46
52.5	8,122	0	0.00000	1.00000	0.43
53.5	8,122	0	0.00000	1.00000	0.43
54.5	8,122	6,698	0.82464	0.17536	0.43
55.5	1,425	0	0.00000	1.00000	0.08
56.5	1,425	0	0.00000	1.00000	0.08
57.5	1,425	0	0.00000	1.00000	0.08

New Jersey - American Water Company

Account 345.000 - Power Operated Equipment

Placement Band - 1910 - 2022 Experience Band - 2008 - 2022

58.5	1,425	0	0.00000	1.00000	0.08
59.5	1,425	0	0.00000	1.00000	0.08
60.5	1,425	0	0.00000	1.00000	0.08
61.5	1,425	0	0.00000	1.00000	0.08
62.5	1,425	0	0.00000	1.00000	0.08
63.5	1,425	0	0.00000	1.00000	0.08
64.5	1,425	0	0.00000	1.00000	0.08
65.5	1,425	0	0.00000	1.00000	0.08
66.5	1,425	0	0.00000	1.00000	0.08
67.5	1,425	0	0.00000	1.00000	0.08
68.5	1,425	0	0.00000	1.00000	0.08
69.5	1,425	0	0.00000	1.00000	0.08
70.5	1,425	0	0.00000	1.00000	0.08
71.5	1,425	0	0.00000	1.00000	0.08
72.5	1,425	0	0.00000	1.00000	0.08
73.5	1,425	0	0.00000	1.00000	0.08
74.5	1,425	0	0.00000	1.00000	0.08
75.5	1,425	0	0.00000	1.00000	0.08
76.5	1,425	0	0.00000	1.00000	0.08
77.5	1,425	0	0.00000	1.00000	0.08
78.5	1,425	0	0.00000	1.00000	0.08
79.5	1,425	0	0.00000	1.00000	0.08
80.5	1,425	0	0.00000	1.00000	0.08
81.5	1,425	0	0.00000	1.00000	0.08
82.5	1,425	0	0.00000	1.00000	0.08
83.5	1,425	0	0.00000	1.00000	0.08
84.5	1,425	0	0.00000	1.00000	0.08
85.5	1,425	0	0.00000	1.00000	0.08
86.5	1,425	0	0.00000	1.00000	0.08
87.5	1,425	0	0.00000	1.00000	0.08
88.5	1,425	0	0.00000	1.00000	0.08

New Jersey - American Water Company

Account 345.000 - Power Operated Equipment

Placement Band - 1910 - 2022 Experience Band - 2008 - 2022

89.5	1,425	0	0.00000	1.00000	0.08
90.5	1,425	0	0.00000	1.00000	0.08
91.5	1,425	0	0.00000	1.00000	0.08
92.5	1,425	0	0.00000	1.00000	0.08
93.5	1,425	0	0.00000	1.00000	0.08
94.5	1,425	0	0.00000	1.00000	0.08
95.5	1,425	0	0.00000	1.00000	0.08
96.5	1,425	0	0.00000	1.00000	0.08
97.5	1,425	0	0.00000	1.00000	0.08
98.5	1,425	1,425	1.00027	-0.00027	0.08
99.5	0	0	0.00000	0.00000	0.00
	Totals:	2,008,020			

SECTION 7

7 NET SALVAGE STUDY

New Jersey - American Water Company

ACCOUNT 304.1 - SOURCE OF SUPPLY

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	60,652	219,242	361		0	(219,242)	-361					-219,242	-361
2018	778,124	298,860	38		0	(298,860)	-38					-259,051	-62
2019	104,934	241,728	230		0	(241,728)	-230	-253,277	-81			-253,277	-81
2020	5,919,099	864,880	15		0	(864,880)	-15	-468,489	-21			-406,178	-24
2021	50,086	204,594	408		0	(204,594)	-408	-437,067	-22	-365,861	-26	-365,861	-26
2022	205,457	589,078	287		0	(589,078)	-287	-552,851	-27	-439,828	-31	-403,064	-34
TOTAL	**7,118,351**	**2,418,383**	**33.97**	**0**	**0.00**	**-2,418,383**	**(33.97)**						
				5-Year Average:		-439,828	**Adjustment Factor**		1.25	**Normalized Net Salvage**		-549,785	

New Jersey - American Water Company
ACCOUNT 304.23 - POWER AND PUMPING
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2009	0		0		0	0	0						0
2010			0		0	0	0						0
2011			0		0	0	0	0	0				0
2012	11		0		0	0	0	0	0				0
2013			0		0	0	0	0	0	0	0		0
2014	0		0		0	0	0	0	0	0	0		0
2015	1,036,488		0		0	0	0	0	0	0	0		0
2016	431,297		0		0	0	0	0	0	0	0		0
2017	675,179	540,119	80		0	(540,119)	-80	-180,040	-25	-108,024	-25	-540,119	-25
2018	2,169,077	1,128,745	52		0	(1,128,745)	-52	-556,288	-51	-333,773	-39	-834,432	-39
2019	12,980	57,112	440		0	(57,112)	-440	-575,325	-60	-345,195	-40	-575,325	-40
2020	1,203,751	346,913	29		0	(346,913)	-29	-510,923	-45	-414,578	-46	-518,222	-37
2021	366,650	60,313	16		0	(60,313)	-16	-154,779	-29	-426,640	-48	-426,640	-36
2022	868,757	83,323	10		0	(83,323)	-10	-163,516	-20	-335,281	-36	-369,421	-33
TOTAL	**6,764,189**	**2,216,525**	**32.77**	**0**	**0.00**	**-2,216,525**	**(32.77)**						
				5-Year Average:		-335,281	**Adjustment Factor**		1.25	**Normalized Net Salvage**		-419,101	

New Jersey - American Water Company
ACCOUNT 304.4 - TRANSMISSION AND DISTRIBUTION
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	64,496		0	0	0	0	0						0
2016	3,017		0	0	0	0	0						0
2017	130,085	71,361	55	0	0	(71,361)	-55	-23,787	-36				0
2018	139,595	98,876	71	0	0	(98,876)	-71	-56,746	-62			-85,118	-50
2019	264,505	122,038	46	0	0	(122,038)	-46	-97,425	-55	-58,455	-49	-97,425	-49
2020	59,744	1,935	3	0	0	(1,935)	-3	-74,283	-48	-58,842	-49	-73,552	-44
2021		16	0	0	0	(16)	0	-41,330	-38	-58,845	-50	-58,845	-44
2022	40,440	18,239	45	0	0	(18,239)	-45	-6,730	-20	-48,221	-48	-52,077	-45
TOTAL	**701,881**	**312,464**	**44.52**	**0**	**0.00**	**-312,464**	**(44.52)**						
				5-Year Average:		(48,221)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(60,276)	

New Jersey - American Water Company
ACCOUNT 304.5 - AG
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2011	1,675		0	0	0	0	0						0
2012			0	0	0	0	0						0
2013			0	0	0	0	0	0	0				0
2014	1,042,627		0	0	0	0	0	0	0				0
2015	839,330		0	0	0	0	0	0	0	0	0		0
2016	52,990		0	0	0	0	0	0	0	0	0		0
2017	31,432	109,597	349	0	0	(109,597)	-349	-36,532	-12	-21,919	-6	-109,597	-6
2018	955,907	15,439	2	0	0	(15,439)	-2	-41,678	-12	-25,007	-4	-62,518	-4
2019	9,701,867	347,647	4	0	0	(347,647)	-4	-157,561	-4	-94,536	-4	-157,561	-4
2020	169,951	209,488	123	0	0	(209,488)	-123	-227,390	-6	-136,434	-6	-170,543	-5
2021	69,531	94,596	136	0	0	(94,596)	-136	-258,922	-8	-155,353	-7	-155,353	-6
2022	71,969	543,596	755	0	0	(543,596)	-755	-440,121	-424	-242,153	-11	-220,060	-10
TOTAL	**12,937,279**	**1,320,363**	**10.21**	**0**	**0.00**	**-1,320,363**	**(10.21)**						
				5-Year Average:		(242,153)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(302,691)	

New Jersey - American Water Company
ACCOUNT 304.6 - OFFICE BUILDINGS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2011	1,946		0	0	0	0	0						0
2012	7,009		0	0	0	0	0						0
2013	28,894		0	0	0	0	0	0	0				0
2014			0	0	0	0	0	0	0				0
2015	447,550		0	0	0	0	0	0	0	0	0		0
2016	98,485		0	0	0	0	0	0	0	0	0		0
2017	31,928	234,187	733	0	0	(234,187)	-733	-78,062	-41	-46,837	-39	-234,187	-38
2018	1,477,274	27	0	-	0	(27)	0	-78,071	-15	-46,843	-11	-117,107	-11
2019	1,840,260	5,910	0	0	0	(5,910)	0	-80,041	-7	-48,025	-6	-80,041	-6
2020	1,490,089	41,053	3	0	0	(41,053)	-3	-15,663	-1	-56,235	-6	-70,294	-5
2021	8,031	9,023	112	0	0	(9,023)	-112	-18,662	-2	-58,040	-6	-58,040	-5
2022	143,940	265,942	185	0	0	(265,942)	-185	-105,340	-19	-64,391	-6	-92,691	-10
TOTAL	**5,575,405**	**556,143**	**9.97**	**0**	**0.00**	**-556,143**	**(9.97)**						
				5-Year Average:		(64,391)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(80,489)	

New Jersey - American Water Company
ACCOUNT 304.61 - HVAC
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2019		4,255			0	(4,255)	0					-4,255	
2020		1,721			0	(1,721)	0					-2,988	
2021		32,794			0	(32,794)	0	-12,923				-12,923	
2022	(3,734)		0	0	0	0	0	-11,505	924			-12,923	1,038
TOTAL	**(3,734)**	**38,770**	**(1038.31)**	**0**	**0.00**	**-38,770**	**1038.31**						
				5-Year Average:		(7,754)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(9,693)	

New Jersey - American Water Company
ACCOUNT 304.7 - SHOP AND GARAGE
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	43,982		0	0	0	0	0						0
2016	35,084		0	0	0	0	0						0
2017	50	29,873	60,252	0	0	(29,873)	-60,252	-9,958	-38			-29,873	-38
2018	70,165	29,215	42	0	0	(29,215)	-42	-19,696	-56			-29,544	-40
2019	303	(130)	(43)	0	0	130	43	-19,653	-84	-11,792	-39	-19,653	-39
2020			0	0	0	0	0	-9,695	-41	-11,792	-56	-19,653	-39
2021	1,186		0	0	0	0	0	43	9	-11,792	-82	-19,653	-39
2022	11,399		0	0	0	0	0	0	0	-5,817	-35	-19,653	-36
TOTAL	**162,170**	**58,958**	**36.36**	**0**	**0.00**	**-58,958**	**(36.36)**						
				5-Year Average:		(5,817)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(7,271)	

New Jersey - American Water Company
ACCOUNT 304.8 - MISCELLANEOUS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	290,406		0	0	0	0	0						0
2016	2,903		0	0	0	0	0						0
2017	373	65,925	17,670	0	0	(65,925)	-17,670	-21,975	-22			-65,925	-22
2018	128,737	-	0	0	0	0	0	-21,975	-50			-65,925	-16
2019	280	8,163	2,920	0	0	(8,163)	-2,920	-24,696	-57	-14,818	-18	-37,044	-18
2020			0	0	0	0	0	-2,721	-6	-14,818	-56	-37,044	-18
2021			0	0	0	0	0	-2,721	-2,920	-14,818	-57	-37,044	-18
2022	40,602		0	0	0	0	0	0	0	-1,633	-5	-37,044	-16
TOTAL	**463,301**	**74,088**	**15.99**	**0**	**0.00**	**-74,088**	**(15.99)**						
				5-Year Average:		(1,633)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(2,041)	

New Jersey - American Water Company
ACCOUNT 305 - COLLECTING AND IMPOUNDING RESERVOIRS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	151,710		0		0	0	0						0
2016			0		0	0	0						0
2017	1,785,986	2,902,926	163		0	(2,902,926)	-163	-967,642	-150			-2,902,926	-150
2018	20,210		0		0	0	0	-967,642	-161			-2,902,926	-148
2019			0		0	0	0	-967,642	-161	-580,585	-148	-2,902,926	-148
2020			0		0	0	0	0	0	-580,585	-161	-2,902,926	-148
2021		40,000	0		0	(40,000)	0	-13,333	0	-588,585	-163	-1,471,463	-150
2022	19,559		0		0	0	0	-13,333	-205	-8,000	-101	-1,471,463	-149
TOTAL	**1,977,466**	**2,942,926**	**148.82**	**0**	**0.00**	**-2,942,926**	**(148.82)**						
				5-Year Average:		(8,000)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(10,000)	

New Jersey - American Water Company
ACCOUNT 306 - LAKE, RIVER, AND OTHER INTAKES
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018	30,431	37,363	123		0	(37,363)	-123					-37,363	-123
2019		831	0		0	(831)	0					-19,097	-126
2020	412		0		0	0	0	-12,731	-124			-19,097	-124
2021			0		0	0	0	-277	-202			-19,097	-124
2022	17,356	1,436	8		0	(1,436)	-8	-479	-8	-7,926	-82	-13,210	-82
TOTAL	**48,199**	**39,630**	**82.22**	**0**	**0.00**	**-39,630**	**(82.22)**						
				5-Year Average:		(7,926)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(9,907)	

New Jersey - American Water Company
ACCOUNT 307 - WELLS AND SPRINGS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2010	5,226		0		0	0	0						0
2011	9,775		0		0	0	0						0
2012			0		0	0	0	0	0				0
2013			0		0	0	0	0	0				0
2014	2,135		0		0	0	0	0	0	0	0		0
2015	289,714		0		0	0	0	0	0	0	0		0
2016	326,014		0		0	0	0	0	0	0	0		0
2017	611,934	123,576	20		0	(123,576)	-20	-41,192	-10	-24,715	-10	-123,576	-10
2018	357,645	157,649	44		0	(157,649)	-44	-93,742	-22	-56,245	-18	-140,613	-18
2019	13,771	231,558	1,682		0	(231,558)	-1,682	-170,928	-52	-102,557	-32	-170,928	-32
2020	334,854	292,590	0		0	(292,590)	-87	-227,266	-97	-161,075	-49		0
2021	199,358	98,252	0		0	(98,252)	-49	-207,467	-114	-180,725	-60		0
2022	433,254	76,393	18		0	(76,393)	-18	-285,481	-64	-196,004	-43	-163,336	-38
TOTAL	**2,583,680**	**980,018**	**37.93**	**0**	**0.00**	**-980,018**	**(37.93)**						
				5-Year Average:		(171,288)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(214,111)	

New Jersey - American Water Company
ACCOUNT 309 - SUPPLY MAINS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	6,345		0		0	0	0						0
2016	2,473		0		0	0	0						0
2017	235	446	190		0	(446)	-190	-149	-5			-446	-5
2018			0		0	0	0	-149	-16			-446	-5
2019			0		0	0	0	-149	-190	-89	-5	-446	-5
2020	671,612	854	0		0	(854)	0	-285	0	-260	0	-650	0
2021	20,709		0		0	0	0	-285	0	-260	0	-650	0
2022		120	0		0	(120)	0	-324	0	-195	0	-473	0
TOTAL	**701,374**	**1,419**	**0.20**	**0**	**0.00**	**-1,419**	**(0.20)**						
				5-Year Average:		(195)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(243)	

New Jersey - American Water Company
ACCOUNT 310 - POWER GENERATION EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	289,373	-	0		0	0	0						0
2016	42,889	-	0		0	0	0						0
2017	507,182	10,983	2		0	(10,983)	-2	-3,661	-1			-10,983	-1
2018	29,790	24,796	83		0	(24,796)	-83	-11,926	-6				0
2019	606,226	11,548	2		0	(11,548)	-2	-15,776	-4	-9,465	-3		0
2020	139,106	5,690	4		0	(5,690)	-4	-14,012	-5	-10,604	-4		0
2021		4,663	0		0	(4,663)	0	-19,227	-4	-11,536	-4	-11,536	-4
2022	17,647	-	0		0	0	0	-3,451	-7	-9,340	-6	-11,536	-4
TOTAL	**1,632,213**	**57,680**	**3.53**	**0**	**0.00**	**-57,680**	**(3.53)**						
				5-Year Average:		(9,340)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(11,674)	

New Jersey - American Water Company
ACCOUNT 311.2 - PUMPING EQUIPMENT - ELECTRIC
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2012	105,906	-	0		0	0	0						0
2013	2,605	-	0		0	0	0						0
2014	155,177	-	0		0	0	0	0	0				0
2015	1,856,131	-	0		0	0	0	0	0				0
2016	893,159	-	0		0	0	0	0	0	0	0		0
2017	1,219,597	253,428	21		0	(253,428)	-21	-84,476	-6	-50,686	-6	-253,428	-6
2018	1,245,651	227,504	18		0	(227,504)	-18	-160,311	-14	-96,186	-9	-240,466	-9
2019	113,730	528,668	465		0	(528,668)	-465	-336,533	-39	-201,920	-19	-336,533	-18
2020	29,820	819,953	2,750		0	(819,953)	-2,750	-525,375	-113	-365,911	-52	-457,388	-33
2021	246,407	63,316	26		0	(63,316)	-26	-470,646	-362	-378,574	-66	-378,574	-32
2022	756,604	117,121	15		0	(117,121)	-15	-333,463	-97	-351,312	-73	-334,998	-30
TOTAL	**6,624,786**	**2,009,990**	**30.34**	**0**	**0.00**	**-2,009,990**	**(30.34)**						
				5-Year Average:		(351,312)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(439,141)	

New Jersey - American Water Company
ACCOUNT 311.3 - PUMPING EQUIPMENT - DIESEL
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018	133,496	40,972	31	0	0	(40,972)	-31					-40,972	-31
2019		4,294	0	0	0	(4,294)	0					-22,633	-34
2020	423		0	0	0	0	0	-15,089	-34			-22,633	-34
TOTAL	**133,919**	**45,266**	**33.80**	**0**	**0.00**	**-45,266**	**(33.80)**						
				5-Year Average:		(9,053)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(11,316)	

New Jersey - American Water Company
ACCOUNT 311.4 - PUMPING EQUIPMENT - OTHER
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	56,538		0		0	0	0						0
2016			0		0	0	0						0
2017	81,366	2,709	3		0	(2,709)	-3	-903	-2			-2,709	-2
2018	130,857	68,682	52		0	(68,682)	-52	-23,797	-34			-35,696	-27
2019	17,926	22,034	123		0	(22,034)	-123	-31,142	-41	-18,685	-33	-31,142	-33
2020	48,992		0		0	0	0	-30,239	-46	-36	0	-31,142	-28
2021	56,428		0		0	0	0	-7,345	-18	-36	0	-31,142	-24
TOTAL	**392,107**	**93,426**	**23.83**	**0**	**0.00**	**-93,426**	**(23.83)**						
				5-Year Average:		(18,685)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(23,356)	

New Jersey - American Water Company
ACCOUNT 311.5 - PUMPING EQUIPMENT - OTHER
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2014	0	-	0	0	0	0	0						0
2015	10,728	-	0	0	0	0	0						0
2016	65,377	-	0	0	0	0	0	0	0				0
2017		0	0	0	0	(0)	0	0	0			0	0
2018	32,630	39,153	120	0	0	(39,153)	-120	-13,051	-40	-7,831	-36	-19,577	-36
2019	15,403	62,087	403	0	0	(62,087)	-403	-33,747	-211	-20,248	-82	-33,747	-82
2020	101,732	63,836	63	0	0	(63,836)	-63	-55,025	-110	-33,015	-77	-41,269	-73
2021	249,576	62,043	25	0	0	(62,043)	-25	-62,655	-51	-45,424	-57	-45,424	-48
2022	374,040	53,667	14	0	0	(53,667)	-14	-93,595	-33	-56,157	-36	-46,798	-33
TOTAL	**849,486**	**280,786**	**33.05**	**0**	**0.00**	**-280,786**	**(33.05)**						
				5-Year Average:		(56,157)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(70,196)	

New Jersey - American Water Company

ACCOUNT 311.53 - PUMPING EQUIPMENT - WATER TREATMENT

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2019	202	3,600	1,779	0	0	(3,600)	-1,779					-3,600	-1,779
2020	8,532	5,737	67	0	0	(5,737)	-67					-4,668	-107
2021			0		0	0	0	-3,112	-107			-4,668	-107
2022			0		0	0	0	-1,912	-67			-4,668	-107
TOTAL	**8,735**	**9,337**	**106.89**	**0**	**0.00**	**-9,337**	**(106.89)**						
				5-Year Average:		(1,867)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(2,334)	

New Jersey - American Water Company
ACCOUNT 320.1 - WATER TREATMENT EQUIPMENT - NON-MEDIA
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2013	0	-	0	0	0	0	0						0
2014	1,825	-	0	0	0	0	0						0
2015	971,209	-	0	0	0	0	0	0	0				0
2016	456,476	-	0	0	0	0	0	0	0				0
2017	1,589,320	528,556	33	0	0	(528,556)	-33	-176,185	-18	-105,711	-3	-528,556	-18
2018	4,259,533	1,136,065	27	0	0	(1,136,065)	-27	-554,874	-26	-332,924	-10	-832,311	-23
2019	471,823	1,099,411	233	0	0	(1,099,411)	-233	-921,344	-44	-552,806	-17	-921,344	-36
2020	1,579,098	1,630,614	103	0	0	(1,630,614)	-103	-1,288,697	-61	-878,929	-53	-1,098,662	-47
2021	1,113,495	1,416,553	127	0	0	(1,416,553)	-127	-1,382,193	-131	-1,162,240	-36	-1,162,240	-56
2022	5,766,546	904,082	16	0	0	(904,082)	-16	-2,238,427	-41	-1,237,345	-38	-1,119,214	-41
TOTAL	**16,209,325**	**6,715,281**	**41.43**	**0**	**0.00**	**-6,715,281**	**(41.43)**						
				5-Year Average:		(1,237,345)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(1,546,681)	

New Jersey - American Water Company

ACCOUNT 320.2 - WATER TREATMENT EQUIPMENT - FILTER MEDIA

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	871,603	-	0	0	0	0	0						0
2016	231,758	-	0	0	0	0	0						0
2017	327,119	64,806	20	0	0	(64,806)	-20	-21,602	-5			-64,806	-5
2018	58,167	116,816	201	0	0	(116,816)	-201	-60,541	-29			-90,811	-12
2019		59,677	0	0	0	(59,677)	0	-80,433	-63	-48,260	-16	-80,433	-16
2020	425,563	61,084	14	0	0	(61,084)	-14	-79,192	-49	-60,477	-29	-75,596	-16
2021	387,915	43,840	11	0	0	(43,840)	-11	-54,867	-20	-69,245	-29	-69,245	-15
2022	616,373	163,010	26	0	0	(163,010)	-26	-89,311	-19	-88,885	-30	-84,872	-17
TOTAL	**2,918,499**	**509,234**	**17.45**	**0**	**0.00**	**-509,234**	**(17.45)**						
				5-Year Average:		(88,885)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(111,107)	

New Jersey - American Water Company
ACCOUNT 330 - DISTRIBUTION RESERVOIRS AND STANDPIPES
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2012	0	-	0	0	0	0	0						0
2013	9,469	-	0	0	0	0	0						0
2014	0	-	0	0	0	0	0	0	0				0
2015	285,070	-	0	0	0	0	0	0	0				0
2016	65,909	-	0	0	0	0	0	0	0	0	0		0
2017	141,843	289,198	204	0	0	(289,198)	-204	-96,399	-59	-57,840	-58	-289,198	-58
2018	88,950	27,319	31	0	0	(27,319)	-31	-105,506	-107	-63,303	-54	-158,259	-54
2019	40,617	420,343	1,035	0	0	(420,343)	-1,035	-245,620	-271	-147,372	-118	-245,620	-117
2020	16,302	417,350	2,560	0	0	(417,350)	-2,560	-288,337	-593	-230,842	-326	-288,552	-178
2021	407,360	576,660	142	0	0	(576,660)	-142	-471,451	-305	-346,174	-249	-346,174	-164
2022	2,366,427	192,634	8	0	0	(192,634)	-8	-395,548	-43	-326,861	-56	-320,584	-56
TOTAL	**3,421,946**	**1,923,504**	**56.21**	**0**	**0.00**	**-1,923,504**	**(56.21)**						
				5-Year Average:		(326,861)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(408,577)	

New Jersey - American Water Company
ACCOUNT 331.01 - MAINS - TRANSMISSION AND DISTRIBUTION
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2012	17,531		0		0	0	0						0
2013	1,577,227		0		0	0	0						0
2014	123,922	29,141	24		0	(29,141)	-24	-9,714	-2			-29,141	-2
2015	1,390,524	116,771	8		0	(116,771)	-8	-48,637	-5			-72,956	-5
2016	1,888,250	7,300,000	387		0	(7,300,000)	-387	-2,481,971	-219	-1,489,182	-149	-2,481,971	-149
2017	2,817,635	6,352,601	225		0	(6,352,601)	-225	-4,589,791	-226	-2,759,703	-177	-3,449,628	-177
2018	5,910,091	7,909,045	134		0	(7,909,045)	-134	-7,187,215	-203	-4,341,512	-179	-4,341,512	-158
2019	2,130,164	15,616,185	733		0	(15,616,185)	-733	-9,959,277	-275	-7,458,920	-264	-6,220,624	-235
2020	14,182,445	9,594,550	68		0	(9,594,550)	-68	-11,039,927	-149	-9,354,476	-174	-6,702,613	-156
2021	4,580,522	10,347,979	226		0	(10,347,979)	-226	-11,852,905	-170	-9,964,072	-168	-7,158,284	-165
2022	8,435,774	11,922,773	141		0	(11,922,773)	-141	-10,621,767	-117	-11,078,106	-157	-7,687,672	-161
TOTAL	**43,054,084**	**69,189,045**	**160.70**	**0**	**0.00**	**-69,189,045**	**(160.70)**						
				5-Year Average:		(11,078,106)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(13,847,633)	

New Jersey - American Water Company

ACCOUNT 332.00 - FIRE MAINS

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2014		56,181	0		0	(56,181)	0	-18,727	0			-56,181	
2015		528,348	0		0	(528,348)	0	-194,843	0			-292,265	
2016		2,874	0		0	(2,874)	0	-195,801	0			-195,801	
2017		57,300	0		0	(57,300)	0	-196,174	0			-161,176	
2018	12	432,349	3,727,151		0	(432,349)	-3,727,151	-164,175	-4,245,896	-215,411	-9,284,939	-215,411	-9,284,939
2019		61,780	0		0	(61,780)	0	-183,810	-4,753,706	-216,530	-9,333,206	-189,805	-9,817,525
2020			0		0	0	0	-164,710	-4,259,736	-110,861	-4,778,481	-189,805	-9,817,525
2021	28,801		0		0	0	0	-20,593	-215	-110,286	-1,914	-189,805	-3,953
2022	464		0		0	0	0	0	0	-98,826	-1,688	-189,805	-3,890
TOTAL	**29,277**	**1,138,833**	**3889.89**	**0**	**0.00**	**-1,138,833**	**(3889.89)**						
				5-Year Average:		(98,826)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(123,532)	

New Jersey - American Water Company
ACCOUNT 333 - SERVICES
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2009	0	-	0	0	0	0	0						0
2010		-	0	0	0	0	0						0
2011		-	0	0	0	0	0	0	0				0
2012	368	-	0	0	0	0	0	0	0				0
2013	25,519	-	0	0	0	0	0	0	0	0	0		0
2014	22,447	-	0	0	0	0	0	0	0	0	0		0
2015	447,789	-	0	0	0	0	0	0	0	0	0		0
2016	1,018,619	-	0	0	0	0	0	0	0	0	0		0
2017	433,694	3,455,642	797	(19,870)	(5)	(3,435,772)	-792	-1,145,257	-181	-687,154	-176	-3,435,772	-176
2018	3,376,781	5,088,568	151	(1,486)	(0)	(5,087,081)	-151	-2,840,951	-176	-1,704,571	-161	-4,261,427	-160
2019	2,545,662	5,941,066	233	(3,944)	(0)	(5,937,122)	-233	-4,819,992	-227	-2,891,995	-185	-4,819,992	-184
2020	9,254,911	4,498,261	49	(5,914)	(0)	(4,492,347)	-49	-5,172,183	-102	-3,790,464	-114	-4,738,081	-111
2021	7,457,994	3,475,892	47	(8,310)	(0)	(3,467,582)	-46	-4,632,350	-72	-4,483,981	-97	-4,483,981	-91
2022	12,174,718	4,730,285	39	(12,329)	(0)	(4,717,956)	-39	-4,225,962	-44	-4,740,418	-68	-4,522,977	-74
TOTAL	**36,758,503**	**27,189,714**	**73.97**	**-51,853**	**(0.14)**	**-27,137,860**	**(73.83)**						
				5-Year Average:		(4,740,418)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(5,925,522)	

New Jersey - American Water Company
ACCOUNT 334.1 - METERS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2010	0	-	0	0	0	0	0						0
2011		-	0	0	0	0	0						0
2012		-	0	0	0	0	0	0	0				0
2013	0	-	0	0	0	0	0	0	0				0
2014	0	-	0	0	0	0	0	0	0	0	0		0
2015	263,511	-	0	0	0	0	0	0	0	0	0		0
2016	5,881,328	-	0	0	0	0	0	0	0	0	0		0
2017	4,526,930	3,635,202	80	(311,877)	(7)	(3,323,325)	-73	-1,107,775	-31	-664,665	-31		0
2018	4,395,022	4,511,504	103	(271,916)	(6)	(4,239,587)	-96	-2,520,971	-51	-1,512,582	-50		0
2019	270,300	3,819,351	1,413	(506,393)	(187)	(3,312,957)	-1,226	-3,625,290	-118	-2,175,174	-71		0
2020	11,601,496	3,243,638	28	(363,735)	(3)	(2,879,903)	-25	-3,477,483	-64	-2,751,154	-52		0
2021	11,184,288	2,670,224	24	(507,700)	(5)	(2,162,524)	-19	-2,785,128	-36	-3,183,659	-50		0
2022	16,725,104	5,087,341	30	(511,542)	(3)	(4,575,798)	-27	-3,206,075	-24	-3,434,154	-39		0
TOTAL	**54,847,979**	**22,967,258**	**41.87**	**-2,473,164**	**(4.51)**	**-20,494,095**	**(37.37)**						
				5-Year Average:		(3,434,154)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(4,292,692)	

New Jersey - American Water Company
ACCOUNT 334.2 - METER INSTALLATIONS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2013	0	-	0	0	0	0	0						0
2014	21,756	-	0	0	0	0	0						0
2015	76,051	-	0	0	0	0	0	0	0				0
2016	600,040	-	0	0	0	0	0	0	0				0
2017	182,143	1,749,815	961	(1,704)	(1)	(1,748,111)	-960	-582,704	-204	-349,622	-199	-1,748,111	-199
2018	1,053,058	1,850,240	176	(85)	(0)	(1,850,155)	-176	-1,199,422	-196	-719,653	-186	-1,799,133	-186
2019	493,807	1,097,069	222	(1,660)	(0)	(1,095,409)	-222	-1,564,559	-271	-938,735	-195	-1,564,559	-193
2020	1,828,230	481,759	26	(2,463)	(0)	(479,296)	-26	-1,141,620	-101	-1,034,594	-124	-1,293,243	-122
2021	1,203,422	745,857	62	(5,420)	(0)	(740,437)	-62	-771,714	-66	-1,182,682	-124	-1,182,682	-108
2022	676,830	786,471	116	(6,678)	(1)	(779,792)	-115	-666,509	-54	-989,018	-94	-1,115,534	-109
TOTAL	**6,135,338**	**6,711,212**	**109.39**	**-18,010**	**(0.29)**	**-6,693,201**	**(109.09)**						
				5-Year Average:		(989,018)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(1,236,273)	

New Jersey - American Water Company
ACCOUNT 334.3 - METER VAULTS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2013	3,876	-	0	0	0	0	0						0
2014	9,831	-	0	0	0	0	0						0
2015	213,902	-	0	0	0	0	0	0	0				0
2016	444,556	-	0	0	0	0	0	0	0				0
2017	233,278	2,812,065	1,205	(278)	(0)	(2,811,787)	-1,205	-937,262	-315	-562,357	-311	-2,811,787	-311
2018	342,285	5,075,543	1,483	(103)	(0)	(5,075,440)	-1,483	-2,629,076	-773	-1,577,445	-634	-3,943,614	-632
2019	124,579	973,990	782	(556)	(0)	(973,434)	-781	-2,953,554	-1,266	-1,772,132	-652	-2,953,554	-646
2020	1,141,696	(404,139)	(35)	(1,092)	(0)	405,232	35	-1,881,214	-351	-1,691,086	-370	-2,113,857	-336
2021	581,410	102,864	18	(2,815)	(0)	(100,049)	-17	-222,750	-36	-1,711,096	-353	-1,711,096	-276
2022	425,789	242,572	57	(3,196)	(1)	(239,377)	-56	21,935	3	-1,196,614	-229	-1,465,809	-250
TOTAL	**3,521,202**	**8,802,894**	**250.00**	**-8,039**	**(0.23)**	**-8,794,855**	**(249.77)**						
				5-Year Average:		(1,196,614)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(1,495,767)	

New Jersey - American Water Company
ACCOUNT 335 - FIRE HYDRANTS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2012	1,275	-	0	0	0	0	0						0
2013	7,934	-	0	0	0	0	0						0
2014	3,636	-	0	0	0	0	0	0	0				0
2015	132,876	-	0	0	0	0	0	0	0				0
2016	407,259	-	0	0	0	0	0	0	0	0	0		0
2017	671,457	2,083,315	310	0	0	(2,083,315)	-310	-694,438	-172	-416,663	-170	-2,083,315	-170
2018	4,628,137	1,909,367	41	0	0	(1,909,367)	-41	-1,330,894	-70	-798,536	-68	-1,996,341	-68
2019	1,885,964	2,018,361	107	(154)	(0)	(2,018,207)	-107	-2,003,630	-84	-1,202,178	-78	-2,003,630	-78
2020	5,720,796	2,162,646	38	(2,712)	(0)	(2,159,934)	-38	-2,029,169	-50	-1,634,165	-61	-2,042,706	-61
2021	1,249,614	1,539,566	123	(1,497)	(0)	(1,538,069)	-123	-1,905,404	-65	-1,941,779	-69	-1,941,779	-66
2022	2,175,865	1,957,340	90	(6,593)	(0)	(1,950,748)	-90	-1,882,917	-62	-1,915,265	-61	-1,943,273	-69
TOTAL	**16,884,813**	**11,670,595**	**69.12**	**-10,955**	**(0.06)**	**-11,659,640**	**(69.05)**						
				5-Year Average:		(1,915,265)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(2,394,081)	

New Jersey - American Water Company
ACCOUNT 339.6 - OTHER P/E - CPS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2012		-	0	0	0	0	0						0
2013		-	0	0	0	0	0						0
2014		-	0	0	0	0	0	0	0				0
2015		-	0	0	0	0	0	0	0				0
2016		-	0	0	0	0	0	0	0	0	0		0
2017	1,055,453	4,452	0	0	0	(4,452)	0	-1,484	0	-890	0	-4,452	0
2018	85,648	637	1	0	0	(637)	-1	-1,696	0	-1,018	0	-2,544	0
2019	492,359		0	0	0	0	0	-1,696	0	-1,018	0	-2,544	0
2020			0	0	0	0	0	-212	0	-1,018	0	-2,544	0
2021			0	0	0	0	0	0	0	-1,018	0	-2,544	0
2022			0	0	0	0	0	0	0	-127	0	-2,544	0
TOTAL	**1,633,460**	**5,089**	**0.31**	**0**	**0.00**	**-5,089**	**(0.31)**						
				5-Year Average:		(127)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(159)	

New Jersey - American Water Company

ACCOUNT 340.1 - OFFICE FURNITURE

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	1,338,217	56,780	4	0	0	(56,780)	-4					-56,780	-4
2018	393,630	1,374	0	0	0	(1,374)	0					-29,077	-3
2019	322,631	3,583	1	0	0	(3,583)	-1	-20,579	-3			-20,579	-3
2020	1,198,701	214	0	0	0	(214)	0	-1,724	0			-15,488	-2
2021			0	0	0	0	0	-1,266	0	-12,390	-2	-15,488	-2
2022	5,481,094	9,580	0	(1,725)	(0)	(7,855)	0	-2,690	0	-2,605	0	-13,961	-1
TOTAL	**8,734,272**	**71,531**	**0.82**	**-1,725**	**(0.02)**	**-69,806**	**(0.80)**						
				5-Year Average:		(2,605)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(3,257)	

New Jersey - American Water Company
ACCOUNT 340.20 - COMPUTER AND PERIPHERY EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	1,307,684	9,394	1	(1,393)	(0)	(8,001)	-1					-8,001	-1
2018	533,252	177	0		0	(177)	0					-4,089	0
2019	240,365	18,844	8	(8,002)	(3)	(10,842)	-5	-6,340	-1			-6,340	-1
2020	2,995,071	10,985	0	(3,558)	(0)	(7,427)	0	-6,148	0			-6,612	-1
2021		17,956	0		0	(17,956)	0	-12,075	-1	-8,880	-1	-8,880	-1
2022	8,696,977	17,286	0	(10,227)	(0)	(7,059)	0	-10,814	0	-8,692	0	-8,577	0
TOTAL	**13,773,350**	**74,641**	**0.54**	**-23,180**	**(0.17)**	**-51,462**	**(0.37)**						
				5-Year Average:		(8,692)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(10,865)	

New Jersey - American Water Company
ACCOUNT 340.30 - COMPUTER SOFTWARE
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017		28,629	0	0	0	(28,629)	0					-28,629	
2018	187,092	2,609	1	0	0	(2,609)	-1					-15,619	-17
2019			0	0	0	0	0	-10,413	-17			-15,619	-17
2020	1,590,153		0	0	0	0	0	-870	0			-15,619	-2
2021			0	0	0	0	0	0	0	-6,248	-2	-15,619	-2
2022	35,663,399		0		0	0	0	0	0	-522	0	-15,619	0
TOTAL	**37,440,644**	**31,238**	**0.08**	**0**	**0.00**	**-31,238**	**(0.08)**						
				5-Year Average:		(522)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(652)	

New Jersey - American Water Company
ACCOUNT 341.1 - LIGHT TRUCKS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2016	137,117	-	0	0	0	0	0						0
2017	25,207	-	0	0	0	0	0						0
2018	13,043	-	0	0	0	0	0	0	0				0
2019	149,270	-	0	0	0	0	0	0	0				0
2020	8,959	(3,508)	(39)	(29,854)	(333)	33,362	372	11,121	19	6,672	10	33,362	10
2021					0	0	0	11,121	21	6,672	17	33,362	10
2022				(8,291)	0	8,291	0	13,884	465	8,330	24	20,826	12
TOTAL	**333,596**	**(3,508)**	**(1.05)**	**-38,145**	**(11.43)**	**41,652**	**12.49**						
				5-Year Average:		8,330	**Adjustment Factor**		1.25	**Normalized Net Salvage**		10,413	

New Jersey - American Water Company

ACCOUNT 341.2 - HEAVY TRUCKS

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	12,487	-	0	0	0	0	0						0
2016	739,836	-	0	0	0	0	0						0
2017	374,340	-	0	0	0	0	0	0	0				0
2018	77,405	-	0	(113,694)	(147)	113,694	147	37,898	10			113,694	9
2019		-	0	0	0	0	0	37,898	25	22,739	9	113,694	9
2020	1,706	-	0	0	0	0	0	37,898	144	22,739	10	113,694	9
2021					0	0	0	0	0	22,739	25	113,694	9
2022				(258,335)	0	258,335	0	86,112	15,138	74,406	470	186,014	31
TOTAL	**1,205,774**	**0**	**0.00**	**-372,029**	**(30.85)**	**372,029**	**30.85**						
				5-Year Average:		74,406	**Adjustment Factor**		1.25	**Normalized Net Salvage**		93,007	

New Jersey - American Water Company
ACCOUNT 341.3 - AUTOS
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2016	162,179	-	0		0	0	0						0
2017	371,318	-	0		0	0	0						0
2018	117,198	-	0	(113,466)	(97)	113,466	97	37,822	17			113,466	17
2019		-	0		0	0	0	37,822	23			113,466	17
2020	2,133	(1,438)	(67)	(43,807)	(2,054)	45,245	2,121	52,904	133	31,742	24	79,355	24
2021			0		0	0	0	15,082	2,121	31,742	32	79,355	24
2022			0	(110,937)	0	110,937	0	52,061	7,322	53,930	226	89,883	41
TOTAL	**652,828**	**(1,438)**	**(0.22)**	**-268,210**	**(41.08)**	**269,648**	**41.30**						
				5-Year Average:		53,930	**Adjustment Factor**		1.25	**Normalized Net Salvage**		67,412	

New Jersey - American Water Company

ACCOUNT 341.4 - OTHER

SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2016	45,545	-	0		0	0	0						0
2017	160,047	4,788	3		0	(4,788)	-3					-4,788	-2
2018	112,023	(854)	(1)	(49,793)	(44)	50,647	45	15,286	14			22,929	14
2019		-	0		0	0	0	15,286	17			22,929	14
2020	1,706	(739)	(43)	(22,494)	(1,318)	23,233	1,361	24,627	65	13,818	22	23,030	22
2021			0		0	0	0	7,744	1,361	13,818	25	23,030	22
2022			0		0	0	0	7,744	1,361	14,776	65	23,030	22
TOTAL	**319,322**	**3,196**	**1.00**	**-72,287**	**(22.64)**	**69,091**	**21.64**						
				5-Year Average:		14,776	**Adjustment Factor**		1.25	**Normalized Net Salvage**		18,470	

New Jersey - American Water Company
ACCOUNT 342 - STORES EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	4,238	43	1	0	0	(43)	-1					-43	-1
2018	50,069	-	0	(98,142)	(196)	98,142	196					49,049	181
2019		-	0	0	0	0	0	32,700	181			49,049	181
2020	149,833	-	0	0	0	0	0	32,714	49			49,049	48
2021		-	0	0	0	0	0	0	0	19,620	48	49,049	48
2022	33,913		0		0	0	0	0	0	19,628	42	49,049	41
TOTAL	**238,053**	**43**	**0.02**	**-98,142**	**(41.23)**	**98,099**	**41.21**						
					5-Year Average:	19,628	**Adjustment Factor**		1.25	**Normalized Net Salvage**		24,536	

New Jersey - American Water Company
ACCOUNT 343 - TOOLS, SHOP, AND GARAGE EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	91,838	122,119	133		0	(122,119)	-133					-122,119	-133
2018	38,511	4,976	13		0	(4,976)	-13					-63,548	-98
2019	14,273	17,503	123		0	(17,503)	-123	-48,199	-100			-48,199	-100
2020	2,454,010	20,121	1		0	(20,121)	-1	-14,200	-2			-41,180	-6
2021	1,000	5,710	571		0	(5,710)	-571	-14,444	-2	-34,086	-7	-34,086	-7
2022	243,009	4,080	2		0	(4,080)	-2	-9,970	-1	-10,478	-2	-29,085	-6
TOTAL	**2,842,641**	**174,509**	**6.14**	**0**	**0.00**	**-174,509**	**(6.14)**						
				5-Year Average:		(10,478)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(13,097)	

New Jersey - American Water Company
ACCOUNT 344 - LABORATORY EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	2,813	2,214	79	0	0	(2,214)	-79					-2,214	-79
2018		561	0	0	0	(561)	0					-1,388	-99
2019			0	0	0	0	0	-925	-99			-1,388	-99
2020	332,169		0	0	0	0	0	-187	0			-1,388	-1
2021			0	0	0	0	0	0	0	-555	-1	-1,388	-1
2022	295,532		0		0	0	0	0	0	-112	0	-1,388	0
TOTAL	**630,513**	**2,776**	**0.44**	**0**	**0.00**	**-2,776**	**(0.44)**						
				5-Year Average:		(112)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(140)	

New Jersey - American Water Company
ACCOUNT 345 - POWER OPERATED EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	17,090	-	0	0	0	0	0						0
2016		-	0	0	0	0	0						0
2017		-	0	0	0	0	0	0	0				0
2018		-	0	0	0	0	0	0	0				0
2019		9,501	0	0	0	(9,501)	0	-3,167	0	-1,900	-56	-9,501	-56
2020	362,871	8,756	2	0	0	(8,756)	-2	-6,086	-5	-3,652	-5	-9,129	-5
2021		-	0	0	0	0	0	-6,086	-5	-3,652	-5	-9,129	-5
2022	65,538	27,416	42	0	0	(27,416)	-42	-12,058	-8	-9,135	-11	-15,225	-10
TOTAL	**445,499**	**45,674**	**10.25**	**0**	**0.00**	**-45,674**	**(10.25)**						
				5-Year Average:		(9,135)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(11,418)	

New Jersey - American Water Company
ACCOUNT 346 - COMMUNICATION EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	123,298	14,124	11	0	0	(14,124)	-11					-14,124	-11
2018		40,892	0	0	0	(40,892)	0					-27,508	-45
2019	84,787	7,430	9	0	0	(7,430)	-9	-20,815	-30			-20,815	-30
2020	979,362	42,909	4	0	0	(42,909)	-4	-30,411	-9			-26,339	-9
2021	15,712	3,416	22	0	0	(3,416)	-22	-17,918	-5	-21,754	-9	-21,754	-9
2022	3,914,530	1,201	0		0	(1,201)	0	-15,842	-1	-19,170	-2	-18,329	-2
TOTAL	**5,117,689**	**109,972**	**2.15**	**0**	**0.00**	**-109,972**	**(2.15)**						
				5-Year Average:		(19,170)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(23,962)	

New Jersey - American Water Company
ACCOUNT 346.10 - COMMUNICATION EQUIPMENT - NON-TELEPHONE
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	63,661	11,090	17	0	0	(11,090)	-17					-11,090	-17
2018	474	1,073	226	0	0	(1,073)	-226					-6,081	-19
2019	249	4,789	1,925	0	0	(4,789)	-1,925	-5,651	-26			-5,651	-26
2020	897,769	(1,106)	(0)	0	0	1,106	0	-1,585	-1			-3,962	-2
2021	5,758		0	0	0	0	0	-1,228	0	-3,169	-2	-3,962	-2
2022	2,213,750	4,148	0		0	(4,148)	0	-1,014	0	-1,781	0	-3,999	-1
TOTAL	**3,181,661**	**19,994**	**0.63**	**0**	**0.00**	**-19,994**	**(0.63)**						
				5-Year Average:		(1,781)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(2,226)	

New Jersey - American Water Company
ACCOUNT 346.19 - REMOTE CONTROL & INSTRUMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	201,443	15,971	8	0	0	(15,971)	-8					-15,971	-8
2018	1,364,752	5,997	0	0	0	(5,997)	0					-10,984	-1
2019	69,019	105,000	152	0	0	(105,000)	-152	-42,323	-8			-42,323	-8
2020	41,532	363,579	875	0	0	(363,579)	-875	-158,192	-32			-122,637	-29
2021			0	0	0	0	0	-156,193	-424	-98,110	-29	-122,637	-29
2022	2,974,195	1,203	0		0	(1,203)	0	-121,594	-12	-95,156	-11	-98,350	-11
TOTAL	**4,650,941**	**491,751**	**10.57**	**0**	**0.00**	**-491,751**	**(10.57)**						
				5-Year Average:		(95,156)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(118,945)	

New Jersey - American Water Company
ACCOUNT 346.2 - COMMUNICATION EQUIPMENT - TELEPHONE
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	35,804		0	0	0	0	0						0
2018	824	6,030	732	0	0	(6,030)	-732					-6,030	-16
2019		458	0	0	0	(458)	0	-2,163	-18			-3,244	-18
2020	2,974		0	0	0	0	0	-2,163	-171			-3,244	-16
2021	1,951		0	0	0	0	0	-153	-9	-1,298	-16	-3,244	-16
2022	300		0		0	0	0	0	0	-1,298	-107	-3,244	-16
TOTAL	**41,853**	**6,488**	**15.50**	**0**	**0.00**	**-6,488**	**(15.50)**						
				5-Year Average:		(1,298)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(1,622)	

New Jersey - American Water Company
ACCOUNT 347 - MISCELLANEOUS EQUIPMENT
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	25,082	7,401	30	0	0	(7,401)	-30					-7,401	-30
2018	59,967	52,404	87	0	0	(52,404)	-87					-29,902	-70
2019	42,463	146,202	344	(6,014)	(14)	(140,188)	-330	-66,664	-157			-66,664	-157
2020	669,582	206,194	31	0	0	(206,194)	-31	-132,929	-52			-101,547	-51
2021	(17,305)	17,366	(100)	0	0	(17,366)	100	-121,249	-52	-84,710	-54	-84,710	-54
2022	464,894	22,137	5		0	(22,137)	-5	-81,899	-22	-87,658	-36	-74,281	-36
TOTAL	**1,244,683**	**451,703**	**36.29**	**-6,014**	**(0.48)**	**-445,689**	**(35.81)**						
				5-Year Average:		(87,658)	**Adjustment Factor**		1.25	**Normalized Net Salvage**		(109,572)	

SECTION 8

8 DETAILED DEPRECIATION CALCULATIONS

New Jersey - American Water Company

Account #: 304.100 - Structures and Improvements - Source of Supply

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 55
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1932	9,165.00	7,951	2,980	0.3252	6,185	7.28	849	90.5
1935	132.73	112	42	0.3173	91	8.44	11	87.5
1936	7,907.09	6,638	2,488	0.3147	5,419	8.82	614	86.5
1952	6,474.53	4,683	1,755	0.2711	4,719	15.22	310	70.5
1959	17,053.25	11,423	4,281	0.2511	12,772	18.16	703	63.5
1963	851.10	543	204	0.2393	647	19.88	33	59.5
1964	1,626.02	1,025	384	0.2363	1,242	20.32	61	58.5
1966	10,781.81	6,626	2,483	0.2303	8,298	21.20	391	56.5
1968	231,159.78	138,303	51,838	0.2243	179,322	22.09	8,117	54.5
1969	2,493.97	1,472	552	0.2212	1,942	22.54	86	53.5
1971	26,547.01	15,228	5,708	0.2150	20,840	23.45	889	51.5
1973	38,999.73	21,718	8,140	0.2087	30,859	24.37	1,266	49.5
1975	110.58	60	22	0.2024	88	25.30	3	47.5
1976	4.93	3	1	0.1988	4	25.77	0	46.5
1978	94.00	48	18	0.1927	76	26.73	3	44.5
1981	2,046.00	998	374	0.1828	1,672	28.18	59	41.5
1982	32,543.18	15,576	5,838	0.1794	26,705	28.68	931	40.5
1983	4,030.21	1,893	709	0.1760	3,321	29.17	114	39.5
1984	10,687.93	4,922	1,845	0.1726	8,843	29.67	298	38.5
1985	35,095.00	15,838	5,936	0.1691	29,159	30.18	966	37.5
1986	35,548.91	15,713	5,889	0.1657	29,660	30.69	966	36.5
1987	33,419.49	14,459	5,419	0.1622	28,000	31.20	897	35.5
1988	21,231.49	8,985	3,368	0.1586	17,864	31.72	563	34.5
1989	15,133.35	6,260	2,346	0.1550	12,787	32.25	397	33.5
1990	1,145,944.50	463,000	173,538	0.1514	972,407	32.78	29,666	32.5
1991	54,513.25	21,495	8,057	0.1478	46,457	33.31	1,395	31.5
1992	67,370.35	25,902	9,708	0.1441	57,662	33.85	1,703	30.5
1993	5,612.71	2,102	788	0.1404	4,825	34.40	140	29.5

New Jersey - American Water Company

Account #: 304.100 - Structures and Improvements - Source of Supply

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 55
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1994	457,237.00	166,666	62,468	0.1366	394,769	34.95	11,295	28.5
1995	13,303.38	4,714	1,767	0.1328	11,536	35.51	325	27.5
1996	156,338.24	53,793	20,162	0.1290	136,176	36.08	3,775	26.5
1997	40,378.38	13,474	5,050	0.1251	35,328	36.65	964	25.5
1998	271,898.35	87,870	32,935	0.1211	238,964	37.23	6,419	24.5
1999	1,432,566.67	447,708	167,806	0.1171	1,264,760	37.81	33,449	23.5
2000	46,813.28	14,125	5,294	0.1131	41,519	38.40	1,081	22.5
2001	53,455.34	15,545	5,826	0.1090	47,629	39.01	1,221	21.5
2002	13,330.36	3,729	1,398	0.1048	11,933	39.62	301	20.5
2003	1,498,372.06	402,278	150,779	0.1006	1,347,594	40.23	33,494	19.5
2004	1,249,246.00	321,147	120,370	0.0964	1,128,876	40.86	27,627	18.5
2005	1,903,494.15	467,303	175,151	0.0920	1,728,344	41.50	41,649	17.5
2006	630,336.75	147,337	55,224	0.0876	575,113	42.14	13,646	16.5
2007	65,688.31	14,569	5,461	0.0831	60,228	42.80	1,407	15.5
2008	2,789,000.86	584,669	219,141	0.0786	2,569,860	43.47	59,118	14.5
2009	1,224,787.59	241,613	90,560	0.0739	1,134,228	44.15	25,690	13.5
2010	129,075.40	23,838	8,935	0.0692	120,141	44.84	2,679	12.5
2011	948,484.17	163,011	61,098	0.0644	887,386	45.55	19,483	11.5
2012	736,818.08	116,997	43,852	0.0595	692,966	46.27	14,978	10.5
2013	5,891,554.69	856,843	321,155	0.0545	5,570,400	47.00	118,517	9.5
2014	3,652,042.72	481,340	180,412	0.0494	3,471,631	47.75	72,703	8.5
2015	4,111,372.24	484,568	181,622	0.0442	3,929,750	48.52	80,996	7.5
2016	1,760,655.42	182,392	68,363	0.0388	1,692,293	49.30	34,325	6.5
2017	2,770,262.66	246,476	92,382	0.0333	2,677,880	50.11	53,444	5.5
2018	2,766,413.55	204,548	76,667	0.0277	2,689,746	50.93	52,809	4.5
2019	3,100,710.49	181,326	67,963	0.0219	3,032,747	51.78	58,566	3.5
2020	21,616,035.06	919,532	344,651	0.0159	21,271,384	52.66	403,936	2.5
2021	2,405,822.59	62,675	23,491	0.0098	2,382,331	53.57	44,474	1.5

New Jersey - American Water Company

Account #: 304.100 - Structures and Improvements - Source of Supply

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 55
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2022	9,689,734.34	86,247	32,326	0.0033	9,657,408	54.51	177,166	0.5
TOTAL	73,241,806.03	7,809,308	2,927,021		70,314,785		1,446,968	

COMPOSITE ANNUAL ACCRUAL RATE	1.98%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.04
COMPOSITE AVERAGE AGE (YEARS)	7.29
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	49.14

New Jersey - American Water Company

Account #: 304.200 - Structures and Improvements - Pumping

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1886	855.86	856	856	1.0000	0	1.00	0	137.5
1890	1,114.20	1,114	1,114	1.0000	0	1.00	0	133.5
1905	1,215.79	1,158	1,216	1.0000	0	3.32	0	117.5
1909	30,000.00	28,095	30,000	1.0000	0	4.44	0	113.5
1920	3,980.00	3,547	3,980	1.0000	0	7.62	0	102.5
1922	306.47	271	306	1.0000	0	8.21	0	100.5
1924	8,586.38	7,507	8,586	1.0000	0	8.80	0	98.5
1925	1,082.11	941	1,082	1.0000	0	9.10	0	97.5
1926	2,011.84	1,742	2,012	1.0000	0	9.40	0	96.5
1927	820.70	707	821	1.0000	0	9.70	0	95.5
1928	932.99	800	933	1.0000	0	10.01	0	94.5
1929	1,711.32	1,459	1,711	1.0000	0	10.32	0	93.5
1930	33,024.10	28,006	33,024	1.0000	0	10.64	0	92.5
1931	6,578.06	5,549	6,578	1.0000	0	10.96	0	91.5
1932	85,602.84	71,811	85,603	1.0000	0	11.28	0	90.5
1935	272.84	225	273	1.0000	0	12.28	0	87.5
1937	1,337.64	1,090	1,338	1.0000	0	12.97	0	85.5
1938	22.30	18	22	1.0000	0	13.33	0	84.5
1940	1,240.00	991	1,240	1.0000	0	14.07	0	82.5
1941	1,171.72	930	1,172	1.0000	0	14.45	0	81.5
1945	2,529.00	1,950	2,529	1.0000	0	16.04	0	77.5
1948	11,843.89	8,915	11,844	1.0000	0	17.31	0	74.5
1949	2,684.15	2,003	2,684	1.0000	0	17.75	0	73.5
1950	1,578.20	1,168	1,578	1.0000	0	18.20	0	72.5
1951	1,700.12	1,247	1,700	1.0000	0	18.66	0	71.5
1952	2,016.88	1,466	2,017	1.0000	0	19.13	0	70.5
1953	12,797.57	9,213	12,798	1.0000	0	19.61	0	69.5
1954	31,445.49	22,421	31,445	1.0000	0	20.09	0	68.5

New Jersey - American Water Company

Account #: 304.200 - Structures and Improvements - Pumping

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1955	58,953.01	41,619	58,953	1.0000	0	20.58	0	67.5
1956	230,633.80	161,170	230,634	1.0000	0	21.08	0	66.5
1957	12,804.32	8,855	12,804	1.0000	0	21.59	0	65.5
1958	6,207.88	4,247	6,208	1.0000	0	22.11	0	64.5
1959	8,261.40	5,590	8,261	1.0000	0	22.64	0	63.5
1960	43,740.07	29,260	43,740	1.0000	0	23.17	0	62.5
1961	44,744.29	29,585	44,744	1.0000	0	23.72	0	61.5
1962	33,128.81	21,643	33,129	1.0000	0	24.27	0	60.5
1963	6,248.02	4,032	6,248	1.0000	0	24.83	0	59.5
1964	387,780.90	247,089	387,781	1.0000	0	25.40	0	58.5
1965	190,417.29	119,764	190,417	1.0000	0	25.97	0	57.5
1966	67,901.50	42,140	67,902	1.0000	0	26.56	0	56.5
1967	215,095.16	131,668	215,095	1.0000	0	27.15	0	55.5
1968	99,642.11	60,140	99,642	1.0000	0	27.75	0	54.5
1969	159,454.10	94,854	159,454	1.0000	0	28.36	0	53.5
1970	151,711.53	88,914	151,712	1.0000	0	28.97	0	52.5
1971	72,273.42	41,713	71,295	0.9865	978	29.60	33	51.5
1972	231,319.23	131,421	224,624	0.9711	6,695	30.23	221	50.5
1973	155,774.06	87,079	148,835	0.9555	6,940	30.87	225	49.5
1974	49,261.91	27,083	46,290	0.9397	2,972	31.52	94	48.5
1975	858.97	464	793	0.9237	66	32.17	2	47.5
1976	44,980.47	23,885	40,823	0.9076	4,157	32.83	127	46.5
1977	51,209.89	26,704	45,643	0.8913	5,567	33.50	166	45.5
1978	25,342.84	12,971	22,170	0.8748	3,173	34.17	93	44.5
1979	195,294.31	98,053	167,592	0.8581	27,703	34.85	795	43.5
1980	214,412.94	105,542	180,392	0.8413	34,021	35.54	957	42.5
1981	976,054.90	470,756	804,609	0.8243	171,446	36.24	4,731	41.5
1982	38,955.04	18,398	31,445	0.8072	7,510	36.94	203	40.5

New Jersey - American Water Company

Account #: 304.200 - Structures and Improvements - Pumping

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1983	171,129.71	79,088	135,175	0.7899	35,954	37.65	955	39.5
1984	458,818.59	207,360	354,416	0.7725	104,402	38.36	2,721	38.5
1985	1,050,239.73	463,814	792,745	0.7548	257,495	39.09	6,588	37.5
1986	458,772.56	197,838	338,143	0.7371	120,630	39.81	3,030	36.5
1987	481,563.41	202,616	346,308	0.7191	135,255	40.55	3,336	35.5
1988	269,488.65	110,537	188,928	0.7011	80,561	41.29	1,951	34.5
1989	863,372.49	344,931	589,551	0.6828	273,821	42.03	6,514	33.5
1990	1,169,622.21	454,711	777,186	0.6645	392,436	42.79	9,172	32.5
1991	457,188.68	172,793	295,335	0.6460	161,854	43.54	3,717	31.5
1992	6,006,729.36	2,204,636	3,768,133	0.6273	2,238,596	44.31	50,523	30.5
1993	2,672,921.58	951,663	1,626,568	0.6085	1,046,353	45.08	23,212	29.5
1994	2,300,834.30	793,701	1,356,583	0.5896	944,251	45.85	20,593	28.5
1995	4,533,740.85	1,513,405	2,586,691	0.5705	1,947,050	46.63	41,752	27.5
1996	15,947,010.22	5,144,190	8,792,378	0.5513	7,154,632	47.42	150,880	26.5
1997	1,570,354.82	488,801	835,453	0.5320	734,902	48.21	15,243	25.5
1998	2,368,852.45	710,395	1,214,197	0.5126	1,154,656	49.01	23,561	24.5
1999	174,023.97	50,193	85,788	0.4930	88,236	49.81	1,771	23.5
2000	539,084.16	149,268	255,127	0.4733	283,957	50.62	5,610	22.5
2001	257,392.85	68,282	116,706	0.4534	140,687	51.43	2,735	21.5
2002	1,304,048.38	330,711	565,246	0.4335	738,802	52.25	14,140	20.5
2003	729,005.45	176,313	301,352	0.4134	427,653	53.07	8,058	19.5
2004	415,272.71	95,526	163,271	0.3932	252,002	53.90	4,676	18.5
2005	1,840,409.69	401,480	686,205	0.3729	1,154,205	54.73	21,089	17.5
2006	8,196,008.03	1,689,887	2,888,331	0.3524	5,307,677	55.57	95,518	16.5
2007	1,895,028.37	367,943	628,884	0.3319	1,266,145	56.41	22,446	15.5
2008	5,549,428.06	1,010,386	1,726,938	0.3112	3,822,490	57.26	66,762	14.5
2009	1,479,427.99	251,377	429,650	0.2904	1,049,778	58.11	18,067	13.5
2010	965,938.12	152,326	260,354	0.2695	705,584	58.96	11,967	12.5

New Jersey - American Water Company

Account #: 304.200 - Structures and Improvements - Pumping

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2011	3,614,183.35	525,550	898,263	0.2485	2,715,920	59.82	45,401	11.5
2012	3,361,154.06	447,284	764,492	0.2274	2,596,662	60.68	42,789	10.5
2013	7,153.42	863	1,475	0.2062	5,678	61.55	92	9.5
2014	151,503.11	16,393	28,019	0.1849	123,484	62.43	1,978	8.5
2015	946,835.79	90,592	154,839	0.1635	791,997	63.30	12,511	7.5
2016	448,156.92	37,241	63,652	0.1420	384,505	64.18	5,991	6.5
2017	246,235.43	17,350	29,655	0.1204	216,580	65.07	3,329	5.5
2018	3,429,367.26	198,109	338,605	0.0987	3,090,763	65.96	46,861	4.5
2019	68,380.59	3,079	5,262	0.0770	63,118	66.85	944	3.5
2020	5,416,987.41	174,542	298,325	0.0551	5,118,662	67.74	75,558	2.5
2021	105,877.89	2,051	3,505	0.0331	102,372	68.64	1,491	1.5
2022	1,326,993.94	8,580	14,665	0.0111	1,312,329	69.55	18,870	0.5
TOTAL	87,269,461.19	22,645,645	38,456,099		48,813,362		900,049	

COMPOSITE ANNUAL ACCRUAL RATE	1.03%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.44
COMPOSITE AVERAGE AGE (YEARS)	21.47
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	51.84

New Jersey - American Water Company

Account #: 304.300 - Structures and Improvements - Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1909	14,400.00	13,486	14,400	1.0000	0	4.44	0	113.5
1932	76,042.44	63,791	76,042	1.0000	0	11.28	0	90.5
1938	86.87	70	87	1.0000	0	13.33	0	84.5
1952	40,399.00	29,359	40,399	1.0000	0	19.13	0	70.5
1955	15,595.51	11,010	15,596	1.0000	0	20.58	0	67.5
1958	24,540.57	16,789	24,541	1.0000	0	22.11	0	64.5
1959	4,724.02	3,196	4,724	1.0000	0	22.64	0	63.5
1961	50,582.60	33,445	50,583	1.0000	0	23.72	0	61.5
1962	70,277.68	45,913	70,278	1.0000	0	24.27	0	60.5
1963	99,536.48	64,233	99,536	1.0000	0	24.83	0	59.5
1965	131,398.95	82,644	131,399	1.0000	0	25.97	0	57.5
1966	18,532.79	11,502	18,533	1.0000	0	26.56	0	56.5
1967	29,273.54	17,919	28,951	0.9890	322	27.15	12	55.5
1968	642.00	387	626	0.9751	16	27.75	1	54.5
1969	18,398.46	10,945	17,682	0.9611	716	28.36	25	53.5
1970	10,320.03	6,048	9,772	0.9469	548	28.97	19	52.5
1971	71,901.51	41,498	67,046	0.9325	4,856	29.60	164	51.5
1972	703.00	399	645	0.9179	58	30.23	2	50.5
1973	1,253,755.95	700,861	1,132,329	0.9031	121,427	30.87	3,934	49.5
1974	687.37	378	611	0.8882	77	31.52	2	48.5
1976	264,040.69	140,205	226,519	0.8579	37,521	32.83	1,143	46.5
1977	188,984.62	98,549	159,219	0.8425	29,766	33.50	889	45.5
1978	873,315.16	446,977	722,147	0.8269	151,168	34.17	4,424	44.5
1979	3,256.00	1,635	2,641	0.8112	615	34.85	18	43.5
1980	181,278.47	89,232	144,166	0.7953	37,112	35.54	1,044	42.5
1981	468,384.96	225,904	364,976	0.7792	103,409	36.24	2,854	41.5
1982	4,399,694.88	2,077,878	3,357,071	0.7630	1,042,624	36.94	28,224	40.5
1983	706,907.55	326,697	527,820	0.7467	179,087	37.65	4,757	39.5

New Jersey - American Water Company

Account #: 304.300 - Structures and Improvements - Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	33,305.32	15,052	24,319	0.7302	8,987	38.36	234	38.5
1985	579,120.09	255,755	413,204	0.7135	165,916	39.09	4,245	37.5
1986	1,024,676.03	441,875	713,905	0.6967	310,771	39.81	7,806	36.5
1987	3,337,540.63	1,404,257	2,268,752	0.6798	1,068,789	40.55	26,359	35.5
1988	1,086,044.55	445,466	719,706	0.6627	366,339	41.29	8,873	34.5
1989	2,016,628.47	805,675	1,301,669	0.6455	714,960	42.03	17,009	33.5
1990	7,459,152.85	2,899,877	4,685,112	0.6281	2,774,041	42.79	64,835	32.5
1991	1,222,770.42	462,142	746,648	0.6106	476,123	43.54	10,934	31.5
1992	5,958,510.97	2,186,939	3,533,272	0.5930	2,425,239	44.31	54,736	30.5
1993	2,064,313.43	734,975	1,187,443	0.5752	876,870	45.08	19,453	29.5
1994	1,938,993.69	668,880	1,080,659	0.5573	858,335	45.85	18,719	28.5
1995	8,166,159.90	2,725,941	4,404,097	0.5393	3,762,063	46.63	80,673	27.5
1996	55,238,666.35	17,818,902	28,788,658	0.5212	26,450,008	47.42	557,789	26.5
1997	6,426,883.95	2,000,484	3,232,032	0.5029	3,194,852	48.21	66,268	25.5
1998	2,391,564.87	717,206	1,158,736	0.4845	1,232,829	49.01	25,156	24.5
1999	3,088,639.82	890,835	1,439,255	0.4660	1,649,385	49.81	33,113	23.5
2000	707,775.19	195,977	316,626	0.4474	391,149	50.62	7,728	22.5
2001	11,740,008.57	3,114,419	5,031,732	0.4286	6,708,277	51.43	130,435	21.5
2002	7,818,854.12	1,982,885	3,203,598	0.4097	4,615,256	52.25	88,334	20.5
2003	835,609.64	202,096	326,511	0.3907	509,098	53.07	9,593	19.5
2004	682,093.62	156,903	253,496	0.3716	428,598	53.90	7,952	18.5
2005	2,123,028.52	463,133	748,249	0.3524	1,374,779	54.73	25,119	17.5
2006	5,531,527.16	1,140,513	1,842,641	0.3331	3,688,886	55.57	66,386	16.5
2007	1,627,978.74	316,092	510,687	0.3137	1,117,292	56.41	19,807	15.5
2008	12,243,808.18	2,229,234	3,601,606	0.2942	8,642,202	57.26	150,942	14.5
2009	1,202,220.46	204,275	330,032	0.2745	872,188	58.11	15,010	13.5
2010	2,428,175.50	382,918	618,652	0.2548	1,809,524	58.96	30,690	12.5
2011	7,626,085.54	1,108,934	1,791,621	0.2349	5,834,464	59.82	97,532	11.5

New Jersey - American Water Company

Account #: 304.300 - Structures and Improvements - Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2012	81,870,077.39	10,894,831	17,601,957	0.2150	64,268,120	60.68	1,059,048	10.5
2013	3,265,843.02	394,073	636,675	0.1949	2,629,168	61.55	42,714	9.5
2014	15,362,470.01	1,662,271	2,685,605	0.1748	12,676,865	62.43	203,071	8.5
2015	4,823,656.66	461,522	745,647	0.1546	4,078,010	63.30	64,421	7.5
2016	11,899,705.97	988,848	1,597,607	0.1343	10,302,099	64.18	160,511	6.5
2017	5,233,243.01	368,750	595,762	0.1138	4,637,481	65.07	71,272	5.5
2018	32,862,159.90	1,898,391	3,067,087	0.0933	29,795,073	65.96	451,740	4.5
2019	7,705,207.52	346,932	560,512	0.0727	7,144,695	66.85	106,879	3.5
2020	9,249,861.52	298,043	481,525	0.0521	8,768,336	67.74	129,432	2.5
2021	2,490,064.84	48,235	77,929	0.0313	2,412,136	68.64	35,140	1.5
2022	4,833,861.42	31,255	50,497	0.0104	4,783,365	69.55	68,778	0.5
TOTAL	345,213,948.94	67,925,742	109,682,056		235,531,893		4,086,248	

COMPOSITE ANNUAL ACCRUAL RATE	1.18%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.32
COMPOSITE AVERAGE AGE (YEARS)	16.03
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	56.23

New Jersey - American Water Company

Account #: 304.310 - Structures and Improvements - Treatment - Handl

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1994	1,471,872.00	507,740	1,110,811	0.7547	361,061	45.85	7,874	28.5
2001	3,545,196.83	940,479	2,057,535	0.5804	1,487,662	51.43	28,926	21.5
2003	26,407.92	6,387	13,973	0.5291	12,435	53.07	234	19.5
2004	2,091,944.49	481,212	1,052,773	0.5033	1,039,171	53.90	19,280	18.5
2005	7,491.15	1,634	3,575	0.4773	3,916	54.73	72	17.5
2006	225,303.94	46,454	101,630	0.4511	123,674	55.57	2,226	16.5
2008	272,341.33	49,585	108,480	0.3983	163,861	57.26	2,862	14.5
2009	7,760.23	1,319	2,885	0.3717	4,876	58.11	84	13.5
2010	5,142.89	811	1,774	0.3450	3,369	58.96	57	12.5
2013	65,165.34	7,863	17,203	0.2640	47,963	61.55	779	9.5
2015	81,835.69	7,830	17,130	0.2093	64,706	63.30	1,022	7.5
2019	35,311.10	1,590	3,478	0.0985	31,833	66.85	476	3.5
TOTAL	7,835,772.91	2,052,904	4,491,247		3,344,526		63,892	

COMPOSITE ANNUAL ACCRUAL RATE	0.82%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.57
COMPOSITE AVERAGE AGE (YEARS)	21.28
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	51.66

New Jersey - American Water Company

Account #: 304.400 - Structures and Improvements - Transmission and Distribution

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1909	7,320.00	7,320	7,320	1.0000	0	1.00	0	114.5
1961	19,249.85	15,064	19,250	1.0000	0	9.79	0	61.5
1964	732,001.00	555,149	732,001	1.0000	0	10.87	0	58.5
1965	2,113.00	1,585	2,113	1.0000	0	11.24	0	57.5
1966	688.00	510	688	1.0000	0	11.61	0	56.5
1967	1,500.00	1,100	1,500	1.0000	0	11.99	0	55.5
1968	1,208.00	876	1,208	1.0000	0	12.36	0	54.5
1969	2,199.00	1,576	2,199	1.0000	0	12.75	0	53.5
1970	1,106.00	783	1,106	1.0000	0	13.13	0	52.5
1971	26,933.00	18,839	26,933	1.0000	0	13.52	0	51.5
1973	3,442.01	2,347	3,442	1.0000	0	14.32	0	49.5
1976	7,082.93	4,637	6,939	0.9796	144	15.54	9	46.5
1978	22,950.00	14,594	21,839	0.9516	1,111	16.39	68	44.5
1980	143,238.00	88,332	132,187	0.9229	11,051	17.25	641	42.5
1981	14,883.00	9,032	13,517	0.9082	1,366	17.69	77	41.5
1983	36,623.00	21,493	32,164	0.8782	4,459	18.59	240	39.5
1985	14,507.00	8,215	12,293	0.8474	2,214	19.52	113	37.5
1986	21,356.07	11,868	17,761	0.8316	3,595	19.99	180	36.5
1987	4,501.04	2,453	3,671	0.8156	830	20.47	41	35.5
1988	2,289,029.00	1,222,733	1,829,803	0.7994	459,226	20.96	21,907	34.5
1989	3,860.40	2,020	3,022	0.7829	838	21.46	39	33.5
1990	2,190.23	1,121	1,678	0.7661	512	21.96	23	32.5
1991	19,061.36	9,541	14,277	0.7490	4,784	22.48	213	31.5
1992	2,595.69	1,269	1,899	0.7317	697	23.00	30	30.5
1993	4,932.30	2,353	3,522	0.7140	1,411	23.53	60	29.5
1994	50,396.97	23,441	35,079	0.6960	15,318	24.07	636	28.5
1995	12,960.00	5,870	8,784	0.6778	4,176	24.62	170	27.5
1996	14,903.83	6,565	9,824	0.6592	5,080	25.18	202	26.5

New Jersey - American Water Company

Account #: 304.400 - Structures and Improvements - Transmission and Distribution

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1997	18,449.17	7,893	11,811	0.6402	6,638	25.75	258	25.5
1998	50,793.00	21,074	31,537	0.6209	19,256	26.33	731	24.5
1999	61,637.56	24,764	37,058	0.6012	24,579	26.92	913	23.5
2000	36,318.63	14,105	21,108	0.5812	15,211	27.52	553	22.5
2001	360,456.52	135,066	202,125	0.5607	158,332	28.14	5,627	21.5
2002	52,509.58	18,944	28,350	0.5399	24,159	28.76	840	20.5
2003	431,250.17	149,463	223,669	0.5187	207,582	29.40	7,060	19.5
2004	5,761.96	1,914	2,864	0.4970	2,898	30.06	96	18.5
2005	29,745.06	9,438	14,124	0.4748	15,621	30.72	508	17.5
2006	587,460.47	177,539	265,685	0.4523	321,775	31.40	10,248	16.5
2007	202,851.50	58,180	87,065	0.4292	115,786	32.09	3,608	15.5
2008	615,629.41	166,887	249,744	0.4057	365,886	32.80	11,155	14.5
2009	203,525.36	51,905	77,675	0.3816	125,851	33.52	3,754	13.5
2010	138,115.90	32,956	49,319	0.3571	88,797	34.26	2,592	12.5
2011	850,422.94	188,666	282,337	0.3320	568,086	35.02	16,223	11.5
2012	214,640.26	43,943	65,760	0.3064	148,881	35.79	4,160	10.5
2013	6,747.08	1,263	1,891	0.2802	4,857	36.57	133	9.5
2014	590,698.83	100,037	149,704	0.2534	440,995	37.38	11,798	8.5
2015	2,679,019.61	404,723	605,662	0.2261	2,073,358	38.20	54,274	7.5
2016	624,846.48	82,722	123,793	0.1981	501,054	39.04	12,834	6.5
2017	2,393,208.80	271,135	405,750	0.1695	1,987,459	39.90	49,809	5.5
2018	9,093,529.14	852,742	1,276,117	0.1403	7,817,412	40.78	191,697	4.5
2019	403,211.89	29,755	44,528	0.1104	358,684	41.68	8,606	3.5
2020	15,165.31	809	1,211	0.0798	13,954	42.60	328	2.5
2022	38,546.97	423	633	0.0164	37,914	44.51	852	0.5

New Jersey - American Water Company

Account #: 304.400 - Structures and Improvements - Transmission and Distribution

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	23,167,372.28	4,887,031	7,205,535		15,961,837		423,306	

COMPOSITE ANNUAL ACCRUAL RATE	1.83%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.31
COMPOSITE AVERAGE AGE (YEARS)	12.30
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	35.51

New Jersey - American Water Company

Account #: 304.500 - Structures and Improvements - General

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 30
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1955	3,084.60	3,085	1,967	0.6375	1,118	1.00	1,118	67.5
1960	2,646.30	2,646	1,687	0.6375	959	1.00	959	62.5
1965	7,560.49	7,434	4,739	0.6268	2,821	1.00	2,821	57.5
1970	2,660.15	2,457	1,566	0.5888	1,094	2.29	478	52.5
1972	8,618.14	7,816	4,982	0.5781	3,636	2.79	1,302	50.5
1974	666.01	593	378	0.5674	288	3.30	87	48.5
1975	2,588.71	2,281	1,454	0.5618	1,134	3.56	319	47.5
1976	500.00	436	278	0.5560	222	3.83	58	46.5
1977	1,464.81	1,264	806	0.5502	659	4.11	160	45.5
1978	19,337.00	16,506	10,522	0.5441	8,815	4.39	2,007	44.5
1979	10,940.00	9,232	5,885	0.5379	5,055	4.68	1,079	43.5
1980	2,107.10	1,757	1,120	0.5316	987	4.98	198	42.5
1981	12,592.00	10,374	6,613	0.5252	5,979	5.28	1,131	41.5
1982	17,384.00	14,141	9,014	0.5185	8,370	5.60	1,495	40.5
1983	8,511.40	6,832	4,355	0.5117	4,156	5.92	702	39.5
1984	34,342.66	27,188	17,331	0.5047	17,011	6.25	2,722	38.5
1985	12,304.41	9,600	6,120	0.4974	6,185	6.59	938	37.5
1986	73,976.08	56,840	36,232	0.4898	37,744	6.95	5,431	36.5
1987	27,138.70	20,517	13,078	0.4819	14,060	7.32	1,921	35.5
1988	1,820.00	1,353	862	0.4737	958	7.71	124	34.5
1989	653,757.56	477,094	304,124	0.4652	349,634	8.11	43,128	33.5
1990	362,440.45	259,451	165,388	0.4563	197,053	8.52	23,116	32.5
1991	56,488.02	39,618	25,255	0.4471	31,233	8.96	3,486	31.5
1992	30,631.33	21,022	13,400	0.4375	17,231	9.41	1,831	30.5
1993	42,860.47	28,744	18,323	0.4275	24,538	9.88	2,483	29.5
1994	15,333.30	10,034	6,396	0.4172	8,937	10.37	862	28.5
1995	19,419.01	12,381	7,893	0.4064	11,527	10.87	1,060	27.5
1996	16,705.32	10,361	6,604	0.3953	10,101	11.39	887	26.5

New Jersey - American Water Company

Account #: 304.500 - Structures and Improvements - General

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 30
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1997	56,982.37	34,317	21,876	0.3839	35,107	11.93	2,942	25.5
1998	56,455.02	32,954	21,006	0.3721	35,449	12.49	2,838	24.5
1999	6,836,605.36	3,860,272	2,460,734	0.3599	4,375,871	13.06	335,044	23.5
2000	7,746.28	4,222	2,691	0.3474	5,055	13.65	370	22.5
2001	155,484.17	81,618	52,027	0.3346	103,457	14.25	7,259	21.5
2002	676,288.33	341,056	217,407	0.3215	458,882	14.87	30,858	20.5
2003	1,224,285.43	591,583	377,105	0.3080	847,180	15.50	54,643	19.5
2004	39,489.02	18,229	11,620	0.2943	27,869	16.15	1,725	18.5
2005	229,453.06	100,869	64,299	0.2802	165,154	16.81	9,824	17.5
2006	3,483,179.25	1,453,060	926,254	0.2659	2,556,925	17.49	146,235	16.5
2007	785,622.40	309,772	197,465	0.2513	588,158	18.17	32,368	15.5
2008	2,836,689.22	1,052,572	670,963	0.2365	2,165,726	18.87	114,781	14.5
2009	923,696.52	320,938	204,582	0.2215	719,114	19.58	36,734	13.5
2010	3,116,618.06	1,008,179	642,665	0.2062	2,473,953	20.30	121,897	12.5
2011	3,216,866.81	962,482	613,535	0.1907	2,603,331	21.02	123,826	11.5
2012	2,537,933.31	696,940	444,265	0.1751	2,093,668	21.76	96,209	10.5
2013	1,451,748.00	362,530	231,095	0.1592	1,220,653	22.51	54,231	9.5
2014	2,360,637.33	530,100	337,913	0.1431	2,022,724	23.26	86,949	8.5
2015	2,871,075.80	571,724	364,446	0.1269	2,506,630	24.03	104,330	7.5
2016	289,619.94	50,229	32,019	0.1106	257,601	24.80	10,388	6.5
2017	2,685,885.04	396,095	252,491	0.0940	2,433,394	25.58	95,144	5.5
2018	34,261,565.57	4,154,402	2,648,228	0.0773	31,613,338	26.36	1,199,186	4.5
2019	3,531,979.75	334,723	213,369	0.0604	3,318,610	27.16	122,201	3.5
2020	18,815,364.73	1,279,976	815,922	0.0434	17,999,443	27.96	643,776	2.5
2021	2,454,072.09	100,700	64,191	0.0262	2,389,881	28.77	83,071	1.5
2022	12,061,194.40	166,156	105,916	0.0088	11,955,278	29.59	404,076	0.5

New Jersey - American Water Company

Account #: 304.500 - Structures and Improvements - General

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 30
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	108,414,415.28	19,876,757	12,670,460		95,743,955		4,022,808	

COMPOSITE ANNUAL ACCRUAL RATE	3.71%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.12
COMPOSITE AVERAGE AGE (YEARS)	7.19
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	24.50

New Jersey - American Water Company

Account #: 304.600 - Structures and Improvements - Office Buildings

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1892	1,128.92	1,129	1,128	0.9994	1	1.00	1	131.5
1907	3,486.72	3,487	3,484	0.9994	2	1.00	2	116.5
1913	1,073.61	1,074	1,073	0.9994	1	1.00	1	110.5
1923	3,046.66	3,047	3,045	0.9994	2	1.00	2	100.5
1934	1,843.04	1,816	1,815	0.9849	28	1.00	28	88.5
1941	134.34	125	125	0.9294	9	3.15	3	81.5
1945	125.00	112	112	0.8962	13	4.65	3	77.5
1949	19,860.92	17,138	17,127	0.8623	2,734	6.17	443	73.5
1956	283.00	227	227	0.8018	56	8.90	6	66.5
1957	105.25	84	83	0.7931	22	9.29	2	65.5
1959	6,165.89	4,783	4,780	0.7753	1,385	10.09	137	63.5
1961	167,183.47	126,708	126,627	0.7574	40,557	10.89	3,723	61.5
1964	133.64	98	98	0.7302	36	12.12	3	58.5
1965	338,172.48	244,009	243,853	0.7211	94,320	12.53	7,527	57.5
1967	630.00	443	443	0.7026	187	13.36	14	55.5
1969	5,735.87	3,926	3,923	0.6840	1,813	14.20	128	53.5
1970	2,448.25	1,653	1,651	0.6746	797	14.63	54	52.5
1971	401,676.41	267,318	267,146	0.6651	134,530	15.05	8,938	51.5
1972	75.00	49	49	0.6556	26	15.48	2	50.5
1973	1,721.32	1,113	1,112	0.6459	609	15.91	38	49.5
1977	16,491.42	10,015	10,009	0.6069	6,482	17.67	367	45.5
1978	1,150.35	687	687	0.5970	464	18.12	26	44.5
1979	7,521.52	4,418	4,415	0.5870	3,106	18.57	167	43.5
1980	7,038.82	4,063	4,061	0.5769	2,978	19.02	157	42.5
1981	6,514.39	3,694	3,692	0.5668	2,822	19.48	145	41.5
1982	16,576.76	9,231	9,225	0.5565	7,352	19.94	369	40.5
1983	66,918.61	36,574	36,550	0.5462	30,369	20.41	1,488	39.5
1984	19,700.45	10,562	10,555	0.5358	9,145	20.87	438	38.5

New Jersey - American Water Company

Account #: 304.600 - Structures and Improvements - Office Buildings

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1985	10,189.00	5,355	5,352	0.5253	4,837	21.35	227	37.5
1986	46,961.66	24,186	24,170	0.5147	22,791	21.82	1,044	36.5
1987	233,284.60	117,648	117,572	0.5040	115,713	22.31	5,187	35.5
1989	55,049.50	26,567	26,550	0.4823	28,500	23.28	1,224	33.5
1990	944,179.93	445,263	444,977	0.4713	499,203	23.78	20,994	32.5
1991	123,375.47	56,810	56,773	0.4602	66,602	24.28	2,743	31.5
1992	172,743.72	77,599	77,549	0.4489	95,195	24.79	3,841	30.5
1993	22,039.57	9,650	9,644	0.4376	12,396	25.30	490	29.5
1994	46,457.86	19,807	19,794	0.4261	26,664	25.81	1,033	28.5
1995	1,970,428.30	817,169	816,644	0.4145	1,153,784	26.34	43,807	27.5
1996	3,043,284.12	1,226,282	1,225,494	0.4027	1,817,790	26.87	67,658	26.5
1997	354,597.97	138,658	138,569	0.3908	216,029	27.40	7,883	25.5
1998	5,426.55	2,056	2,055	0.3787	3,371	27.95	121	24.5
1999	2,251.94	826	825	0.3665	1,427	28.50	50	23.5
2000	4,477.34	1,587	1,586	0.3541	2,892	29.05	100	22.5
2001	1,203.53	411	411	0.3416	792	29.62	27	21.5
2002	1,419.99	467	467	0.3288	953	30.19	32	20.5
2003	6,958.05	2,199	2,198	0.3159	4,760	30.78	155	19.5
2004	728,272.97	220,619	220,477	0.3027	507,796	31.37	16,188	18.5
2005	1,685,271.03	488,008	487,695	0.2894	1,197,577	31.97	37,460	17.5
2006	252,527.70	69,693	69,648	0.2758	182,879	32.58	5,613	16.5
2007	566,571.27	148,529	148,434	0.2620	418,137	33.20	12,593	15.5
2008	594,230.40	147,416	147,321	0.2479	446,909	33.84	13,208	14.5
2009	413,698.81	96,697	96,635	0.2336	317,064	34.48	9,195	13.5
2013	28,053.27	4,862	4,858	0.1732	23,195	37.20	623	9.5
2014	64,378.52	10,128	10,121	0.1572	54,257	37.92	1,431	8.5
2015	119,861.95	16,891	16,880	0.1408	102,982	38.66	2,664	7.5
2016	85,202.54	10,573	10,566	0.1240	74,636	39.42	1,894	6.5

New Jersey - American Water Company

Account #: 304.600 - Structures and Improvements - Office Buildings

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2017	2,128.63	227	227	0.1067	1,901	40.19	47	5.5
2018	142,746.69	12,700	12,692	0.0889	130,055	41.00	3,172	4.5
2019	45,026.15	3,176	3,174	0.0705	41,852	41.83	1,001	3.5
2020	11,132,674.46	572,837	572,469	0.0514	10,560,205	42.68	247,401	2.5
2021	34,589.40	1,093	1,093	0.0316	33,497	43.58	769	1.5
2022	35,567,742.24	385,789	385,541	0.0108	35,182,201	44.51	790,400	0.5
TOTAL	59,604,247.24	5,919,359	5,915,557		53,688,690		1,324,487	

COMPOSITE ANNUAL ACCRUAL RATE	2.22%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.10
COMPOSITE AVERAGE AGE (YEARS)	6.33
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	40.53

New Jersey - American Water Company

Account #: 304.610 - Structures and Improvements - HVAC

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	3,042.74	798	238	0.0781	2,805	33.20	84	15.5
2019	29,024.99	2,047	610	0.0210	28,415	41.83	679	3.5
2020	1,221,513.16	62,854	18,729	0.0153	1,202,784	42.68	28,178	2.5
2021	1,436,637.44	45,416	13,533	0.0094	1,423,104	43.58	32,657	1.5
TOTAL	2,690,218.33	111,115	33,110		2,657,108		61,598	

COMPOSITE ANNUAL ACCRUAL RATE	2.29%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.01
COMPOSITE AVERAGE AGE (YEARS)	1.99
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	43.14

New Jersey - American Water Company

Account #: 304.700 - Structures and Improvements - Stores, Shop and Garage Buildings

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1911	599.40	599	583	0.9718	17	1.00	17	111.5
1925	299.83	300	291	0.9718	8	1.00	8	97.5
1930	475.00	475	462	0.9718	13	1.00	13	92.5
1932	422.14	422	410	0.9718	12	1.00	12	90.5
1940	144.33	137	133	0.9194	12	2.70	4	82.5
1962	22,297.04	18,709	18,182	0.8155	4,115	8.05	511	60.5
1965	487.00	399	388	0.7971	99	8.99	11	57.5
1971	278,482.28	215,655	209,580	0.7526	68,902	11.28	6,108	51.5
1972	3,864.66	2,959	2,875	0.7440	989	11.72	84	50.5
1973	31,242.00	23,631	22,966	0.7351	8,276	12.18	679	49.5
1974	2,032.00	1,518	1,475	0.7258	557	12.66	44	48.5
1979	6,107.12	4,239	4,120	0.6746	1,987	15.29	130	43.5
1981	71,638.64	48,054	46,700	0.6519	24,938	16.46	1,515	41.5
1982	14,315.22	9,429	9,163	0.6401	5,152	17.07	302	40.5
1983	76,594.61	49,499	48,105	0.6280	28,489	17.69	1,611	39.5
1984	41,181.06	26,091	25,356	0.6157	15,825	18.32	864	38.5
1985	1,375,923.11	853,927	829,874	0.6031	546,049	18.97	28,786	37.5
1986	3,205,010.19	1,946,775	1,891,939	0.5903	1,313,071	19.63	66,894	36.5
1987	31,765.26	18,867	18,336	0.5772	13,429	20.30	661	35.5
1988	2,533.37	1,470	1,429	0.5639	1,105	20.99	53	34.5
1989	193,550.57	109,616	106,529	0.5504	87,022	21.68	4,013	33.5
1990	1,708,034.26	943,164	916,597	0.5366	791,437	22.39	35,347	32.5
1991	56,449.44	30,360	29,505	0.5227	26,945	23.11	1,166	31.5
1993	59,352.52	30,178	29,328	0.4941	30,025	24.58	1,222	29.5
1994	4,100.00	2,023	1,966	0.4796	2,134	25.33	84	28.5
1995	12,215.77	5,842	5,678	0.4648	6,538	26.09	251	27.5
1996	8,044.78	3,724	3,619	0.4498	4,426	26.86	165	26.5
1997	8,976.75	4,015	3,902	0.4347	5,074	27.63	184	25.5

New Jersey - American Water Company

Account #: 304.700 - Structures and Improvements - Stores, Shop and Garage Buildings

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1998	1,896.90	819	796	0.4194	1,101	28.42	39	24.5
2001	166,407.32	63,773	61,976	0.3724	104,431	30.84	3,386	21.5
2002	4,166.15	1,528	1,485	0.3564	2,681	31.66	85	20.5
2004	32,714.05	10,907	10,599	0.3240	22,115	33.33	663	18.5
2005	77,772.27	24,612	23,919	0.3075	53,854	34.18	1,576	17.5
2007	70,612.41	19,924	19,362	0.2742	51,250	35.89	1,428	15.5
2008	1,901,877.89	503,590	489,405	0.2573	1,412,473	36.76	38,423	14.5
2010	192,589.24	44,227	42,981	0.2232	149,608	38.52	3,884	12.5
2011	19,926.12	4,222	4,103	0.2059	15,823	39.41	402	11.5
2012	14,201.64	2,755	2,677	0.1885	11,524	40.30	286	10.5
2013	71,729.96	12,624	12,268	0.1710	59,462	41.20	1,443	9.5
2015	61,116.79	8,535	8,294	0.1357	52,822	43.02	1,228	7.5
2017	18,488.93	1,902	1,849	0.1000	16,640	44.86	371	5.5
2018	7,270.33	613	596	0.0820	6,674	45.78	146	4.5
2020	5,180.18	244	237	0.0458	4,943	47.65	104	2.5
2021	64,856.98	1,836	1,784	0.0275	63,073	48.58	1,298	1.5
TOTAL	9,926,945.51	5,054,187	4,911,824		5,015,122		205,501	

COMPOSITE ANNUAL ACCRUAL RATE	2.07%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.49
COMPOSITE AVERAGE AGE (YEARS)	30.31
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	24.54

New Jersey - American Water Company

Account #: 304.800 - Structures and Improvements - Miscellaneous

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1900	3,233.07	3,233	3,233	1.0000	0	1.00	0	122.5
1913	2,457.67	2,458	2,458	1.0000	0	1.00	0	109.5
1914	508.35	508	508	1.0000	0	1.00	0	108.5
1917	245.51	246	246	1.0000	0	1.00	0	105.5
1918	1,069.08	1,069	1,069	1.0000	0	1.00	0	104.5
1924	8,582.79	8,583	8,583	1.0000	0	1.00	0	98.5
1927	46.85	47	47	1.0000	0	1.00	0	95.5
1928	708.80	709	709	1.0000	0	1.00	0	94.5
1929	172.93	173	173	1.0000	0	1.00	0	93.5
1937	11.90	12	12	1.0000	0	1.00	0	85.5
1940	469.20	469	469	1.0000	0	1.00	0	82.5
1941	395.24	395	395	1.0000	0	1.00	0	81.5
1942	1,041.57	1,042	1,042	1.0000	0	1.00	0	80.5
1943	3,505.65	3,462	3,506	1.0000	0	1.00	0	79.5
1944	116.61	115	117	1.0000	0	1.00	0	78.5
1945	613.42	602	613	1.0000	0	1.00	0	77.5
1948	226.20	218	226	1.0000	0	1.49	0	74.5
1949	1,954.46	1,870	1,954	1.0000	0	1.74	0	73.5
1950	3,926.79	3,732	3,927	1.0000	0	1.99	0	72.5
1951	1,616.57	1,526	1,617	1.0000	0	2.24	0	71.5
1953	10,204.73	9,505	10,205	1.0000	0	2.74	0	69.5
1959	2,962.34	2,648	2,962	1.0000	0	4.25	0	63.5
1960	572.36	508	572	1.0000	0	4.51	0	62.5
1961	291.89	257	292	1.0000	0	4.76	0	61.5
1962	948.72	830	949	1.0000	0	5.02	0	60.5
1964	300.00	258	300	1.0000	0	5.55	0	58.5
1965	299.89	256	300	1.0000	0	5.82	0	57.5
1973	10,062.50	8,013	10,063	1.0000	0	8.15	0	49.5

New Jersey - American Water Company

Account #: 304.800 - Structures and Improvements - Miscellaneous

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1974	536.61	423	537	1.0000	0	8.47	0	48.5
1977	5,846.96	4,464	5,847	1.0000	0	9.46	0	45.5
1981	4,546.50	3,306	4,547	1.0000	0	10.91	0	41.5
1982	56,333.05	40,423	56,333	1.0000	0	11.30	0	40.5
1986	12,800.00	8,655	12,800	1.0000	0	12.95	0	36.5
1988	1,059,616.59	692,616	1,059,617	1.0000	0	13.85	0	34.5
1989	201,396.10	129,272	201,396	1.0000	0	14.32	0	33.5
1990	8,415.55	5,300	8,416	1.0000	0	14.81	0	32.5
1991	1,007,554.51	621,938	1,007,555	1.0000	0	15.31	0	31.5
1992	33,347.22	20,155	33,347	1.0000	0	15.82	0	30.5
1993	24,792.76	14,656	24,793	1.0000	0	16.35	0	29.5
1994	1,441,960.27	832,712	1,441,960	1.0000	0	16.90	0	28.5
1996	820,532.16	450,382	820,532	1.0000	0	18.04	0	26.5
1998	105,086.55	54,490	105,087	1.0000	0	19.26	0	24.5
1999	36,205.56	18,199	36,206	1.0000	0	19.89	0	23.5
2001	107,589.82	50,511	107,590	1.0000	0	21.22	0	21.5
2002	12,850.72	5,811	12,851	1.0000	0	21.91	0	20.5
2003	18,521.74	8,045	18,522	1.0000	0	22.63	0	19.5
2004	5,809.15	2,417	5,809	1.0000	0	23.36	0	18.5
2005	89,445.03	35,531	89,445	1.0000	0	24.11	0	17.5
2006	44,478.45	16,810	44,478	1.0000	0	24.88	0	16.5
2007	190,399.95	68,189	190,400	1.0000	0	25.67	0	15.5
2019	245,942.08	21,390	245,942	1.0000	0	36.52	0	3.5
2021	5,472.24	205	4,987	0.9114	485	38.50	13	1.5
2022	346,411.67	4,329	105,362	0.3042	241,050	39.50	6,103	0.5

New Jersey - American Water Company

Account #: 304.800 - Structures and Improvements - Miscellaneous

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	5,942,436.33	3,162,969	5,700,902		241,535		6,116	

COMPOSITE ANNUAL ACCRUAL RATE	0.10%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.96
COMPOSITE AVERAGE AGE (YEARS)	26.97
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	18.71

New Jersey - American Water Company

Account #: 305.000 - Collecting and Impounding Reservoirs

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1
ASL: 90
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1901	100,114.50	81,030	47,106	0.4705	53,008	17.16	3,090	121.5
1907	358.65	282	164	0.4573	195	19.21	10	115.5
1913	24,509.00	18,699	10,870	0.4435	13,639	21.34	639	109.5
1924	17,386.22	12,466	7,247	0.4168	10,139	25.47	398	98.5
1925	592.84	423	246	0.4143	347	25.86	13	97.5
1926	781.95	554	322	0.4118	460	26.25	18	96.5
1927	22.97	16	9	0.4092	14	26.65	1	95.5
1928	116,010.00	81,138	47,169	0.4066	68,841	27.05	2,545	94.5
1929	8,864.18	6,160	3,581	0.4040	5,283	27.46	192	93.5
1930	429,382.61	296,443	172,334	0.4014	257,048	27.86	9,225	92.5
1931	26,743.96	18,342	10,663	0.3987	16,081	28.27	569	91.5
1938	1,299.68	849	493	0.3795	806	31.24	26	84.5
1939	916.47	594	345	0.3767	571	31.68	18	83.5
1943	1,013.89	637	370	0.3651	644	33.47	19	79.5
1944	18.26	11	7	0.3620	12	33.93	0	78.5
1946	910.00	558	324	0.3562	586	34.86	17	76.5
1949	2,571.21	1,535	892	0.3470	1,679	36.28	46	73.5
1950	330,361.78	195,409	113,599	0.3439	216,763	36.77	5,896	72.5
1952	194,910.00	113,164	65,787	0.3375	129,123	37.75	3,421	70.5
1954	20,318.47	11,571	6,727	0.3311	13,592	38.75	351	68.5
1956	70,759.35	39,494	22,959	0.3245	47,800	39.77	1,202	66.5
1958	836,108.01	456,997	265,671	0.3177	570,437	40.81	13,979	64.5
1960	230,800.15	123,426	71,752	0.3109	159,048	41.87	3,799	62.5
1962	3,679,305.37	1,923,271	1,118,074	0.3039	2,561,231	42.95	59,626	60.5
1963	110,194.40	56,927	33,094	0.3003	77,100	43.51	1,772	59.5
1964	155,485.00	79,364	46,137	0.2967	109,348	44.06	2,482	58.5
1965	6,089.87	3,070	1,785	0.2931	4,305	44.62	96	57.5
1966	57,363.25	28,559	16,602	0.2894	40,761	45.19	902	56.5

New Jersey - American Water Company

Account #: 305.000 - Collecting and Impounding Reservoirs

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1
ASL: 90
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1967	27,733.51	13,630	7,924	0.2857	19,810	45.77	433	55.5
1972	70,959.16	32,533	18,913	0.2665	52,047	48.74	1,068	50.5
1973	30,885.17	13,949	8,109	0.2626	22,776	49.35	462	49.5
1977	5,457.00	2,311	1,344	0.2462	4,113	51.88	79	45.5
1980	130,830.47	52,548	30,548	0.2335	100,282	53.85	1,862	42.5
1981	7,350.00	2,897	1,684	0.2292	5,666	54.52	104	41.5
1982	193,468.62	74,799	43,483	0.2248	149,985	55.20	2,717	40.5
1983	255,097.41	96,672	56,199	0.2203	198,898	55.89	3,559	39.5
1984	3,404,602.34	1,263,841	734,722	0.2158	2,669,881	56.59	47,179	38.5
1985	1,217.65	442	257	0.2112	960	57.30	17	37.5
1986	808,602.58	287,419	167,088	0.2066	641,514	58.01	11,059	36.5
1987	677,803.40	235,490	136,900	0.2020	540,904	58.73	9,210	35.5
1988	1,218,640.99	413,506	240,388	0.1973	978,253	59.46	16,452	34.5
1989	304,077.33	100,683	58,531	0.1925	245,546	60.20	4,079	33.5
1991	7,931.62	2,494	1,450	0.1828	6,482	61.70	105	31.5
1992	34,045.17	10,414	6,054	0.1778	27,991	62.47	448	30.5
1993	17,595.09	5,231	3,041	0.1728	14,554	63.24	230	29.5
1994	96,143.56	27,745	16,129	0.1678	80,014	64.03	1,250	28.5
1995	80,256.00	22,453	13,053	0.1626	67,203	64.82	1,037	27.5
1996	2,767.00	749	436	0.1575	2,331	65.62	36	26.5
1997	747,336.53	195,690	113,763	0.1522	633,574	66.43	9,537	25.5
1998	771,695.39	195,037	113,383	0.1469	658,313	67.25	9,789	24.5
1999	106,788.51	26,006	15,118	0.1416	91,670	68.08	1,346	23.5
2000	767,683.41	179,796	104,523	0.1362	663,161	68.92	9,622	22.5
2003	46,363.24	9,533	5,542	0.1195	40,822	71.50	571	19.5
2011	82,606.13	10,322	6,000	0.0726	76,606	78.75	973	11.5
2012	116,072.51	13,284	7,722	0.0665	108,350	79.70	1,359	10.5
2013	13,090.19	1,359	790	0.0604	12,300	80.65	153	9.5

New Jersey - American Water Company

Account #: 305.000 - Collecting and Impounding Reservoirs

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1
ASL: 90
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2014	2,244,828.90	209,169	121,598	0.0542	2,123,231	81.61	26,016	8.5
2016	3,054,030.86	218,696	127,137	0.0416	2,926,894	83.56	35,029	6.5
2018	413,817.10	20,599	11,975	0.0289	401,842	85.52	4,699	4.5
TOTAL	22,162,968.88	7,290,286	4,238,135		17,924,834		310,832	

COMPOSITE ANNUAL ACCRUAL RATE	1.40%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.19
COMPOSITE AVERAGE AGE (YEARS)	36.16
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	60.40

New Jersey - American Water Company

Account #: 306.000 - Lake, River and Other Intakes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 55
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1945	8,515.16	7,924	5,176	0.6079	3,339	3.82	874	77.5
1949	5,748.35	5,242	3,424	0.5957	2,324	4.85	480	73.5
1950	88,918.00	80,661	52,692	0.5926	36,226	5.11	7,093	72.5
1957	21,967.24	19,145	12,506	0.5693	9,461	7.07	1,339	65.5
1958	775.00	671	438	0.5656	337	7.38	46	64.5
1959	21,248.52	18,270	11,935	0.5617	9,314	7.71	1,208	63.5
1964	102,463.58	84,649	55,297	0.5397	47,166	9.56	4,932	58.5
1967	10,999.32	8,826	5,766	0.5242	5,234	10.87	482	55.5
1968	68.59	54	36	0.5186	33	11.34	3	54.5
1970	985.00	764	499	0.5068	486	12.33	39	52.5
1981	16,824.32	11,029	7,205	0.4282	9,619	18.94	508	41.5
1982	700.00	450	294	0.4201	406	19.63	21	40.5
1986	6,000.00	3,545	2,316	0.3860	3,684	22.50	164	36.5
1987	32,742.73	18,901	12,347	0.3771	20,396	23.25	877	35.5
1989	94,957.22	52,182	34,088	0.3590	60,869	24.78	2,457	33.5
1992	16,530.55	8,374	5,470	0.3309	11,060	27.14	408	30.5
1994	295,717.09	141,078	92,160	0.3116	203,557	28.76	7,078	28.5
1996	8,898,149.88	3,976,567	2,597,714	0.2919	6,300,435	30.42	207,111	26.5
2002	9,641.78	3,400	2,221	0.2304	7,421	35.60	208	20.5
2005	81,100.98	24,626	16,087	0.1984	65,014	38.30	1,698	17.5
2006	16,558.31	4,753	3,105	0.1875	13,453	39.21	343	16.5
2008	176,835.11	44,830	29,285	0.1656	147,550	41.06	3,594	14.5
2009	52,124.26	12,332	8,056	0.1545	44,069	41.99	1,050	13.5
2011	38,178.63	7,728	5,048	0.1322	33,130	43.87	755	11.5
2012	85,272.74	15,791	10,316	0.1210	74,957	44.82	1,673	10.5
2013	16,805.54	2,821	1,843	0.1097	14,963	45.77	327	9.5
2017	218,884.59	21,415	13,990	0.0639	204,895	49.62	4,129	5.5
2018	13,327.83	1,068	698	0.0524	12,630	50.59	250	4.5

New Jersey - American Water Company

Account #: 306.000 - Lake, River and Other Intakes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 55
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2022	23,854.30	214	139	0.0058	23,715	54.51	435	0.5
TOTAL	10,355,894.62	4,577,309	2,990,153		7,365,742		249,582	

COMPOSITE ANNUAL ACCRUAL RATE	2.41%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.29
COMPOSITE AVERAGE AGE (YEARS)	26.55
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	30.69

New Jersey - American Water Company

Account #: 307.000 - Wells and Springs

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1906	91.17	91	91	1.0000	0	1.00	0	116.5
1923	677.05	677	677	1.0000	0	1.00	0	99.5
1926	300,794.49	300,794	300,794	1.0000	0	1.00	0	96.5
1931	6,408.90	6,409	6,409	1.0000	0	1.00	0	91.5
1933	313,239.93	313,240	313,240	1.0000	0	1.00	0	89.5
1936	9,591.00	9,591	9,591	1.0000	0	1.00	0	86.5
1937	8,644.49	8,644	8,644	1.0000	0	1.00	0	85.5
1939	376,736.14	372,969	376,736	1.0000	0	1.00	0	83.5
1940	18,334.34	18,108	18,334	1.0000	0	1.00	0	82.5
1942	7,864.59	7,705	7,865	1.0000	0	1.01	0	80.5
1949	10,621.75	10,049	10,622	1.0000	0	2.69	0	73.5
1950	13,184.63	12,407	13,185	1.0000	0	2.95	0	72.5
1951	3,453.90	3,232	3,454	1.0000	0	3.21	0	71.5
1953	13,750.42	12,728	13,750	1.0000	0	3.72	0	69.5
1954	9,523.11	8,766	9,523	1.0000	0	3.97	0	68.5
1955	1,394.94	1,277	1,395	1.0000	0	4.23	0	67.5
1956	52,942.82	48,189	52,943	1.0000	0	4.49	0	66.5
1958	30,887.42	27,790	30,887	1.0000	0	5.01	0	64.5
1959	276.57	247	277	1.0000	0	5.28	0	63.5
1960	149,447.96	132,834	149,448	1.0000	0	5.56	0	62.5
1961	90,747.43	80,145	90,747	1.0000	0	5.84	0	61.5
1962	31,265.18	27,429	31,265	1.0000	0	6.13	0	60.5
1963	34,654.56	30,192	34,655	1.0000	0	6.44	0	59.5
1964	112,464.85	97,271	112,465	1.0000	0	6.75	0	58.5
1965	208,421.19	178,888	208,421	1.0000	0	7.08	0	57.5
1966	50,315.25	42,839	50,315	1.0000	0	7.43	0	56.5
1967	168,444.29	142,198	168,444	1.0000	0	7.79	0	55.5
1968	28,813.03	24,106	28,813	1.0000	0	8.17	0	54.5

New Jersey - American Water Company

Account #: 307.000 - Wells and Springs

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1969	110,980.27	91,973	110,980	1.0000	0	8.56	0	53.5
1970	221,585.65	181,805	221,586	1.0000	0	8.98	0	52.5
1971	54,269.84	44,059	54,270	1.0000	0	9.41	0	51.5
1972	49,021.75	39,356	49,022	1.0000	0	9.86	0	50.5
1973	574,664.29	455,964	574,664	1.0000	0	10.33	0	49.5
1974	7,307.34	5,727	7,307	1.0000	0	10.82	0	48.5
1975	8,415.13	6,509	8,317	0.9883	99	11.32	9	47.5
1976	191,236.73	145,911	186,424	0.9748	4,812	11.85	406	46.5
1977	238.38	179	229	0.9609	9	12.40	1	45.5
1978	38,756.55	28,711	36,683	0.9465	2,073	12.96	160	44.5
1980	2,053,456.32	1,472,748	1,881,665	0.9163	171,791	14.14	12,149	42.5
1981	665,108.99	468,828	599,000	0.9006	66,109	14.76	4,480	41.5
1982	335,641.23	232,346	296,858	0.8845	38,783	15.39	2,520	40.5
1983	485,419.64	329,739	421,293	0.8679	64,126	16.04	3,999	39.5
1984	594,124.00	395,701	505,570	0.8510	88,554	16.70	5,303	38.5
1985	287,902.93	187,848	240,005	0.8336	47,898	17.38	2,756	37.5
1986	288,232.82	184,075	235,185	0.8160	53,048	18.07	2,936	36.5
1987	253,808.43	158,510	202,522	0.7979	51,287	18.77	2,732	35.5
1988	354,557.16	216,336	276,403	0.7796	78,154	19.49	4,010	34.5
1989	2,354,792.57	1,402,369	1,791,745	0.7609	563,047	20.22	27,842	33.5
1990	405,189.32	235,283	300,611	0.7419	104,579	20.97	4,988	32.5
1991	3,326,438.19	1,881,344	2,403,711	0.7226	922,727	21.72	42,480	31.5
1992	1,307,580.47	719,487	919,257	0.7030	388,324	22.49	17,268	30.5
1993	1,955,877.95	1,045,787	1,336,156	0.6831	619,722	23.27	26,637	29.5
1994	1,274,375.24	661,296	844,909	0.6630	429,467	24.05	17,854	28.5
1995	243,418.06	122,423	156,415	0.6426	87,004	24.85	3,501	27.5
1996	39,085.77	19,025	24,307	0.6219	14,779	25.66	576	26.5
1997	757,389.14	356,234	455,144	0.6009	302,245	26.48	11,413	25.5

New Jersey - American Water Company

Account #: 307.000 - Wells and Springs

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1998	2,296,720.72	1,042,136	1,331,491	0.5797	965,230	27.31	35,340	24.5
1999	452,676.61	197,801	252,722	0.5583	199,955	28.15	7,103	23.5
2000	394,580.12	165,715	211,727	0.5366	182,853	29.00	6,305	22.5
2001	522,894.57	210,629	269,111	0.5147	253,784	29.86	8,499	21.5
2002	177,854.45	68,557	87,592	0.4925	90,263	30.73	2,938	20.5
2003	799,713.17	294,248	375,948	0.4701	423,766	31.60	13,409	19.5
2004	1,572,714.83	550,840	703,784	0.4475	868,931	32.49	26,747	18.5
2005	285,989.29	95,059	121,453	0.4247	164,536	33.38	4,929	17.5
2006	654,461.40	205,743	262,868	0.4017	391,593	34.28	11,423	16.5
2007	1,747,055.35	517,474	661,153	0.3784	1,085,902	35.19	30,858	15.5
2008	2,066,184.22	574,149	733,565	0.3550	1,332,619	36.11	36,908	14.5
2009	942,338.79	244,461	312,338	0.3314	630,001	37.03	17,014	13.5
2010	529,370.91	127,487	162,885	0.3077	366,486	37.96	9,655	12.5
2011	2,914,665.51	647,372	827,119	0.2838	2,087,547	38.89	53,672	11.5
2012	3,347,988.72	680,546	869,503	0.2597	2,478,485	39.84	62,216	10.5
2013	1,386,943.90	255,640	326,620	0.2355	1,060,324	40.78	25,998	9.5
2014	2,609,933.44	431,325	551,085	0.2111	2,058,848	41.74	49,329	8.5
2015	1,535,418.40	224,338	286,627	0.1867	1,248,792	42.69	29,249	7.5
2016	863,181.65	109,506	139,911	0.1621	723,271	43.66	16,567	6.5
2017	1,247,249.75	134,121	171,360	0.1374	1,075,890	44.62	24,110	5.5
2018	1,488,714.60	131,194	167,621	0.1126	1,321,094	45.59	28,975	4.5
2019	3,154,755.88	216,564	276,695	0.0877	2,878,061	46.57	61,804	3.5
2020	4,437,134.77	217,878	278,373	0.0627	4,158,762	47.54	87,470	2.5
2021	5,143,964.90	151,752	193,887	0.0377	4,950,078	48.52	102,011	1.5
2022	2,519,850.49	24,809	31,698	0.0126	2,488,153	49.51	50,258	0.5

New Jersey - American Water Company

Account #: 307.000 - Wells and Springs

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	63,384,222.00	20,527,737	25,800,366		37,583,856		996,807	

COMPOSITE ANNUAL ACCRUAL RATE	1.57%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.41
COMPOSITE AVERAGE AGE (YEARS)	18.62
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	33.82

New Jersey - American Water Company

Account #: 308.000 - Infiltration Galleries and Tunnels

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1895	9,459.32	9,459	9,459	1.0000	0	1.00	0	127.5
1903	8,899.00	8,616	8,899	1.0000	0	2.23	0	119.5
1934	8,662.04	7,401	8,662	1.0000	0	10.19	0	88.5
1953	11,599.00	8,789	11,599	1.0000	0	16.96	0	69.5
1962	278.88	193	279	1.0000	0	21.64	0	60.5
1967	2,687.87	1,742	2,617	0.9738	70	24.64	3	55.5
1978	40.60	22	33	0.8143	8	32.06	0	44.5
1996	9,545,743.00	3,251,252	4,885,482	0.5118	4,660,261	46.16	100,963	26.5
2007	230.00	47	71	0.3069	159	55.70	3	15.5
2012	157,767.21	22,032	33,106	0.2098	124,661	60.22	2,070	10.5
TOTAL	9,745,366.92	3,309,553	4,960,207		4,785,160		103,039	

COMPOSITE ANNUAL ACCRUAL RATE	1.06%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.51
COMPOSITE AVERAGE AGE (YEARS)	26.54
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	46.23

New Jersey - American Water Company

Account #: 309.000 - Supply Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1.5
ASL: 82
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1868	800.00	775	800	1.0000	0	2.52	0	154.5
1903	2,000.00	1,720	1,876	0.9379	124	11.48	11	119.5
1910	457.38	383	417	0.9122	40	13.41	3	112.5
1913	453.22	374	408	0.9007	45	14.27	3	109.5
1915	1,985.91	1,626	1,773	0.8929	213	14.86	14	107.5
1923	19,570.53	15,437	16,834	0.8602	2,737	17.32	158	99.5
1924	3,735.02	2,931	3,197	0.8559	538	17.64	31	98.5
1926	7,127.04	5,537	6,038	0.8471	1,089	18.30	60	96.5
1927	1,268.00	980	1,069	0.8427	199	18.63	11	95.5
1929	5,482.49	4,191	4,571	0.8337	912	19.31	47	93.5
1930	6,171.68	4,692	5,117	0.8291	1,055	19.66	54	92.5
1931	6,891.18	5,210	5,681	0.8244	1,210	20.01	60	91.5
1932	33,672.14	25,311	27,602	0.8197	6,071	20.36	298	90.5
1933	122.72	92	100	0.8149	23	20.72	1	89.5
1935	4.55	3	4	0.8044	1	21.45	0	87.5
1936	159.02	117	127	0.8003	32	21.82	1	86.5
1937	108,064.79	78,810	85,942	0.7953	22,123	22.20	997	85.5
1938	159.62	116	126	0.7902	33	22.58	1	84.5
1939	90.04	65	71	0.7851	19	22.97	1	83.5
1940	591.13	423	461	0.7798	130	23.36	6	82.5
1942	17,701.07	12,486	13,616	0.7692	4,085	24.16	169	80.5
1943	1,907.48	1,336	1,457	0.7638	451	24.57	18	79.5
1944	167.96	117	127	0.7583	41	24.98	2	78.5
1946	2,410.60	1,651	1,801	0.7471	610	25.82	24	76.5
1947	1,178.54	801	874	0.7413	305	26.25	12	75.5
1948	891.25	601	656	0.7355	236	26.69	9	74.5
1949	19,719.07	13,194	14,388	0.7297	5,331	27.13	196	73.5
1950	96,945.89	64,336	70,158	0.7237	26,788	27.58	971	72.5

New Jersey - American Water Company

Account #: 309.000 - Supply Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1.5
ASL: 82
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1951	157.07	103	113	0.7176	44	28.04	2	71.5
1952	8,750.53	5,709	6,226	0.7115	2,525	28.50	89	70.5
1953	203,181.78	131,401	143,292	0.7052	59,890	28.97	2,067	69.5
1954	1,821.38	1,167	1,273	0.6989	548	29.44	19	68.5
1955	19,127.93	12,147	13,246	0.6925	5,882	29.93	197	67.5
1956	57,791.78	36,355	39,645	0.6860	18,147	30.42	597	66.5
1957	3,876.55	2,415	2,634	0.6794	1,243	30.91	40	65.5
1958	262,464.07	161,904	176,554	0.6727	85,910	31.42	2,734	64.5
1959	21,312.98	13,014	14,192	0.6659	7,121	31.93	223	63.5
1960	2,671.84	1,615	1,761	0.6590	911	32.45	28	62.5
1961	6,298.29	3,766	4,106	0.6520	2,192	32.97	66	61.5
1962	292,997.53	173,267	188,946	0.6449	104,052	33.51	3,105	60.5
1963	95,682.59	55,950	61,013	0.6377	34,670	34.05	1,018	59.5
1964	132,427.69	76,548	83,475	0.6303	48,953	34.60	1,415	58.5
1965	230,223.53	131,510	143,411	0.6229	86,813	35.16	2,469	57.5
1966	111,471.00	62,905	68,597	0.6154	42,874	35.73	1,200	56.5
1967	15,004.50	8,362	9,119	0.6077	5,886	36.30	162	55.5
1968	1,132.61	623	680	0.6000	453	36.89	12	54.5
1969	2,319.74	1,260	1,374	0.5921	946	37.48	25	53.5
1970	130.24	70	76	0.5841	54	38.08	1	52.5
1971	48,419.38	25,575	27,889	0.5760	20,530	38.69	531	51.5
1972	8,137.73	4,237	4,620	0.5678	3,517	39.31	89	50.5
1973	435,944.17	223,636	243,873	0.5594	192,072	39.93	4,810	49.5
1975	3,479.29	1,730	1,887	0.5424	1,592	41.22	39	47.5
1976	18,344.00	8,977	9,789	0.5336	8,555	41.87	204	46.5
1977	1,013.00	488	532	0.5248	481	42.54	11	45.5
1978	15,078.50	7,133	7,778	0.5158	7,301	43.21	169	44.5
1979	3,809.00	1,770	1,930	0.5067	1,879	43.89	43	43.5

New Jersey - American Water Company

Account #: 309.000 - Supply Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1.5
ASL: 82
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1981	24,628.78	11,025	12,023	0.4882	12,606	45.29	278	41.5
1982	27,915.57	12,254	13,363	0.4787	14,553	46.00	316	40.5
1985	28,776.39	11,862	12,935	0.4495	15,841	48.20	329	37.5
1986	81,792.62	32,965	35,948	0.4395	45,844	48.95	937	36.5
1987	3,406,481.61	1,341,320	1,462,694	0.4294	1,943,787	49.71	39,101	35.5
1988	14,340.77	5,512	6,011	0.4191	8,330	50.48	165	34.5
1989	257,566.55	96,547	105,284	0.4088	152,283	51.26	2,971	33.5
1990	1,087,242.43	397,066	432,996	0.3983	654,246	52.05	12,569	32.5
1991	2,534.09	901	982	0.3876	1,552	52.85	29	31.5
1992	226,489.62	78,273	85,356	0.3769	141,134	53.66	2,630	30.5
1993	472,504.84	158,581	172,930	0.3660	299,575	54.48	5,499	29.5
1994	145,106.58	47,234	51,508	0.3550	93,598	55.31	1,692	28.5
1995	896,658.46	282,720	308,303	0.3438	588,356	56.15	10,479	27.5
1996	6,585,995.86	2,008,641	2,190,399	0.3326	4,395,597	56.99	77,128	26.5
1997	82,548.24	24,316	26,516	0.3212	56,032	57.85	969	25.5
1998	8,671.00	2,463	2,686	0.3097	5,985	58.71	102	24.5
2001	375,072.91	94,439	102,985	0.2746	272,088	61.35	4,435	21.5
2005	30,371.06	6,300	6,870	0.2262	23,501	64.99	362	17.5
2006	7,763.47	1,523	1,660	0.2139	6,103	65.92	93	16.5
2007	536,900.80	99,175	108,150	0.2014	428,751	66.85	6,413	15.5
2008	810,294.38	140,368	153,070	0.1889	657,225	67.80	9,694	14.5
2009	290,110.01	46,902	51,146	0.1763	238,964	68.74	3,476	13.5
2010	180,997.02	27,156	29,613	0.1636	151,384	69.70	2,172	12.5
2011	1,774,422.44	245,457	267,668	0.1508	1,506,755	70.66	21,325	11.5
2012	2,557,143.75	323,613	352,896	0.1380	2,204,247	71.62	30,776	10.5
2013	9,220,698.31	1,057,733	1,153,446	0.1251	8,067,252	72.59	111,129	9.5
2014	17,448.90	1,794	1,956	0.1121	15,493	73.57	211	8.5
2020	8,003.10	244	266	0.0332	7,737	79.50	97	2.5

New Jersey - American Water Company

Account #: 309.000 - Supply Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1.5
ASL: 82
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2022	881,678.53	5,375	5,862	0.0066	875,817	81.50	10,746	0.5
TOTAL	32,382,955.11	7,958,713	8,678,837		23,704,118		380,646	

COMPOSITE ANNUAL ACCRUAL RATE	1.18%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.27
COMPOSITE AVERAGE AGE (YEARS)	22.05
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	61.85

New Jersey - American Water Company

Account #: 310.000 - Power Generation Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R4
ASL: 47
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1948	158.32	158	158	1.0000	0	1.00	0	74.5
1968	66,034.12	60,191	64,617	0.9785	1,417	4.16	341	54.5
1969	58,101.51	52,592	56,460	0.9717	1,642	4.46	368	53.5
1970	1,384.85	1,244	1,336	0.9646	49	4.77	10	52.5
1973	12,035.40	10,544	11,320	0.9405	716	5.82	123	49.5
1979	103,132.00	83,990	90,166	0.8743	12,966	8.72	1,486	43.5
1980	13,101.00	10,502	11,274	0.8606	1,827	9.32	196	42.5
1981	36,573.00	28,829	30,949	0.8462	5,624	9.95	565	41.5
1982	209,825.00	162,488	174,437	0.8313	35,388	10.60	3,337	40.5
1984	20,920.00	15,597	16,744	0.8004	4,176	11.96	349	38.5
1986	144,366.48	103,289	110,884	0.7681	33,482	13.37	2,504	36.5
1987	139,559.44	97,681	104,865	0.7514	34,695	14.10	2,460	35.5
1988	529.02	362	388	0.7344	141	14.85	9	34.5
1989	149,944.89	100,140	107,504	0.7170	42,441	15.61	2,719	33.5
1990	578,965.41	377,075	404,804	0.6992	174,161	16.39	10,627	32.5
1991	15,836.35	10,047	10,785	0.6811	5,051	17.18	294	31.5
1992	155,486.95	95,960	103,017	0.6625	52,470	17.99	2,916	30.5
1993	2,719,537.51	1,630,609	1,750,521	0.6437	969,017	18.82	51,491	29.5
1994	53,376.57	31,049	33,333	0.6245	20,044	19.66	1,020	28.5
1995	85,802.73	48,351	51,907	0.6050	33,896	20.51	1,652	27.5
1996	1,290,093.39	703,141	754,848	0.5851	535,245	21.38	25,031	26.5
1997	394,208.32	207,460	222,716	0.5650	171,492	22.27	7,702	25.5
1998	353,573.33	179,348	192,537	0.5445	161,036	23.16	6,953	24.5
1999	1,617,621.78	789,357	847,405	0.5239	770,217	24.07	32,005	23.5
2000	271,678.49	127,272	136,631	0.5029	135,047	24.98	5,406	22.5
2001	103,129.04	46,279	49,682	0.4817	53,447	25.91	2,063	21.5
2002	429,711.15	184,275	197,826	0.4604	231,885	26.84	8,638	20.5
2003	38,532.71	15,750	16,908	0.4388	21,624	27.79	778	19.5

New Jersey - American Water Company

Account #: 310.000 - Power Generation Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R4
ASL: 47
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2004	185,091.19	71,907	77,195	0.4171	107,896	28.74	3,754	18.5
2006	357,300.71	124,191	133,324	0.3731	223,977	30.66	7,304	16.5
2007	3,028,775.43	990,245	1,063,066	0.3510	1,965,710	31.63	62,140	15.5
2008	5,194,032.23	1,590,447	1,707,404	0.3287	3,486,628	32.61	106,925	14.5
2009	30,741.71	8,773	9,418	0.3064	21,323	33.59	635	13.5
2010	457,876.84	121,099	130,004	0.2839	327,873	34.57	9,484	12.5
2011	2,508,265.51	610,791	655,707	0.2614	1,852,558	35.55	52,104	11.5
2012	11,778,822.87	2,620,654	2,813,371	0.2388	8,965,451	36.54	245,340	10.5
2013	852,273.45	171,664	184,288	0.2162	667,986	37.53	17,797	9.5
2014	796,297.51	143,580	154,138	0.1936	642,159	38.53	16,668	8.5
2015	3,609,040.24	574,436	616,679	0.1709	2,992,361	39.52	75,719	7.5
2016	4,068,509.25	561,434	602,720	0.1481	3,465,789	40.51	85,545	6.5
2017	3,965,830.83	463,216	497,279	0.1254	3,468,551	41.51	83,559	5.5
2018	1,582,606.35	151,282	162,407	0.1026	1,420,200	42.51	33,411	4.5
2019	88,479.39	6,580	7,064	0.0798	81,416	43.50	1,871	3.5
2020	66,289.56	3,522	3,781	0.0570	62,509	44.50	1,405	2.5
2021	357,051.47	11,382	12,220	0.0342	344,832	45.50	7,578	1.5
2022	965,351.92	10,256	11,011	0.0114	954,341	46.50	20,523	0.5
TOTAL	48,955,855.22	13,409,040	14,395,099		34,560,756		1,002,805	

COMPOSITE ANNUAL ACCRUAL RATE	2.05%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.29
COMPOSITE AVERAGE AGE (YEARS)	13.17
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	34.13

New Jersey - American Water Company

Account #: 310.200 - Other Power Generation Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 30
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1993	4,845.91	3,649	3,694	0.7622	1,152	7.41	156	29.5
1994	111,228.23	81,960	82,950	0.7458	28,278	7.89	3,582	28.5
1998	455.00	302	305	0.6706	150	10.12	15	24.5
2008	32,057.51	13,664	13,829	0.4314	18,228	17.21	1,059	14.5
2009	4,664.77	1,864	1,886	0.4043	2,779	18.02	154	13.5
2011	10,393.10	3,581	3,624	0.3487	6,769	19.66	344	11.5
2012	135,962.43	43,025	43,544	0.3203	92,418	20.51	4,507	10.5
TOTAL	299,606.95	148,044	149,833		149,774		9,817	

COMPOSITE ANNUAL ACCRUAL RATE	3.28%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.50
COMPOSITE AVERAGE AGE (YEARS)	18.02
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	15.18

New Jersey - American Water Company

Account #: 311.200 - Pumping Equipment - Electric

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1913	182.29	182	182	1.0000	0	1.00	0	110.5
1914	3,410.48	3,410	3,410	1.0000	0	1.00	0	109.5
1923	18.11	18	18	1.0000	0	1.00	0	100.5
1924	587.93	588	588	1.0000	0	1.00	0	99.5
1928	190.10	190	190	1.0000	0	1.00	0	95.5
1930	17.44	17	17	1.0000	0	1.00	0	93.5
1931	2.00	2	2	1.0000	0	1.00	0	92.5
1939	6.99	7	7	1.0000	0	1.00	0	84.5
1940	9.25	9	9	1.0000	0	1.00	0	83.5
1941	67.61	68	68	1.0000	0	1.00	0	82.5
1949	3,402.58	3,348	3,403	1.0000	0	1.00	0	73.5
1951	767.05	748	767	1.0000	0	1.14	0	71.5
1952	1,126.44	1,092	1,126	1.0000	0	1.37	0	70.5
1953	92.58	89	93	1.0000	0	1.60	0	69.5
1954	7,003.96	6,717	7,004	1.0000	0	1.85	0	68.5
1955	169,926.42	162,011	169,926	1.0000	0	2.10	0	67.5
1956	46,538.64	44,115	46,539	1.0000	0	2.34	0	66.5
1957	153,133.29	144,298	153,133	1.0000	0	2.60	0	65.5
1958	185,146.58	173,412	185,147	1.0000	0	2.85	0	64.5
1959	3,347.59	3,116	3,348	1.0000	0	3.11	0	63.5
1960	646.54	598	647	1.0000	0	3.36	0	62.5
1961	87,472.16	80,436	87,472	1.0000	0	3.62	0	61.5
1962	108,831.89	99,456	108,832	1.0000	0	3.88	0	60.5
1963	8,031.19	7,293	8,007	0.9969	25	4.14	6	59.5
1964	28,318.64	25,550	28,050	0.9905	268	4.40	61	58.5
1965	784,711.83	703,385	772,206	0.9841	12,506	4.66	2,681	57.5
1966	454,806.83	404,917	444,535	0.9774	10,271	4.94	2,081	56.5
1967	557,511.57	492,867	541,091	0.9705	16,420	5.22	3,147	55.5

New Jersey - American Water Company

Account #: 311.200 - Pumping Equipment - Electric

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1968	175,700.02	154,187	169,273	0.9634	6,427	5.51	1,166	54.5
1969	342,760.46	298,478	327,682	0.9560	15,078	5.81	2,594	53.5
1970	170,890.46	147,607	162,050	0.9483	8,841	6.13	1,442	52.5
1971	74,605.28	63,888	70,139	0.9401	4,466	6.46	691	51.5
1972	177,643.36	150,743	165,492	0.9316	12,151	6.81	1,783	50.5
1973	643,158.25	540,504	593,389	0.9226	49,770	7.18	6,929	49.5
1974	56,784.42	47,233	51,854	0.9132	4,930	7.57	651	48.5
1975	32,153.11	26,454	29,042	0.9032	3,111	7.98	390	47.5
1976	284,500.04	231,370	254,008	0.8928	30,492	8.40	3,628	46.5
1977	99,012.27	79,536	87,318	0.8819	11,694	8.85	1,321	45.5
1978	143,790.75	114,007	125,162	0.8704	18,629	9.32	1,999	44.5
1979	1,053,653.62	823,914	904,528	0.8585	149,125	9.81	15,198	43.5
1980	397,759.89	306,508	336,498	0.8460	61,262	10.32	5,934	42.5
1981	2,593,135.68	1,967,546	2,160,057	0.8330	433,079	10.86	39,892	41.5
1982	1,619,286.94	1,208,741	1,327,008	0.8195	292,279	11.41	25,618	40.5
1983	228,577.52	167,710	184,119	0.8055	44,458	11.98	3,710	39.5
1984	665,975.49	479,855	526,805	0.7910	139,170	12.58	11,066	38.5
1985	1,057,851.06	747,828	820,997	0.7761	236,854	13.19	17,960	37.5
1986	3,296,117.31	2,283,985	2,507,458	0.7607	788,660	13.82	57,075	36.5
1987	785,060.96	532,692	584,812	0.7449	200,249	14.47	13,843	35.5
1988	422,779.40	280,623	308,080	0.7287	114,699	15.13	7,580	34.5
1989	3,504,247.07	2,272,952	2,495,345	0.7121	1,008,902	15.81	63,807	33.5
1990	2,184,543.11	1,383,161	1,518,494	0.6951	666,049	16.51	40,347	32.5
1991	1,592,405.14	983,092	1,079,281	0.6778	513,124	17.22	29,800	31.5
1992	6,983,918.10	4,198,972	4,609,813	0.6601	2,374,105	17.94	132,303	30.5
1993	3,463,763.87	2,025,630	2,223,824	0.6420	1,239,940	18.68	66,365	29.5
1994	3,833,892.00	2,177,986	2,391,088	0.6237	1,442,804	19.44	74,233	28.5
1995	1,448,216.41	798,095	876,183	0.6050	572,033	20.20	28,317	27.5

New Jersey - American Water Company

Account #: 311.200 - Pumping Equipment - Electric

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1996	8,520,290.84	4,548,194	4,993,204	0.5860	3,527,087	20.98	168,127	26.5
1997	1,453,986.16	750,624	824,068	0.5668	629,918	21.77	28,937	25.5
1998	3,278,734.98	1,634,255	1,794,155	0.5472	1,484,580	22.57	65,776	24.5
1999	1,681,669.07	807,835	886,876	0.5274	794,793	23.38	33,990	23.5
2000	5,009,018.78	2,314,500	2,540,959	0.5073	2,468,060	24.21	101,956	22.5
2001	4,278,813.82	1,897,659	2,083,332	0.4869	2,195,482	25.04	87,670	21.5
2002	2,144,818.42	910,909	1,000,036	0.4663	1,144,783	25.89	44,220	20.5
2003	4,080,163.77	1,655,223	1,817,175	0.4454	2,262,988	26.74	84,615	19.5
2004	1,858,880.40	718,322	788,605	0.4242	1,070,275	27.61	38,763	18.5
2005	1,198,264.96	439,712	482,735	0.4029	715,530	28.49	25,118	17.5
2006	2,175,162.47	755,377	829,285	0.3813	1,345,877	29.37	45,821	16.5
2007	4,483,859.73	1,467,971	1,611,602	0.3594	2,872,258	30.27	94,896	15.5
2008	10,477,223.67	3,219,801	3,534,836	0.3374	6,942,387	31.17	222,720	14.5
2009	2,141,565.62	614,746	674,894	0.3151	1,466,671	32.08	45,716	13.5
2010	3,893,024.70	1,037,916	1,139,469	0.2927	2,753,555	33.00	83,435	12.5
2011	2,238,237.15	550,603	604,476	0.2701	1,633,761	33.93	48,151	11.5
2012	8,579,209.16	1,932,307	2,121,370	0.2473	6,457,839	34.86	185,226	10.5
2013	3,652,698.55	746,308	819,329	0.2243	2,833,370	35.81	79,132	9.5
2014	3,390,748.27	621,391	682,190	0.2012	2,708,559	36.75	73,696	8.5
2015	7,339,428.30	1,189,524	1,305,911	0.1779	6,033,517	37.71	160,012	7.5
2016	8,401,681.63	1,182,684	1,298,401	0.1545	7,103,280	38.67	183,711	6.5
2017	5,083,622.86	606,744	666,110	0.1310	4,417,513	39.63	111,471	5.5
2018	10,482,058.25	1,025,545	1,125,888	0.1074	9,356,171	40.60	230,463	4.5
2019	1,248,545.35	95,174	104,486	0.0837	1,144,059	41.57	27,521	3.5
2020	815,989.08	44,501	48,855	0.0599	767,134	42.55	18,031	2.5
2021	2,329,169.77	76,327	83,795	0.0360	2,245,375	43.53	51,588	1.5
2022	4,065,081.78	44,463	48,814	0.0120	4,016,268	44.51	90,237	0.5

New Jersey - American Water Company

Account #: 311.200 - Pumping Equipment - Electric

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	154,239,437.51	57,739,851	63,366,475		90,872,962		3,094,617	

COMPOSITE ANNUAL ACCRUAL RATE	2.01%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.41
COMPOSITE AVERAGE AGE (YEARS)	18.91
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	28.15

New Jersey - American Water Company

Account #: 311.300 - Pumping Equipment - Diesel

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1962	367.85	336	337	0.9152	31	3.88	8	60.5
1963	4,614.61	4,190	4,197	0.9094	418	4.14	101	59.5
1964	276,141.62	249,148	249,515	0.9036	26,627	4.40	6,053	58.5
1965	6,709.31	6,014	6,023	0.8977	686	4.66	147	57.5
1966	1,446.61	1,288	1,290	0.8916	157	4.94	32	56.5
1967	3,655.99	3,232	3,237	0.8853	419	5.22	80	55.5
1968	17,449.04	15,313	15,335	0.8788	2,114	5.51	384	54.5
1969	37,456.28	32,617	32,665	0.8721	4,791	5.81	824	53.5
1970	8,682.47	7,500	7,511	0.8650	1,172	6.13	191	52.5
1971	81,022.83	69,384	69,486	0.8576	11,537	6.46	1,785	51.5
1972	289,247.00	245,446	245,808	0.8498	43,439	6.81	6,375	50.5
1973	45,640.11	38,356	38,412	0.8416	7,228	7.18	1,006	49.5
1974	871.87	725	726	0.8330	146	7.57	19	48.5
1980	43,893.00	33,823	33,873	0.7717	10,020	10.32	971	42.5
1981	8,156.00	6,188	6,197	0.7599	1,959	10.86	180	41.5
1982	17,627.00	13,158	13,177	0.7476	4,450	11.41	390	40.5
1983	126,616.20	92,900	93,037	0.7348	33,580	11.98	2,802	39.5
1984	28,500.00	20,535	20,565	0.7216	7,935	12.58	631	38.5
1985	54,851.00	38,776	38,833	0.7080	16,018	13.19	1,215	37.5
1986	279,667.06	193,790	194,076	0.6940	85,591	13.82	6,194	36.5
1987	179,679.34	121,919	122,098	0.6795	57,581	14.47	3,980	35.5
1988	147,561.64	97,945	98,090	0.6647	49,472	15.13	3,270	34.5
1989	233,061.09	151,170	151,393	0.6496	81,669	15.81	5,165	33.5
1990	73,339.81	46,436	46,504	0.6341	26,836	16.51	1,626	32.5
1991	121,261.31	74,862	74,973	0.6183	46,289	17.22	2,688	31.5
1992	103,437.46	62,190	62,282	0.6021	41,156	17.94	2,294	30.5
1993	143,449.07	83,890	84,013	0.5857	59,436	18.68	3,181	29.5
1994	163,261.23	92,747	92,883	0.5689	70,378	19.44	3,621	28.5

New Jersey - American Water Company

Account #: 311.300 - Pumping Equipment - Diesel

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1995	45,858.87	25,272	25,310	0.5519	20,549	20.20	1,017	27.5
1996	6,003.13	3,205	3,209	0.5346	2,794	20.98	133	26.5
1997	175,789.06	90,752	90,885	0.5170	84,904	21.77	3,900	25.5
1998	23,287.14	11,607	11,624	0.4992	11,663	22.57	517	24.5
1999	16,425.87	7,891	7,902	0.4811	8,524	23.38	365	23.5
2000	63,433.90	29,311	29,354	0.4627	34,080	24.21	1,408	22.5
2001	54,771.71	24,291	24,327	0.4442	30,445	25.04	1,216	21.5
2002	330,617.82	140,414	140,621	0.4253	189,997	25.89	7,339	20.5
2003	24,426.08	9,909	9,924	0.4063	14,502	26.74	542	19.5
2005	6,079.70	2,231	2,234	0.3675	3,845	28.49	135	17.5
2006	63,653.67	22,105	22,138	0.3478	41,516	29.37	1,413	16.5
2007	13,266.95	4,343	4,350	0.3279	8,917	30.27	295	15.5
2008	186,276.72	57,246	57,330	0.3078	128,947	31.17	4,137	14.5
2009	499,091.83	143,266	143,477	0.2875	355,614	32.08	11,084	13.5
2010	158,596.81	42,283	42,346	0.2670	116,251	33.00	3,522	12.5
2011	505,872.58	124,444	124,627	0.2464	381,245	33.93	11,236	11.5
2012	508,715.57	114,579	114,747	0.2256	393,968	34.86	11,300	10.5
2013	719,690.46	147,045	147,261	0.2046	572,429	35.81	15,987	9.5
2014	98,897.03	18,124	18,151	0.1835	80,746	36.75	2,197	8.5
2015	307,422.80	49,825	49,898	0.1623	257,524	37.71	6,830	7.5
2016	405,006.76	57,012	57,096	0.1410	347,911	38.67	8,998	6.5
2017	7,577.36	904	906	0.1195	6,672	39.63	168	5.5
2020	95,186.29	5,191	5,199	0.0546	89,988	42.55	2,115	2.5

New Jersey - American Water Company

Account #: 311.300 - Pumping Equipment - Diesel

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	6,813,614.91	2,935,128	2,939,451		3,874,164		151,067	

COMPOSITE ANNUAL ACCRUAL RATE	2.22%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.43
COMPOSITE AVERAGE AGE (YEARS)	22.60
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	25.62

New Jersey - American Water Company

Account #: 311.400 - Pumping Equipment - Hydraulic

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2000	31,523.11	14,566	13,141	0.4169	18,383	24.21	759	22.5
2006	982.14	341	308	0.3133	674	29.37	23	16.5
2007	12,843.57	4,205	3,793	0.2954	9,050	30.27	299	15.5
2008	48,651.62	14,951	13,488	0.2772	35,163	31.17	1,128	14.5
2009	168,161.42	48,271	43,548	0.2590	124,613	32.08	3,884	13.5
2010	22,251.48	5,932	5,352	0.2405	16,899	33.00	512	12.5
2011	275,898.88	67,871	61,230	0.2219	214,669	33.93	6,327	11.5
2012	429,088.77	96,644	87,188	0.2032	341,901	34.86	9,807	10.5
2013	301,941.22	61,692	55,655	0.1843	246,286	35.81	6,878	9.5
2014	282,125.28	51,702	46,644	0.1653	235,482	36.75	6,407	8.5
2015	264,656.77	42,894	38,697	0.1462	225,960	37.71	5,993	7.5
2016	218,789.17	30,798	27,785	0.1270	191,004	38.67	4,940	6.5
2017	106,947.01	12,764	11,515	0.1077	95,432	39.63	2,408	5.5
2018	12,450,646.18	1,218,148	1,098,959	0.0883	11,351,687	40.60	279,617	4.5
TOTAL	14,614,506.62	1,670,781	1,507,304		13,107,203		328,982	

COMPOSITE ANNUAL ACCRUAL RATE	2.25%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.10
COMPOSITE AVERAGE AGE (YEARS)	5.28
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	39.86

New Jersey - American Water Company

Account #: 311.500 - Pumping Equipment - Other

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1957	695.37	655	695	1.0000	0	2.60	0	65.5
1967	136.00	120	136	1.0000	0	5.22	0	55.5
1969	741.06	645	741	1.0000	0	5.81	0	53.5
1978	4,892.00	3,879	4,892	1.0000	0	9.32	0	44.5
1980	141.00	109	141	1.0000	0	10.32	0	42.5
1981	16,791.00	12,740	16,791	1.0000	0	10.86	0	41.5
1982	4,404.00	3,287	4,404	1.0000	0	11.41	0	40.5
1983	844.00	619	844	1.0000	0	11.98	0	39.5
1984	8,810.00	6,348	8,810	1.0000	0	12.58	0	38.5
1985	3,811.00	2,694	3,811	1.0000	0	13.19	0	37.5
1986	3,220.00	2,231	3,220	1.0000	0	13.82	0	36.5
1987	11,982.00	8,130	11,982	1.0000	0	14.47	0	35.5
1988	1,055.76	701	1,056	1.0000	0	15.13	0	34.5
1989	1,157.46	751	1,157	1.0000	0	15.81	0	33.5
1992	20,172.00	12,128	18,730	0.9285	1,442	17.94	80	30.5
1996	2,016,679.60	1,076,518	1,662,481	0.8244	354,199	20.98	16,884	26.5
1997	2,087,735.70	1,077,799	1,664,459	0.7973	423,277	21.77	19,444	25.5
1998	412,346.93	205,530	317,403	0.7697	94,944	22.57	4,207	24.5
1999	10,024.07	4,815	7,436	0.7419	2,588	23.38	111	23.5
2000	106,875.21	49,383	76,264	0.7136	30,612	24.21	1,265	22.5
2001	859,922.90	381,377	588,965	0.6849	270,958	25.04	10,820	21.5
2002	510,736.50	216,911	334,978	0.6559	175,758	25.89	6,789	20.5
2003	444,818.83	180,452	278,675	0.6265	166,144	26.74	6,212	19.5
2004	31,656.72	12,233	18,892	0.5968	12,765	27.61	462	18.5
2005	30,262.49	11,105	17,150	0.5667	13,113	28.49	460	17.5
2006	757,253.68	262,974	406,114	0.5363	351,139	29.37	11,955	16.5
2007	60,570.37	19,830	30,624	0.5056	29,946	30.27	989	15.5
2008	40,711.85	12,511	19,321	0.4746	21,390	31.17	686	14.5

New Jersey - American Water Company

Account #: 311.500 - Pumping Equipment - Other

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2011	250,447.62	61,610	95,145	0.3799	155,303	33.93	4,577	11.5
2012	372,295.20	83,853	129,495	0.3478	242,801	34.86	6,964	10.5
2013	281,716.99	57,560	88,890	0.3155	192,827	35.81	5,385	9.5
2014	415,178.33	76,086	117,500	0.2830	297,678	36.75	8,099	8.5
2015	346,805.91	56,208	86,803	0.2503	260,003	37.71	6,895	7.5
2016	32,476.16	4,572	7,060	0.2174	25,416	38.67	657	6.5
2017	169,559.22	20,237	31,253	0.1843	138,306	39.63	3,490	5.5
2018	262,963.36	25,728	39,732	0.1511	223,232	40.60	5,499	4.5
2019	501,615.17	38,237	59,050	0.1177	442,565	41.57	10,646	3.5
2020	467,976.86	25,521	39,413	0.0842	428,564	42.55	10,073	2.5
2021	788,380.14	25,835	39,898	0.0506	748,483	43.53	17,196	1.5
2022	1,132,844.49	12,391	19,135	0.0169	1,113,709	44.51	25,023	0.5
TOTAL	12,470,706.95	4,054,316	6,253,545		6,217,162		184,868	

COMPOSITE ANNUAL ACCRUAL RATE	1.48%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.50
COMPOSITE AVERAGE AGE (YEARS)	15.86
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	30.37

New Jersey - American Water Company

Account #: 311.530 - Pumping Equipment - Water Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2006	149.69	52	78	0.5210	72	29.37	2	16.5
2007	111,699.28	36,569	54,868	0.4912	56,832	30.27	1,878	15.5
2019	54,638.61	4,165	6,249	0.1144	48,390	41.57	1,164	3.5
2020	65,704.43	3,583	5,376	0.0818	60,328	42.55	1,418	2.5
TOTAL	232,192.01	44,369	66,571		165,621		4,462	

COMPOSITE ANNUAL ACCRUAL RATE	1.92%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.29
COMPOSITE AVERAGE AGE (YEARS)	9.00
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	36.40

New Jersey - American Water Company

Account #: 311.540 - Pumping Equipment - T&D

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	3,461.53	1,133	1,426	0.4120	2,035	30.27	67	15.5
2012	26,610.51	5,994	7,541	0.2834	19,069	34.86	547	10.5
TOTAL	30,072.04	7,127	8,967		21,105		614	

COMPOSITE ANNUAL ACCRUAL RATE	2.04%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.30
COMPOSITE AVERAGE AGE (YEARS)	11.08
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	34.34

New Jersey - American Water Company

Account #: 320.100 - Water Treatment Equipment - Non-Media

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1889	406.75	407	407	1.0000	0	1.00	0	134.5
1890	4,317.00	4,317	4,317	1.0000	0	1.00	0	133.5
1901	6,652.77	6,653	6,653	1.0000	0	1.00	0	122.5
1903	2,252.94	2,234	2,253	1.0000	0	1.00	0	119.5
1913	291.32	272	291	1.0000	0	3.88	0	109.5
1924	169.82	147	170	1.0000	0	8.03	0	98.5
1928	60,125.98	50,533	60,126	1.0000	0	9.57	0	94.5
1929	28,639.02	23,884	28,639	1.0000	0	9.96	0	93.5
1930	11,297.97	9,349	11,298	1.0000	0	10.35	0	92.5
1931	1,455.40	1,195	1,455	1.0000	0	10.74	0	91.5
1932	400,053.13	325,812	400,053	1.0000	0	11.13	0	90.5
1940	9,369.52	7,133	9,370	1.0000	0	14.32	0	82.5
1941	5,339.36	4,029	5,339	1.0000	0	14.73	0	81.5
1942	509.22	381	509	1.0000	0	15.13	0	80.5
1943	112.30	83	112	1.0000	0	15.54	0	79.5
1945	135,487.00	98,542	135,487	1.0000	0	16.36	0	77.5
1947	136.71	98	137	1.0000	0	17.19	0	75.5
1948	241.08	170	241	1.0000	0	17.60	0	74.5
1949	51.75	36	52	1.0000	0	18.02	0	73.5
1950	1,500.00	1,039	1,500	1.0000	0	18.44	0	72.5
1951	126,160.82	86,497	126,161	1.0000	0	18.86	0	71.5
1952	665,994.42	451,915	665,994	1.0000	0	19.29	0	70.5
1953	36,846.00	24,741	36,846	1.0000	0	19.71	0	69.5
1954	21,780.94	14,470	21,781	1.0000	0	20.14	0	68.5
1955	104,207.64	68,484	104,208	1.0000	0	20.57	0	67.5
1956	12,777.82	8,306	12,778	1.0000	0	21.00	0	66.5
1957	742,497.36	477,259	742,497	1.0000	0	21.43	0	65.5
1958	354,268.92	225,144	354,269	1.0000	0	21.87	0	64.5

New Jersey - American Water Company

Account #: 320.100 - Water Treatment Equipment - Non-Media

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1959	4,609.73	2,896	4,610	1.0000	0	22.31	0	63.5
1960	96,443.69	59,880	96,444	1.0000	0	22.75	0	62.5
1961	57,115.85	35,041	57,116	1.0000	0	23.19	0	61.5
1962	742,792.04	450,206	742,792	1.0000	0	23.63	0	60.5
1963	37,270.85	22,312	37,271	1.0000	0	24.08	0	59.5
1964	370,727.74	219,157	370,728	1.0000	0	24.53	0	58.5
1965	277,300.52	161,837	277,301	1.0000	0	24.98	0	57.5
1966	399,929.27	230,374	399,929	1.0000	0	25.44	0	56.5
1967	154,937.89	88,069	154,938	1.0000	0	25.90	0	55.5
1968	200,351.40	112,346	200,351	1.0000	0	26.36	0	54.5
1969	58,352.72	32,271	58,353	1.0000	0	26.82	0	53.5
1970	236,526.37	128,969	236,526	1.0000	0	27.28	0	52.5
1971	298,169.87	160,251	298,170	1.0000	0	27.75	0	51.5
1972	206,621.37	109,423	206,621	1.0000	0	28.23	0	50.5
1973	3,012,563.40	1,571,550	3,012,563	1.0000	0	28.70	0	49.5
1974	11,830.97	6,078	11,831	1.0000	0	29.18	0	48.5
1975	57,724.00	29,189	56,888	0.9855	836	29.66	28	47.5
1976	292,786.43	145,687	283,933	0.9698	8,854	30.14	294	46.5
1977	365,889.95	179,084	349,022	0.9539	16,868	30.63	551	45.5
1978	11,423.77	5,498	10,715	0.9379	709	31.13	23	44.5
1979	55,963.79	26,470	51,588	0.9218	4,376	31.62	138	43.5
1980	8,434,561.32	3,919,218	7,638,261	0.9056	796,301	32.12	24,791	42.5
1981	988,008.45	450,800	878,575	0.8892	109,433	32.62	3,354	41.5
1982	5,829,694.25	2,610,608	5,087,879	0.8728	741,815	33.13	22,390	40.5
1983	265,822.83	116,772	227,581	0.8561	38,242	33.64	1,137	39.5
1984	127,785.39	55,036	107,260	0.8394	20,525	34.16	601	38.5
1985	1,773,781.71	748,560	1,458,887	0.8225	314,895	34.68	9,080	37.5
1986	2,175,243.11	898,955	1,751,996	0.8054	423,247	35.20	12,023	36.5

New Jersey - American Water Company

Account #: 320.100 - Water Treatment Equipment - Non-Media

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1987	2,032,926.21	822,194	1,602,395	0.7882	430,531	35.73	12,048	35.5
1988	1,019,798.15	403,359	786,116	0.7709	233,682	36.27	6,443	34.5
1989	8,306,294.79	3,210,690	6,257,393	0.7533	2,048,902	36.81	55,665	33.5
1990	10,044,396.88	3,791,327	7,389,011	0.7356	2,655,386	37.35	71,090	32.5
1991	834,235.41	307,236	598,780	0.7178	235,456	37.90	6,212	31.5
1992	4,683,240.20	1,681,393	3,276,909	0.6997	1,406,331	38.46	36,567	30.5
1993	2,059,861.88	720,259	1,403,730	0.6815	656,132	39.02	16,815	29.5
1994	5,462,916.30	1,858,490	3,622,058	0.6630	1,840,859	39.59	46,501	28.5
1995	1,567,326.08	518,220	1,009,973	0.6444	557,354	40.16	13,878	27.5
1996	127,068,359.54	40,784,901	79,486,702	0.6255	47,581,658	40.74	1,167,880	26.5
1997	983,645.36	306,092	596,551	0.6065	387,094	41.33	9,366	25.5
1998	4,884,520.99	1,471,630	2,868,097	0.5872	2,016,424	41.92	48,098	24.5
1999	5,855,688.92	1,705,547	3,323,983	0.5677	2,531,706	42.52	59,536	23.5
2000	2,083,843.73	585,795	1,141,670	0.5479	942,174	43.13	21,843	22.5
2001	5,045,826.49	1,366,597	2,663,394	0.5278	2,382,432	43.75	54,456	21.5
2002	3,014,932.61	785,152	1,530,202	0.5075	1,484,731	44.37	33,459	20.5
2003	14,466,324.03	3,614,529	7,044,445	0.4870	7,421,879	45.01	164,899	19.5
2004	10,618,983.93	2,539,562	4,949,414	0.4661	5,669,570	45.65	124,194	18.5
2005	7,720,075.48	1,762,396	3,434,777	0.4449	4,285,298	46.30	92,550	17.5
2006	9,844,434.44	2,138,736	4,168,236	0.4234	5,676,199	46.96	120,861	16.5
2007	1,541,661.24	317,668	619,110	0.4016	922,551	47.64	19,366	15.5
2008	32,160,107.16	6,260,679	12,201,591	0.3794	19,958,516	48.32	413,052	14.5
2009	1,022,850.75	187,277	364,989	0.3568	657,861	49.01	13,422	13.5
2010	4,341,125.68	743,736	1,449,486	0.3339	2,891,639	49.72	58,158	12.5
2011	14,065,479.54	2,241,137	4,367,807	0.3105	9,697,672	50.44	192,262	11.5
2012	10,033,286.13	1,476,076	2,876,760	0.2867	7,156,526	51.17	139,850	10.5
2013	3,243,843.50	436,854	851,396	0.2625	2,392,447	51.92	46,080	9.5
2014	11,465,669.39	1,398,419	2,725,412	0.2377	8,740,257	52.68	165,906	8.5

New Jersey - American Water Company

Account #: 320.100 - Water Treatment Equipment - Non-Media

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2015	9,816,366.48	1,069,793	2,084,946	0.2124	7,731,420	53.46	144,617	7.5
2016	29,115,686.07	2,786,840	5,431,342	0.1865	23,684,344	54.26	436,521	6.5
2017	8,518,662.03	699,632	1,363,530	0.1601	7,155,132	55.07	129,923	5.5
2018	36,844,130.35	2,512,427	4,896,531	0.1329	31,947,599	55.91	571,426	4.5
2019	7,168,746.75	386,330	752,927	0.1050	6,415,819	56.77	113,021	3.5
2020	43,831,519.85	1,716,545	3,345,417	0.0763	40,486,103	57.65	702,271	2.5
2021	18,350,389.71	439,322	856,205	0.0467	17,494,184	58.56	298,721	1.5
2022	31,408,478.81	256,266	499,443	0.0159	30,909,036	59.51	519,388	0.5
TOTAL	519,802,806.50	107,772,772	208,641,799		311,161,008		6,200,755	

COMPOSITE ANNUAL ACCRUAL RATE	1.19%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.40
COMPOSITE AVERAGE AGE (YEARS)	16.83
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	47.56

New Jersey - American Water Company

Account #: 320.200 - Water Treatment Equipment - Filter Media

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 10
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2004	29,187.26	27,341	29,187	1.0000	0	3.00	0	18.5
2005	53,514.33	48,550	53,514	1.0000	0	3.00	0	17.5
2007	387.42	327	382	0.9848	6	3.00	2	15.5
2008	1,955,852.63	1,582,631	1,849,181	0.9455	106,672	3.00	35,557	14.5
2009	62,692.76	48,542	56,718	0.9047	5,975	3.00	1,992	13.5
2010	649,512.27	479,335	560,066	0.8623	89,446	3.00	29,815	12.5
2011	987,523.85	691,308	807,739	0.8179	179,785	3.00	59,928	11.5
2012	336,230.32	221,958	259,340	0.7713	76,890	3.40	22,624	10.5
2013	715,953.41	442,417	516,930	0.7220	199,024	3.82	52,092	9.5
2014	2,827,749.99	1,620,500	1,893,428	0.6696	934,322	4.27	218,847	8.5
2015	1,790,063.57	939,925	1,098,229	0.6135	691,835	4.75	145,674	7.5
2016	487,932.55	231,012	269,920	0.5532	218,013	5.27	41,404	6.5
2017	377,570.55	157,670	184,225	0.4879	193,345	5.82	33,198	5.5
2018	2,857,428.14	1,019,581	1,191,301	0.4169	1,666,127	6.43	259,044	4.5
2019	478,977.79	139,077	162,500	0.3393	316,478	7.10	44,597	3.5
2020	9,760,196.91	2,121,642	2,478,973	0.2540	7,281,224	7.83	930,362	2.5
2021	3,366,595.90	461,106	538,766	0.1600	2,827,830	8.63	327,661	1.5
2022	1,596,418.97	76,837	89,778	0.0562	1,506,641	9.52	158,282	0.5
TOTAL	28,333,788.62	10,309,759	12,040,176		16,293,612		2,361,079	

COMPOSITE ANNUAL ACCRUAL RATE	8.33%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.42
COMPOSITE AVERAGE AGE (YEARS)	5.22
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	6.45

New Jersey - American Water Company

Account #: 330.000 - Distribution Reservoirs and Standpipes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1899	18,000.00	17,328	15,160	0.8422	2,840	2.69	1,056	123.5
1900	15,612.99	14,970	13,098	0.8389	2,515	2.96	849	122.5
1930	60,886.00	50,915	44,546	0.7316	16,340	11.79	1,386	92.5
1931	4,500.00	3,742	3,274	0.7276	1,226	12.12	101	91.5
1940	51,404.00	40,428	35,371	0.6881	16,033	15.37	1,043	82.5
1941	133.00	104	91	0.6833	42	15.77	3	81.5
1947	1,225.00	914	799	0.6525	426	18.31	23	75.5
1951	35,709.69	25,712	22,495	0.6300	13,214	20.16	656	71.5
1954	14,440.00	10,101	8,837	0.6120	5,603	21.63	259	68.5
1955	192,471.71	133,276	116,605	0.6058	75,866	22.14	3,426	67.5
1956	345.00	236	207	0.5995	138	22.66	6	66.5
1957	89,184.97	60,465	52,902	0.5932	36,283	23.19	1,565	65.5
1960	86,106.00	56,434	49,375	0.5734	36,731	24.81	1,480	62.5
1963	416,454.00	263,127	230,213	0.5528	186,241	26.51	7,026	59.5
1966	1,718.71	1,044	913	0.5313	806	28.28	28	56.5
1967	555,809.00	332,858	291,222	0.5240	264,587	28.88	9,161	55.5
1968	290,782.00	171,666	150,193	0.5165	140,589	29.49	4,767	54.5
1970	3,975.00	2,278	1,993	0.5014	1,982	30.74	64	52.5
1971	193,570.00	109,216	95,554	0.4936	98,016	31.38	3,124	51.5
1974	259,593.00	139,447	122,004	0.4700	137,589	33.32	4,129	48.5
1976	19,020.79	9,865	8,631	0.4538	10,390	34.66	300	46.5
1977	15,926.00	8,110	7,096	0.4456	8,830	35.33	250	45.5
1978	2,743.00	1,371	1,199	0.4373	1,544	36.02	43	44.5
1979	3,889.00	1,906	1,668	0.4289	2,221	36.71	61	43.5
1980	16,742.00	8,045	7,038	0.4204	9,704	37.40	259	42.5
1981	125,291.00	58,979	51,601	0.4119	73,690	38.11	1,934	41.5
1982	599,744.00	276,410	241,835	0.4032	357,909	38.82	9,221	40.5
1983	206,223.00	92,994	81,362	0.3945	124,861	39.53	3,158	39.5

New Jersey - American Water Company

Account #: 330.000 - Distribution Reservoirs and Standpipes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	28,926.00	12,754	11,158	0.3858	17,768	40.25	441	38.5
1985	487,730.00	210,115	183,832	0.3769	303,898	40.98	7,415	37.5
1986	2,609,395.84	1,097,511	960,227	0.3680	1,649,168	41.72	39,532	36.5
1987	743,739.72	305,171	266,999	0.3590	476,741	42.46	11,229	35.5
1988	668,522.00	267,384	233,938	0.3499	434,584	43.20	10,059	34.5
1989	77,708.51	30,269	26,483	0.3408	51,226	43.95	1,165	33.5
1990	1,123,570.28	425,833	372,567	0.3316	751,004	44.71	16,796	32.5
1991	124,185.11	45,750	40,027	0.3223	84,158	45.48	1,851	31.5
1992	1,153,512.20	412,635	361,020	0.3130	792,493	46.24	17,137	30.5
1993	771,081.50	267,545	234,078	0.3036	537,003	47.02	11,421	29.5
1994	3,830,668.15	1,287,635	1,126,569	0.2941	2,704,099	47.80	56,573	28.5
1995	26,397.38	8,585	7,512	0.2846	18,886	48.58	389	27.5
1996	158.03	50	43	0.2749	115	49.37	2	26.5
1997	1,368,619.47	414,982	363,073	0.2653	1,005,546	50.17	20,043	25.5
1998	2,513,690.63	734,244	642,400	0.2556	1,871,291	50.97	36,714	24.5
1999	2,568,545.25	721,511	631,260	0.2458	1,937,285	51.78	37,417	23.5
2000	3,910.68	1,054	923	0.2359	2,988	52.59	57	22.5
2001	125,205.88	32,343	28,297	0.2260	96,909	53.40	1,815	21.5
2002	1,554,319.66	383,792	335,785	0.2160	1,218,535	54.22	22,473	20.5
2003	1,255,907.76	295,718	258,728	0.2060	997,180	55.05	18,115	19.5
2004	284,220.00	63,646	55,684	0.1959	228,536	55.88	4,090	18.5
2005	58,366.60	12,393	10,843	0.1858	47,523	56.71	838	17.5
2006	136,955.56	27,485	24,047	0.1756	112,909	57.55	1,962	16.5
2007	505,394.85	95,501	83,555	0.1653	421,840	58.39	7,224	15.5
2008	77,223.62	13,683	11,971	0.1550	65,252	59.24	1,101	14.5
2009	2,322.10	384	336	0.1447	1,986	60.10	33	13.5
2012	283,626.85	36,718	32,125	0.1133	251,502	62.68	4,013	10.5
2014	8,373.48	881	771	0.0921	7,602	64.42	118	8.5

New Jersey - American Water Company

Account #: 330.000 - Distribution Reservoirs and Standpipes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2015	783,245.45	72,890	63,773	0.0814	719,473	65.30	11,018	7.5
2017	3,858,691.75	264,419	231,344	0.0600	3,627,348	67.07	54,086	5.5
2018	328,510.64	18,455	16,147	0.0492	312,364	67.96	4,597	4.5
2020	1,311,327.33	41,085	35,945	0.0274	1,275,382	69.74	18,287	2.5
2021	6,073,217.53	114,390	100,081	0.0165	5,973,137	70.64	84,553	1.5
2022	2,719,384.13	17,095	14,956	0.0055	2,704,428	71.55	37,799	0.5
TOTAL	40,748,152.80	9,625,846	8,421,782		32,326,371		595,741	

COMPOSITE ANNUAL ACCRUAL RATE	1.46%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.21
COMPOSITE AVERAGE AGE (YEARS)	20.39
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	54.99

New Jersey - American Water Company

Account #: 330.002 - Tank Original Painting

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2009	99,272.14	16,414	21,627	0.2179	77,645	60.10	1,292	13.5
TOTAL	99,272.14	16,414	21,627		77,645		1,292	

COMPOSITE ANNUAL ACCRUAL RATE	1.30%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.22
COMPOSITE AVERAGE AGE (YEARS)	13.50
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	60.10

New Jersey - American Water Company

Account #: 330.100 - Elevated Tanks & Standpipes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1889	150.00	149	150	1.0000	0	1.00	0	133.5
1894	143.28	141	143	1.0000	0	1.38	0	128.5
1897	4,204.92	4,079	4,205	1.0000	0	2.16	0	125.5
1904	3,953.78	3,730	3,954	1.0000	0	4.07	0	118.5
1908	1,795.38	1,665	1,795	1.0000	0	5.21	0	114.5
1909	130,432.83	120,471	130,433	1.0000	0	5.50	0	113.5
1916	11,043.63	9,889	11,044	1.0000	0	7.53	0	106.5
1920	49,091.44	43,159	49,091	1.0000	0	8.70	0	102.5
1921	4,026.71	3,523	4,027	1.0000	0	9.00	0	101.5
1922	839.31	731	839	1.0000	0	9.30	0	100.5
1923	22,807.80	19,768	22,808	1.0000	0	9.60	0	99.5
1927	550.15	467	550	1.0000	0	10.83	0	95.5
1928	2,139.89	1,809	2,140	1.0000	0	11.14	0	94.5
1929	3,246.15	2,729	3,246	1.0000	0	11.47	0	93.5
1930	16,391.01	13,707	16,391	1.0000	0	11.79	0	92.5
1932	144.56	120	145	1.0000	0	12.46	0	90.5
1935	164.80	134	165	1.0000	0	13.50	0	87.5
1937	635.58	510	636	1.0000	0	14.23	0	85.5
1941	1,666.86	1,302	1,667	1.0000	0	15.77	0	81.5
1942	116,736.62	90,516	116,737	1.0000	0	16.17	0	80.5
1944	5,600.05	4,278	5,600	1.0000	0	17.00	0	78.5
1951	55,894.54	40,245	55,895	1.0000	0	20.16	0	71.5
1952	974.82	695	975	1.0000	0	20.64	0	70.5
1953	63,381.95	44,777	63,382	1.0000	0	21.13	0	69.5
1954	1,771.30	1,239	1,771	1.0000	0	21.63	0	68.5
1955	25,457.35	17,628	25,457	1.0000	0	22.14	0	67.5
1956	425,558.59	291,620	425,559	1.0000	0	22.66	0	66.5
1957	713,943.04	484,036	713,943	1.0000	0	23.19	0	65.5

New Jersey - American Water Company

Account #: 330.100 - Elevated Tanks & Standpipes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1958	550,264.49	368,985	550,264	1.0000	0	23.72	0	64.5
1959	183,329.31	121,555	183,329	1.0000	0	24.26	0	63.5
1960	9,636.88	6,316	9,637	1.0000	0	24.81	0	62.5
1961	310,823.02	201,306	310,823	1.0000	0	25.37	0	61.5
1962	4,690.68	3,001	4,691	1.0000	0	25.93	0	60.5
1964	223,931.64	139,677	222,577	0.9940	1,355	27.09	50	58.5
1965	329,143.60	202,609	322,860	0.9809	6,284	27.68	227	57.5
1966	284,855.84	172,983	275,650	0.9677	9,206	28.28	326	56.5
1967	800,325.43	479,292	763,755	0.9543	36,570	28.88	1,266	55.5
1968	977,857.52	577,287	919,913	0.9407	57,945	29.49	1,965	54.5
1969	4,970.28	2,891	4,608	0.9270	363	30.11	12	53.5
1970	528,829.79	303,041	482,898	0.9131	45,932	30.74	1,494	52.5
1971	374,905.60	211,529	337,073	0.8991	37,833	31.38	1,206	51.5
1972	9,470.08	5,259	8,380	0.8849	1,090	32.02	34	50.5
1973	390,395.00	213,269	339,845	0.8705	50,550	32.67	1,547	49.5
1974	8,300.50	4,459	7,105	0.8560	1,195	33.32	36	48.5
1975	118.03	62	99	0.8413	19	33.99	1	47.5
1976	450.00	233	372	0.8265	78	34.66	2	46.5
1977	16,122.75	8,211	13,084	0.8115	3,039	35.33	86	45.5
1978	86,248.47	43,104	68,687	0.7964	17,562	36.02	488	44.5
1979	553,672.02	271,397	432,473	0.7811	121,199	36.71	3,302	43.5
1980	19,411.74	9,327	14,863	0.7657	4,548	37.40	122	42.5
1981	2,338,630.17	1,100,872	1,754,249	0.7501	584,381	38.11	15,335	41.5
1982	1,027,120.94	473,380	754,335	0.7344	272,786	38.82	7,028	40.5
1983	817,417.97	368,607	587,379	0.7186	230,039	39.53	5,819	39.5
1984	660,183.81	291,081	463,839	0.7026	196,344	40.25	4,878	38.5
1985	1,552,412.85	668,781	1,065,708	0.6865	486,705	40.98	11,876	37.5
1986	1,268,977.41	533,732	850,506	0.6702	418,471	41.72	10,031	36.5

New Jersey - American Water Company

Account #: 330.100 - Elevated Tanks & Standpipes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1987	34,971.93	14,350	22,866	0.6538	12,106	42.46	285	35.5
1988	15,469.69	6,187	9,860	0.6373	5,610	43.20	130	34.5
1989	242,874.50	94,604	150,752	0.6207	92,123	43.95	2,096	33.5
1990	1,681,669.25	637,352	1,015,626	0.6039	666,044	44.71	14,896	32.5
1991	693,689.71	255,554	407,228	0.5870	286,462	45.48	6,299	31.5
1992	3,985,850.22	1,425,819	2,272,055	0.5700	1,713,795	46.24	37,060	30.5
1993	4,728,679.17	1,640,724	2,614,508	0.5529	2,114,171	47.02	44,965	29.5
1994	1,926,247.48	647,486	1,031,775	0.5356	894,473	47.80	18,714	28.5
1995	67,265.13	21,877	34,862	0.5183	32,404	48.58	667	27.5
1996	427,150.52	134,237	213,908	0.5008	213,242	49.37	4,319	26.5
1997	2,694,536.01	817,015	1,301,921	0.4832	1,392,615	50.17	27,759	25.5
1998	3,642,865.38	1,064,074	1,695,611	0.4655	1,947,255	50.97	38,205	24.5
1999	304,415.32	85,511	136,263	0.4476	168,153	51.78	3,248	23.5
2000	935.00	252	402	0.4297	533	52.59	10	22.5
2001	1,137,459.49	293,826	468,215	0.4116	669,244	53.40	12,532	21.5
2002	159,912.69	39,486	62,921	0.3935	96,992	54.22	1,789	20.5
2003	20,801.79	4,898	7,805	0.3752	12,997	55.05	236	19.5
2004	193,557.02	43,343	69,068	0.3568	124,489	55.88	2,228	18.5
2006	27,462.35	5,511	8,782	0.3198	18,680	57.55	325	16.5
2007	1,088,458.33	205,678	327,749	0.3011	760,709	58.39	13,027	15.5
2008	321,909.81	57,037	90,890	0.2823	231,020	59.24	3,900	14.5
2009	2,091,385.82	345,792	551,022	0.2635	1,540,364	60.10	25,632	13.5
2010	1,714,375.50	263,051	419,173	0.2445	1,295,202	60.95	21,249	12.5
2011	25,443.01	3,600	5,736	0.2255	19,707	61.81	319	11.5
2012	147,355.97	19,076	30,398	0.2063	116,958	62.68	1,866	10.5
2013	4,953,175.35	581,422	926,500	0.1871	4,026,675	63.55	63,364	9.5
2014	3,243,740.43	341,408	544,036	0.1677	2,699,704	64.42	41,907	8.5
2015	9,598,519.99	893,258	1,423,415	0.1483	8,175,105	65.30	125,194	7.5

New Jersey - American Water Company

Account #: 330.100 - Elevated Tanks & Standpipes

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2017	5,363,190.63	367,516	585,639	0.1092	4,777,551	67.07	71,236	5.5
2019	255,886.43	11,203	17,852	0.0698	238,034	68.85	3,457	3.5
2020	298,324.90	9,347	14,894	0.0499	283,431	69.74	4,064	2.5
TOTAL	66,082,820.98	18,315,857	28,873,482		37,209,339		658,109	

COMPOSITE ANNUAL ACCRUAL RATE	1.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.44
COMPOSITE AVERAGE AGE (YEARS)	24.17
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	52.04

New Jersey - American Water Company

Account #: 330.200 - Ground Level Tanks

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1920	2,150.00	1,890	2,022	0.9405	128	8.70	15	102.5
1954	121,031.89	84,664	90,570	0.7483	30,462	21.63	1,408	68.5
1993	10,000.00	3,470	3,712	0.3712	6,288	47.02	134	29.5
1994	93,101.07	31,295	33,478	0.3596	59,623	47.80	1,247	28.5
1997	118,908.27	36,054	38,570	0.3244	80,339	50.17	1,601	25.5
1998	2,540,583.42	742,099	793,867	0.3125	1,746,716	50.97	34,270	24.5
2001	44,662.07	11,537	12,342	0.2763	32,320	53.40	605	21.5
2003	1,987,053.18	467,875	500,513	0.2519	1,486,540	55.05	27,005	19.5
2004	54,581.07	12,222	13,075	0.2396	41,506	55.88	743	18.5
2006	147,761.82	29,654	31,722	0.2147	116,040	57.55	2,016	16.5
2007	82,533.48	15,596	16,684	0.2021	65,850	58.39	1,128	15.5
2008	734,667.68	130,172	139,252	0.1895	595,416	59.24	10,050	14.5
2010	100,211.03	15,376	16,449	0.1641	83,762	60.95	1,374	12.5
2012	11,034.83	1,429	1,528	0.1385	9,507	62.68	152	10.5
2013	21,838.05	2,563	2,742	0.1256	19,096	63.55	300	9.5
2014	1,055,181.10	111,059	118,807	0.1126	936,375	64.42	14,535	8.5
2015	85,027.15	7,913	8,465	0.0996	76,562	65.30	1,172	7.5
2016	15,312.01	1,238	1,324	0.0865	13,988	66.18	211	6.5
2017	2,623,442.59	179,773	192,314	0.0733	2,431,129	67.07	36,250	5.5
2018	1,399.37	79	84	0.0601	1,315	67.96	19	4.5
2019	1,408,477.53	61,665	65,967	0.0468	1,342,510	68.85	19,500	3.5
2022	3,045,547.18	19,145	20,481	0.0067	3,025,067	71.55	42,281	0.5

New Jersey - American Water Company

Account #: 330.200 - Ground Level Tanks

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	14,304,504.79	1,966,767	2,103,966		12,200,539		196,016	

COMPOSITE ANNUAL ACCRUAL RATE	1.37%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.15
COMPOSITE AVERAGE AGE (YEARS)	11.46
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	62.10

New Jersey - American Water Company

Account #: 330.300 - Below Ground Tanks

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2000	22,347.20	6,026	7,895	0.3533	14,453	52.59	275	22.5
2001	3,112,174.43	803,931	1,053,255	0.3384	2,058,920	53.40	38,556	21.5
2002	46,491.97	11,480	15,040	0.3235	31,452	54.22	580	20.5
2003	128,540.71	30,266	39,653	0.3085	88,888	55.05	1,615	19.5
2004	98,273.45	22,006	28,831	0.2934	69,442	55.88	1,243	18.5
2005	799,627.62	169,792	222,449	0.2782	577,179	56.71	10,177	17.5
2006	7,006.61	1,406	1,842	0.2629	5,164	57.55	90	16.5
2007	511,006.87	96,561	126,507	0.2476	384,499	58.39	6,584	15.5
2008	640,176.22	113,429	148,607	0.2321	491,569	59.24	8,298	14.5
2009	16,853.11	2,787	3,651	0.2166	13,202	60.10	220	13.5
2010	45,427.32	6,970	9,132	0.2010	36,295	60.95	595	12.5
2019	12,295.30	538	705	0.0574	11,590	68.85	168	3.5
TOTAL	5,440,220.81	1,265,193	1,657,567		3,782,654		68,401	

COMPOSITE ANNUAL ACCRUAL RATE	1.26%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.30
COMPOSITE AVERAGE AGE (YEARS)	19.27
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	55.26

New Jersey - American Water Company

Account #: 330.400 - Clearwell

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 72
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	46,488.16	8,785	46,488	1.0000	0	58.39	0	15.5
2011	39,208.00	5,547	39,208	1.0000	0	61.81	0	11.5
TOTAL	85,696.16	14,332	85,696		0		0	

COMPOSITE ANNUAL ACCRUAL RATE	0.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	1.00
COMPOSITE AVERAGE AGE (YEARS)	13.67
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	59.96

New Jersey - American Water Company

Account #: 331.001 - Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 105
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1877	47,382.72	43,818	33,951	0.7165	13,432	7.90	1,700	145.5
1880	8.87	8	6	0.7103	3	8.67	0	142.5
1882	17,462.19	15,934	12,346	0.7070	5,116	9.19	557	140.5
1883	672.13	612	474	0.7051	198	9.45	21	139.5
1885	187.64	170	132	0.7012	56	9.97	6	137.5
1886	123,274.67	111,255	86,202	0.6993	37,072	10.24	3,621	136.5
1888	1,286.26	1,154	894	0.6953	392	10.77	36	134.5
1889	4,879.76	4,367	3,383	0.6934	1,496	11.04	136	133.5
1892	15,290.98	13,563	10,509	0.6872	4,782	11.87	403	130.5
1893	2,661.57	2,354	1,824	0.6851	838	12.15	69	129.5
1894	6,994.71	6,166	4,777	0.6830	2,217	12.44	178	128.5
1895	1,521.35	1,337	1,036	0.6808	486	12.74	38	127.5
1896	4,046.84	3,544	2,746	0.6786	1,301	13.03	100	126.5
1897	1,472.22	1,285	996	0.6764	476	13.34	36	125.5
1898	8,443.99	7,346	5,692	0.6741	2,752	13.65	202	124.5
1899	9,046.58	7,843	6,077	0.6718	2,969	13.97	213	123.5
1900	78,324.65	67,666	52,429	0.6694	25,896	14.29	1,812	122.5
1901	1,609.56	1,385	1,073	0.6669	536	14.62	37	121.5
1902	313,012.74	268,434	207,987	0.6645	105,026	14.95	7,023	120.5
1903	16,921.61	14,456	11,201	0.6619	5,721	15.30	374	119.5
1904	10,549.78	8,978	6,956	0.6593	3,594	15.65	230	118.5
1905	15,839.01	13,425	10,402	0.6567	5,437	16.01	340	117.5
1906	88,626.78	74,808	57,962	0.6540	30,664	16.37	1,873	116.5
1907	71,156.01	59,808	46,340	0.6512	24,816	16.75	1,482	115.5
1908	23,279.07	19,482	15,095	0.6484	8,184	17.13	478	114.5
1909	61,508.86	51,247	39,707	0.6456	21,802	17.52	1,245	113.5
1910	23,161.65	19,210	14,884	0.6426	8,278	17.92	462	112.5
1911	30,731.19	25,368	19,656	0.6396	11,075	18.32	604	111.5

New Jersey - American Water Company

Account #: 331.001 - Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 105
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1912	38,733.47	31,821	24,655	0.6365	14,078	18.74	751	110.5
1913	77,714.00	63,530	49,224	0.6334	28,490	19.16	1,487	109.5
1914	42,393.71	34,481	26,716	0.6302	15,677	19.60	800	108.5
1915	50,147.76	40,576	31,439	0.6269	18,709	20.04	934	107.5
1916	64,685.98	52,062	40,338	0.6236	24,348	20.49	1,188	106.5
1917	126,558.50	101,304	78,492	0.6202	48,067	20.95	2,294	105.5
1918	8,366.50	6,660	5,160	0.6167	3,207	21.42	150	104.5
1919	59,862.60	47,376	36,708	0.6132	23,155	21.90	1,057	103.5
1920	162,166.37	127,587	98,857	0.6096	63,310	22.39	2,828	102.5
1921	41,099.73	32,141	24,904	0.6059	16,196	22.89	708	101.5
1922	75,799.67	58,913	45,647	0.6022	30,153	23.39	1,289	100.5
1923	190,572.46	147,182	114,039	0.5984	76,534	23.91	3,201	99.5
1924	111,030.01	85,196	66,011	0.5945	45,019	24.43	1,843	98.5
1925	251,659.73	191,827	148,631	0.5906	103,029	24.96	4,127	97.5
1926	476,332.72	360,627	279,419	0.5866	196,914	25.51	7,720	96.5
1927	299,964.37	225,528	174,742	0.5825	125,222	26.06	4,806	95.5
1928	474,682.34	354,361	274,564	0.5784	200,118	26.62	7,519	94.5
1929	269,257.51	199,549	154,614	0.5742	114,644	27.18	4,217	93.5
1930	330,108.84	242,834	188,151	0.5700	141,958	27.76	5,114	92.5
1931	325,988.49	237,986	184,395	0.5656	141,594	28.35	4,995	91.5
1932	170,271.98	123,344	95,568	0.5613	74,704	28.94	2,581	90.5
1933	167,703.61	120,522	93,382	0.5568	74,321	29.54	2,516	89.5
1934	160,276.52	114,254	88,526	0.5523	71,751	30.15	2,380	88.5
1935	790,128.33	558,600	432,811	0.5478	357,317	30.77	11,613	87.5
1936	190,089.82	133,256	103,249	0.5432	86,841	31.39	2,766	86.5
1937	144,137.51	100,174	77,616	0.5385	66,521	32.03	2,077	85.5
1938	44,939.70	30,958	23,987	0.5338	20,953	32.67	641	84.5
1939	130,528.54	89,114	69,047	0.5290	61,482	33.31	1,845	83.5

New Jersey - American Water Company

Account #: 331.001 - Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 105
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1940	374,098.69	253,069	196,081	0.5241	178,017	33.97	5,240	82.5
1941	81,701.79	54,754	42,424	0.5193	39,278	34.63	1,134	81.5
1942	43,337.16	28,767	22,289	0.5143	21,048	35.30	596	80.5
1943	31,569.73	20,752	16,079	0.5093	15,490	35.98	431	79.5
1944	6,447,452.65	4,196,288	3,251,346	0.5043	3,196,107	36.66	87,179	78.5
1945	1,865,812.23	1,202,097	931,402	0.4992	934,410	37.35	25,017	77.5
1946	356,927.09	227,592	176,342	0.4941	180,585	38.05	4,746	76.5
1947	471,843.54	297,710	230,670	0.4889	241,173	38.75	6,224	75.5
1948	397,713.31	248,252	192,350	0.4836	205,364	39.46	5,204	74.5
1949	458,128.08	282,843	219,151	0.4784	238,977	40.17	5,949	73.5
1950	440,095.00	268,684	208,180	0.4730	231,915	40.90	5,671	72.5
1951	892,975.74	538,985	417,613	0.4677	475,362	41.62	11,420	71.5
1952	1,501,734.83	895,929	694,179	0.4623	807,556	42.36	19,065	70.5
1953	1,219,394.11	718,899	557,013	0.4568	662,381	43.10	15,370	69.5
1954	3,324,941.88	1,936,639	1,500,536	0.4513	1,824,406	43.84	41,613	68.5
1955	7,352,727.07	4,230,085	3,277,532	0.4458	4,075,195	44.59	91,387	67.5
1956	5,380,153.76	3,056,497	2,368,219	0.4402	3,011,935	45.35	66,417	66.5
1957	2,224,503.74	1,247,616	966,671	0.4346	1,257,832	46.11	27,279	65.5
1958	3,553,585.73	1,967,072	1,524,116	0.4289	2,029,470	46.88	43,293	64.5
1959	2,220,557.08	1,212,844	939,729	0.4232	1,280,828	47.65	26,880	63.5
1960	2,754,659.87	1,484,162	1,149,950	0.4175	1,604,709	48.43	33,136	62.5
1961	2,481,183.02	1,318,317	1,021,452	0.4117	1,459,731	49.21	29,663	61.5
1962	3,604,911.67	1,888,328	1,463,104	0.4059	2,141,807	50.00	42,837	60.5
1963	2,194,799.95	1,133,103	877,945	0.4000	1,316,855	50.79	25,926	59.5
1964	4,276,725.39	2,175,423	1,685,550	0.3941	2,591,176	51.59	50,226	58.5
1965	7,698,893.51	3,857,273	2,988,672	0.3882	4,710,222	52.39	89,901	57.5
1966	6,906,365.98	3,407,053	2,639,835	0.3822	4,266,531	53.20	80,196	56.5
1967	6,495,593.28	3,154,119	2,443,858	0.3762	4,051,736	54.01	75,012	55.5

New Jersey - American Water Company

Account #: 331.001 - Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 105
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1968	6,406,038.40	3,060,741	2,371,507	0.3702	4,034,531	54.83	73,580	54.5
1969	7,527,657.30	3,537,668	2,741,037	0.3641	4,786,620	55.65	86,006	53.5
1970	5,101,753.76	2,357,404	1,826,551	0.3580	3,275,202	56.48	57,987	52.5
1971	6,410,540.62	2,911,350	2,255,756	0.3519	4,154,784	57.31	72,491	51.5
1972	4,739,699.73	2,114,758	1,638,546	0.3457	3,101,154	58.15	53,329	50.5
1973	5,597,770.60	2,452,750	1,900,427	0.3395	3,697,344	58.99	62,675	49.5
1974	3,609,665.53	1,552,547	1,202,936	0.3333	2,406,729	59.84	40,220	48.5
1975	2,415,914.66	1,019,537	789,952	0.3270	1,625,963	60.69	26,792	47.5
1976	8,299,989.83	3,435,089	2,661,557	0.3207	5,638,433	61.54	91,616	46.5
1977	4,806,379.00	1,949,867	1,510,786	0.3143	3,295,593	62.40	52,811	45.5
1978	4,475,168.42	1,778,695	1,378,159	0.3080	3,097,010	63.27	48,952	44.5
1979	7,224,046.23	2,811,553	2,178,433	0.3016	5,045,613	64.13	78,672	43.5
1980	10,522,505.48	4,007,903	3,105,382	0.2951	7,417,123	65.01	114,098	42.5
1981	9,320,101.96	3,472,149	2,690,272	0.2887	6,629,830	65.88	100,631	41.5
1982	10,163,538.25	3,701,161	2,867,714	0.2822	7,295,824	66.76	109,279	40.5
1983	8,488,797.08	3,019,795	2,339,782	0.2756	6,149,015	67.65	90,898	39.5
1984	17,793,765.82	6,179,408	4,787,896	0.2691	13,005,870	68.54	189,768	38.5
1985	22,055,620.38	7,472,062	5,789,463	0.2625	16,266,157	69.43	234,289	37.5
1986	19,745,191.80	6,520,840	5,052,442	0.2559	14,692,750	70.32	208,930	36.5
1987	23,400,479.06	7,527,476	5,832,399	0.2492	17,568,080	71.22	246,661	35.5
1988	27,279,461.96	8,540,547	6,617,341	0.2426	20,662,121	72.13	286,469	34.5
1989	44,042,967.41	13,408,316	10,388,960	0.2359	33,654,007	73.03	460,799	33.5
1990	27,128,468.65	8,023,634	6,216,829	0.2292	20,911,639	73.94	282,801	32.5
1991	30,092,930.55	8,638,424	6,693,178	0.2224	23,399,753	74.86	312,585	31.5
1992	38,106,742.61	10,605,776	8,217,511	0.2156	29,889,232	75.78	394,439	30.5
1993	37,188,388.09	10,023,953	7,766,706	0.2088	29,421,682	76.70	383,606	29.5
1994	30,494,114.84	7,951,094	6,160,624	0.2020	24,333,490	77.62	313,487	28.5
1995	23,706,111.22	5,971,769	4,627,015	0.1952	19,079,097	78.55	242,892	27.5

New Jersey - American Water Company

Account #: 331.001 - Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 105
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1996	98,727,852.54	23,995,355	18,591,953	0.1883	80,135,899	79.48	1,008,249	26.5
1997	46,560,800.32	10,902,384	8,447,327	0.1814	38,113,474	80.41	473,966	25.5
1998	58,065,897.07	13,078,410	10,133,344	0.1745	47,932,553	81.35	589,211	24.5
1999	30,475,241.71	6,591,396	5,107,110	0.1676	25,368,131	82.29	308,278	23.5
2000	50,296,852.16	10,427,212	8,079,157	0.1606	42,217,696	83.23	507,229	22.5
2001	17,591,321.54	3,488,608	2,703,025	0.1537	14,888,297	84.18	176,869	21.5
2002	40,299,697.62	7,628,327	5,910,539	0.1467	34,389,158	85.12	403,986	20.5
2003	76,886,947.93	13,858,218	10,737,551	0.1397	66,149,397	86.07	768,512	19.5
2004	7,986,527.04	1,367,050	1,059,211	0.1326	6,927,316	87.03	79,599	18.5
2005	12,430,673.23	2,014,701	1,561,020	0.1256	10,869,654	87.98	123,544	17.5
2006	116,941,384.34	17,887,161	13,859,235	0.1185	103,082,150	88.94	1,159,016	16.5
2007	59,473,296.98	8,553,481	6,627,362	0.1114	52,845,935	89.90	587,838	15.5
2008	76,759,862.20	10,336,658	8,008,994	0.1043	68,750,868	90.86	756,664	14.5
2009	37,546,785.88	4,711,529	3,650,562	0.0972	33,896,224	91.82	369,143	13.5
2010	34,349,389.33	3,994,395	3,094,916	0.0901	31,254,473	92.79	336,831	12.5
2011	41,980,497.54	4,494,936	3,482,742	0.0830	38,497,755	93.76	410,610	11.5
2012	44,697,328.79	4,373,151	3,388,381	0.0758	41,308,947	94.73	436,085	10.5
2013	109,907,430.40	9,736,537	7,544,012	0.0686	102,363,419	95.70	1,069,648	9.5
2014	102,141,721.97	8,102,065	6,277,599	0.0615	95,864,123	96.67	991,651	8.5
2015	115,979,094.33	8,123,139	6,293,927	0.0543	109,685,167	97.65	1,123,296	7.5
2016	120,805,730.81	7,338,079	5,685,651	0.0471	115,120,080	98.62	1,167,286	6.5
2017	115,649,192.24	5,948,056	4,608,641	0.0399	111,040,551	99.60	1,114,869	5.5
2018	130,327,962.19	5,487,799	4,252,027	0.0326	126,075,935	100.58	1,253,505	4.5
2019	127,394,626.23	4,174,784	3,234,684	0.0254	124,159,942	101.56	1,222,539	3.5
2020	183,775,038.16	4,304,216	3,334,970	0.0181	180,440,068	102.54	1,759,691	2.5
2021	196,479,600.65	2,762,533	2,140,451	0.0109	194,339,150	103.52	1,877,243	1.5
2022	208,881,413.10	979,275	758,756	0.0036	208,122,657	104.51	1,991,457	0.5

New Jersey - American Water Company

Account #: 331.001 - Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 105
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	2,789,862,915.58	394,765,660	305,870,225		2,483,992,691		27,807,313	

COMPOSITE ANNUAL ACCRUAL RATE	1.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.11
COMPOSITE AVERAGE AGE (YEARS)	15.58
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	90.14

New Jersey - American Water Company

Account #: 332.000 - Fire Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 65
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1961	405.16	250	104	0.2575	301	24.87	12	61.5
1962	6,807.00	4,157	1,734	0.2547	5,073	25.30	200	60.5
1963	2,794.00	1,687	704	0.2518	2,090	25.75	81	59.5
1964	1,755.10	1,048	437	0.2490	1,318	26.20	50	58.5
1974	564.20	296	123	0.2185	441	30.94	14	48.5
1975	1,439.00	743	310	0.2153	1,129	31.44	36	47.5
1976	1,120.00	569	238	0.2121	883	31.95	28	46.5
1977	16,342.00	8,180	3,411	0.2088	12,931	32.47	398	45.5
1978	4,254.00	2,095	874	0.2054	3,380	32.99	102	44.5
1979	3,902.00	1,890	788	0.2020	3,114	33.51	93	43.5
1981	25,490.00	11,927	4,974	0.1952	20,516	34.58	593	41.5
1982	1,152.00	529	221	0.1916	931	35.13	27	40.5
1986	19,453.59	8,265	3,447	0.1772	16,007	37.38	428	36.5
1987	7,352.10	3,058	1,275	0.1735	6,077	37.97	160	35.5
1988	4,930.94	2,006	837	0.1697	4,094	38.55	106	34.5
1989	25,757.71	10,243	4,272	0.1659	21,486	39.15	549	33.5
1990	11,245.28	4,367	1,821	0.1620	9,424	39.75	237	32.5
1991	12,114.93	4,591	1,915	0.1580	10,200	40.37	253	31.5
1992	10,113.02	3,736	1,558	0.1541	8,555	40.99	209	30.5
1993	12,850.42	4,622	1,928	0.1500	10,923	41.62	262	29.5
1994	3,389.82	1,186	495	0.1459	2,895	42.26	69	28.5
1995	13,985.00	4,754	1,983	0.1418	12,002	42.90	280	27.5
1996	1,647.00	543	227	0.1376	1,420	43.56	33	26.5
1997	13,422.19	4,290	1,789	0.1333	11,633	44.23	263	25.5
1998	4,053.31	1,253	523	0.1290	3,531	44.90	79	24.5
2000	3,299.40	950	396	0.1201	2,903	46.28	63	22.5
2001	9,534.46	2,643	1,102	0.1156	8,432	46.98	179	21.5
2002	11,147.81	2,967	1,238	0.1110	9,910	47.70	208	20.5

New Jersey - American Water Company

Account #: 332.000 - Fire Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 65
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2003	15,454.05	3,941	1,644	0.1064	13,810	48.42	285	19.5
2004	5,582.76	1,361	567	0.1016	5,015	49.16	102	18.5
2005	2,258.59	524	219	0.0968	2,040	49.91	41	17.5
2006	11,664.40	2,573	1,073	0.0920	10,591	50.66	209	16.5
2007	1,248,440.07	260,577	108,675	0.0870	1,139,765	51.43	22,160	15.5
2008	215,172.34	42,325	17,652	0.0820	197,520	52.21	3,783	14.5
2009	26,394.61	4,870	2,031	0.0770	24,364	53.01	460	13.5
2010	14,081.03	2,424	1,011	0.0718	13,070	53.81	243	12.5
2011	41,410.07	6,607	2,756	0.0665	38,654	54.63	708	11.5
2012	50,717.51	7,446	3,105	0.0612	47,612	55.46	859	10.5
2013	168,982.01	22,617	9,433	0.0558	159,549	56.30	2,834	9.5
2014	17,875.03	2,157	900	0.0503	16,975	57.15	297	8.5
2015	1,243.26	133	56	0.0448	1,188	58.02	20	7.5
2019	14,226.10	736	307	0.0216	13,919	61.64	226	3.5
2020	38,972.92	1,454	607	0.0156	38,366	62.57	613	2.5
2021	7,418.59	168	70	0.0094	7,349	63.53	116	1.5
2022	18,306.75	139	58	0.0032	18,249	64.51	283	0.5
TOTAL	2,128,521.53	452,903	188,886		1,939,636		38,251	

COMPOSITE ANNUAL ACCRUAL RATE	1.80%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.09
COMPOSITE AVERAGE AGE (YEARS)	16.23
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	51.17

New Jersey - American Water Company

Account #: 333.000 - Services

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1902	9,510.57	9,275	8,046	0.8460	1,465	1.74	844	120.5
1920	258.47	233	202	0.7830	56	6.82	8	102.5
1922	211,590.34	189,620	164,489	0.7774	47,102	7.27	6,480	100.5
1924	947.31	843	731	0.7717	216	7.73	28	98.5
1925	87,146.33	77,238	67,001	0.7688	20,145	7.96	2,531	97.5
1926	32,499.78	28,695	24,892	0.7659	7,608	8.19	928	96.5
1927	17,993.66	15,827	13,729	0.7630	4,265	8.43	506	95.5
1928	26,699.93	23,392	20,292	0.7600	6,408	8.67	739	94.5
1930	1,742.92	1,515	1,314	0.7539	429	9.16	47	92.5
1931	132.58	115	100	0.7508	33	9.41	4	91.5
1932	53.60	46	40	0.7476	14	9.67	1	90.5
1933	244.39	210	182	0.7444	62	9.93	6	89.5
1934	35.24	30	26	0.7412	9	10.19	1	88.5
1935	15,022.89	12,777	11,084	0.7378	3,939	10.47	376	87.5
1936	14,657.55	12,408	10,764	0.7344	3,894	10.74	362	86.5
1937	21,696.59	18,279	15,856	0.7308	5,841	11.03	530	85.5
1939	263.68	220	191	0.7235	73	11.62	6	83.5
1940	9,453.01	7,842	6,802	0.7196	2,651	11.93	222	82.5
1941	225.62	186	161	0.7156	64	12.25	5	81.5
1942	1,438.41	1,180	1,024	0.7115	415	12.58	33	80.5
1943	953.51	778	674	0.7073	279	12.92	22	79.5
1944	1,026.73	832	722	0.7030	305	13.27	23	78.5
1945	141,552.80	113,983	98,877	0.6985	42,676	13.63	3,130	77.5
1946	41,976.71	33,577	29,127	0.6939	12,850	14.01	917	76.5
1947	56,808.55	45,129	39,148	0.6891	17,661	14.39	1,227	75.5
1948	141,500.41	111,606	96,814	0.6842	44,686	14.79	3,022	74.5
1949	218,780.63	171,281	148,580	0.6791	70,200	15.20	4,619	73.5
1950	10,642.39	8,268	7,172	0.6739	3,470	15.62	222	72.5

New Jersey - American Water Company

Account #: 333.000 - Services

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1951	202,586.01	156,126	135,434	0.6685	67,152	16.05	4,183	71.5
1952	234,715.92	179,390	155,615	0.6630	79,101	16.50	4,794	70.5
1953	263,625.01	199,757	173,282	0.6573	90,343	16.96	5,327	69.5
1954	373,783.79	280,712	243,508	0.6515	130,276	17.43	7,474	68.5
1955	544,299.44	405,004	351,327	0.6455	192,972	17.91	10,772	67.5
1956	558,106.27	411,327	356,812	0.6393	201,294	18.41	10,934	66.5
1957	752,994.88	549,483	476,658	0.6330	276,337	18.92	14,606	65.5
1958	516,609.08	373,146	323,692	0.6266	192,917	19.44	9,924	64.5
1959	714,634.95	510,741	443,050	0.6200	271,585	19.97	13,598	63.5
1960	635,650.73	449,349	389,795	0.6132	245,856	20.52	11,984	62.5
1961	658,232.06	460,088	399,110	0.6063	259,122	21.07	12,297	61.5
1962	605,842.97	418,556	363,083	0.5993	242,760	21.64	11,218	60.5
1963	622,898.46	425,200	368,847	0.5921	254,052	22.22	11,435	59.5
1964	568,101.65	383,006	332,245	0.5848	235,857	22.81	10,341	58.5
1965	1,136,703.42	756,616	656,338	0.5774	480,365	23.41	20,523	57.5
1966	761,975.34	500,542	434,204	0.5698	327,772	24.02	13,648	56.5
1967	738,590.07	478,635	415,200	0.5622	323,391	24.64	13,126	55.5
1968	793,140.82	506,848	439,673	0.5543	353,468	25.27	13,989	54.5
1969	837,410.84	527,478	457,569	0.5464	379,841	25.91	14,661	53.5
1970	784,759.30	487,043	422,493	0.5384	362,266	26.56	13,642	52.5
1971	972,661.83	594,500	515,708	0.5302	456,954	27.22	16,790	51.5
1972	1,046,495.53	629,655	546,205	0.5219	500,291	27.88	17,943	50.5
1973	1,298,552.87	768,765	666,878	0.5136	631,675	28.56	22,118	49.5
1974	780,867.48	454,649	394,392	0.5051	386,475	29.24	13,216	48.5
1975	1,205,249.59	689,811	598,388	0.4965	606,862	29.94	20,272	47.5
1976	982,657.29	552,565	479,331	0.4878	503,326	30.64	16,428	46.5
1977	1,201,624.12	663,532	575,592	0.4790	626,032	31.35	19,972	45.5
1978	1,274,708.26	690,820	599,263	0.4701	675,445	32.06	21,066	44.5

New Jersey - American Water Company

Account #: 333.000 - Services

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1979	1,448,177.76	769,847	667,816	0.4611	780,362	32.79	23,800	43.5
1980	1,665,157.62	867,772	752,763	0.4521	912,395	33.52	27,219	42.5
1981	1,662,726.93	848,940	736,426	0.4429	926,301	34.26	27,037	41.5
1982	1,607,179.54	803,439	696,956	0.4337	910,224	35.01	26,002	40.5
1983	1,911,460.54	934,957	811,043	0.4243	1,100,417	35.76	30,772	39.5
1984	3,222,838.93	1,541,392	1,337,106	0.4149	1,885,733	36.52	51,634	38.5
1985	3,799,940.24	1,775,693	1,540,354	0.4054	2,259,587	37.29	60,596	37.5
1986	5,756,772.66	2,626,440	2,278,348	0.3958	3,478,425	38.06	91,385	36.5
1987	5,450,154.30	2,425,713	2,104,223	0.3861	3,345,931	38.84	86,136	35.5
1988	5,210,474.07	2,260,402	1,960,822	0.3763	3,249,652	39.63	81,994	34.5
1989	6,168,011.23	2,605,836	2,260,474	0.3665	3,907,538	40.43	96,657	33.5
1990	6,144,834.90	2,525,744	2,190,997	0.3566	3,953,838	41.23	95,903	32.5
1991	5,907,989.76	2,360,344	2,047,518	0.3466	3,860,472	42.03	91,842	31.5
1992	7,498,850.99	2,908,774	2,523,263	0.3365	4,975,588	42.85	116,124	30.5
1993	7,863,097.93	2,958,095	2,566,047	0.3263	5,297,051	43.67	121,308	29.5
1994	9,008,779.23	3,282,913	2,847,815	0.3161	6,160,964	44.49	138,476	28.5
1995	8,213,248.85	2,895,536	2,511,779	0.3058	5,701,470	45.32	125,799	27.5
1996	7,720,316.18	2,629,517	2,281,017	0.2955	5,439,299	46.16	117,840	26.5
1997	12,051,203.39	3,959,589	3,434,809	0.2850	8,616,394	47.00	183,325	25.5
1998	9,561,613.46	3,025,886	2,624,854	0.2745	6,936,760	47.85	144,976	24.5
1999	11,277,083.97	3,431,279	2,976,518	0.2639	8,300,566	48.70	170,439	23.5
2000	16,704,103.62	4,877,809	4,231,333	0.2533	12,472,770	49.56	251,675	22.5
2001	5,261,796.52	1,471,601	1,276,563	0.2426	3,985,233	50.42	79,037	21.5
2002	7,386,545.35	1,974,205	1,712,556	0.2318	5,673,990	51.29	110,623	20.5
2003	19,163,175.31	4,882,704	4,235,579	0.2210	14,927,596	52.16	286,165	19.5
2004	862,817.16	209,016	181,315	0.2101	681,503	53.04	12,848	18.5
2005	4,492,591.47	1,031,692	894,958	0.1992	3,597,634	53.92	66,716	17.5
2006	35,552,760.85	7,713,589	6,691,276	0.1882	28,861,485	54.81	526,548	16.5

New Jersey - American Water Company

Account #: 333.000 - Services

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 70
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	8,967,377.38	1,831,364	1,588,646	0.1772	7,378,732	55.70	132,463	15.5
2008	10,855,686.29	2,078,029	1,802,619	0.1661	9,053,067	56.60	159,947	14.5
2009	18,399,397.74	3,285,454	2,850,020	0.1549	15,549,378	57.50	270,421	13.5
2010	9,448,674.30	1,565,145	1,357,710	0.1437	8,090,964	58.40	138,533	12.5
2011	12,331,660.45	1,882,690	1,633,169	0.1324	10,698,491	59.31	180,373	11.5
2012	13,385,966.27	1,869,317	1,621,569	0.1211	11,764,397	60.22	195,342	10.5
2013	29,614,799.23	3,748,143	3,251,387	0.1098	26,363,412	61.14	431,193	9.5
2014	35,069,694.06	3,978,100	3,450,867	0.0984	31,618,827	62.06	509,491	8.5
2015	33,353,178.75	3,343,754	2,900,593	0.0870	30,452,586	62.98	483,510	7.5
2016	42,796,769.56	3,724,414	3,230,803	0.0755	39,565,967	63.91	619,106	6.5
2017	45,268,565.96	3,338,732	2,896,236	0.0640	42,372,330	64.84	653,519	5.5
2018	49,333,519.37	2,981,479	2,586,331	0.0524	46,747,188	65.77	710,773	4.5
2019	41,302,434.29	1,944,474	1,686,765	0.0408	39,615,669	66.70	593,898	3.5
2020	49,504,063.97	1,667,082	1,446,137	0.0292	48,057,927	67.64	710,467	2.5
2021	51,087,165.66	1,033,882	896,857	0.0176	50,190,308	68.58	731,815	1.5
2022	57,934,346.31	391,596	339,696	0.0059	57,594,650	69.53	828,380	0.5
TOTAL	743,359,334.93	122,651,105	106,395,664		636,963,671		10,995,227	

COMPOSITE ANNUAL ACCRUAL RATE	1.48%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.14
COMPOSITE AVERAGE AGE (YEARS)	12.89
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	58.45

New Jersey - American Water Company

Account #: 334.100 - Meters

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 12
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1930	204.92	205	192	0.9362	13	3.00	4	93.5
1932	247.76	248	232	0.9362	16	3.00	5	91.5
1937	523.20	523	490	0.9362	33	3.00	11	86.5
1959	384.50	385	360	0.9362	25	3.00	8	64.5
1960	480.94	481	450	0.9362	31	3.00	10	63.5
1961	2,533.33	2,533	2,372	0.9362	162	3.00	54	62.5
1962	1,464.07	1,464	1,371	0.9362	93	3.00	31	61.5
1963	3,416.35	3,416	3,198	0.9362	218	3.00	73	60.5
1964	1,934.76	1,935	1,811	0.9362	123	3.00	41	59.5
1965	1,741.25	1,741	1,630	0.9362	111	3.00	37	58.5
1966	4,079.04	4,079	3,819	0.9362	260	3.00	87	57.5
1967	4,256.35	4,256	3,985	0.9362	272	3.00	91	56.5
1968	3,725.17	3,725	3,488	0.9362	238	3.00	79	55.5
1969	4,112.36	4,112	3,850	0.9362	262	3.00	87	54.5
1970	5,240.50	5,241	4,906	0.9362	334	3.00	111	53.5
1971	6,342.93	6,343	5,938	0.9362	405	3.00	135	52.5
1972	6,924.94	6,925	6,483	0.9362	442	3.00	147	51.5
1973	7,538.66	7,539	7,058	0.9362	481	3.00	160	50.5
1974	3,015.09	3,015	2,823	0.9362	192	3.00	64	49.5
1975	56.96	57	53	0.9363	4	3.00	1	48.5
1976	902.00	902	844	0.9362	58	3.00	19	47.5
1977	3,627.68	3,628	3,396	0.9362	231	3.00	77	46.5
1978	7,520.99	7,521	7,041	0.9362	480	3.00	160	45.5
1979	12,935.77	12,936	12,111	0.9362	825	3.00	275	44.5
1980	15,273.89	15,274	14,299	0.9362	974	3.00	325	43.5
1981	13,473.17	13,473	12,614	0.9362	860	3.00	287	42.5
1982	11,811.91	11,812	11,058	0.9362	754	3.00	251	41.5
1983	10,535.03	10,535	9,863	0.9362	672	3.00	224	40.5

New Jersey - American Water Company

Account #: 334.100 - Meters

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 12
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	25,366.41	25,366	23,748	0.9362	1,618	3.00	539	39.5
1985	752,091.37	752,091	704,112	0.9362	47,980	3.00	15,993	38.5
1986	166,073.24	166,073	155,479	0.9362	10,595	3.00	3,532	37.5
1987	58,698.20	58,698	54,954	0.9362	3,745	3.00	1,248	36.5
1988	338,698.07	338,698	317,091	0.9362	21,607	3.00	7,202	35.5
1989	847,088.63	847,089	793,049	0.9362	54,040	3.00	18,013	34.5
1990	1,274,370.43	1,274,370	1,193,072	0.9362	81,298	3.00	27,099	33.5
1991	825,354.34	825,354	772,701	0.9362	52,653	3.00	17,551	32.5
1992	913,998.82	913,999	855,690	0.9362	58,309	3.00	19,436	31.5
1993	1,980,755.88	1,980,756	1,854,394	0.9362	126,362	3.00	42,121	30.5
1994	1,243,663.23	1,243,663	1,164,324	0.9362	79,340	3.00	26,447	29.5
1995	1,592,889.09	1,592,889	1,491,271	0.9362	101,618	3.00	33,873	28.5
1996	2,151,547.99	2,151,548	2,014,290	0.9362	137,258	3.00	45,753	27.5
1997	2,632,912.55	2,632,913	2,464,946	0.9362	167,967	3.00	55,989	26.5
1998	738,364.83	738,365	691,261	0.9362	47,104	3.00	15,701	25.5
1999	2,796,255.00	2,679,744	2,508,790	0.8972	287,465	3.00	95,822	23.5
2000	2,995,114.29	2,832,897	2,652,172	0.8855	342,942	3.00	114,314	22.5
2001	19,256.66	17,682	16,554	0.8597	2,702	3.00	901	21.5
2002	2,385,096.44	2,118,687	1,983,526	0.8316	401,571	3.00	133,857	20.5
2003	10,015,812.16	8,586,336	8,038,571	0.8026	1,977,242	3.00	659,081	19.5
2004	39,717.56	32,786	30,695	0.7728	9,023	3.00	3,008	18.5
2005	1,877,414.32	1,488,830	1,393,850	0.7424	483,564	3.00	161,188	17.5
2006	8,864,289.31	6,736,030	6,306,304	0.7114	2,557,985	3.00	852,662	16.5
2007	2,821,226.67	2,048,507	1,917,822	0.6798	903,404	3.29	274,863	15.5
2008	5,523,492.95	3,819,921	3,576,229	0.6475	1,947,264	3.70	526,135	14.5
2009	18,161,473.14	11,918,558	11,158,214	0.6144	7,003,259	4.12	1,697,785	13.5
2010	11,788,185.92	7,309,323	6,843,025	0.5805	4,945,161	4.56	1,084,622	12.5
2011	11,720,821.95	6,831,810	6,395,975	0.5457	5,324,847	5.01	1,063,807	11.5

New Jersey - American Water Company

Account #: 334.100 - Meters

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0
ASL: 12
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2012	6,965,123.30	3,793,221	3,551,232	0.5099	3,413,891	5.46	624,708	10.5
2013	9,234,788.60	4,664,324	4,366,764	0.4729	4,868,025	5.94	819,668	9.5
2014	8,182,644.06	3,797,870	3,555,585	0.4345	4,627,060	6.43	719,565	8.5
2015	11,564,949.81	4,875,183	4,564,171	0.3947	7,000,779	6.94	1,008,551	7.5
2016	17,419,733.78	6,568,057	6,149,048	0.3530	11,270,686	7.48	1,507,696	6.5
2017	23,625,350.68	7,803,048	7,305,253	0.3092	16,320,098	8.04	2,030,720	5.5
2018	34,897,655.93	9,799,533	9,174,371	0.2629	25,723,285	8.63	2,980,576	4.5
2019	31,676,635.24	7,223,382	6,762,567	0.2135	24,914,069	9.26	2,689,464	3.5
2020	21,416,375.83	3,664,887	3,431,086	0.1602	17,985,290	9.95	1,808,204	2.5
2021	19,431,584.94	2,114,987	1,980,062	0.1019	17,451,523	10.69	1,631,916	1.5
2022	37,694,449.53	1,473,760	1,379,741	0.0366	36,314,708	11.53	3,149,358	0.5
TOTAL	316,793,624.67	127,875,541	119,717,720		197,075,905		25,971,822	

COMPOSITE ANNUAL ACCRUAL RATE	8.20%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.38
COMPOSITE AVERAGE AGE (YEARS)	8.25
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	7.41

New Jersey - American Water Company

Account #: 334.200 - Meter Installations

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1918	74.45	74	74	1.0000	0	1.00	0	105.5
1920	770.76	771	771	1.0000	0	1.00	0	103.5
1921	1,999.25	1,999	1,999	1.0000	0	1.00	0	102.5
1922	2,585.00	2,563	2,585	1.0000	0	1.00	0	100.5
1923	4,184.78	4,141	4,185	1.0000	0	1.00	0	99.5
1924	5,752.61	5,675	5,753	1.0000	0	1.00	0	98.5
1925	2,936.88	2,888	2,937	1.0000	0	1.00	0	97.5
1926	12,109.98	11,862	12,110	1.0000	0	1.23	0	96.5
1927	8,681.44	8,472	8,681	1.0000	0	1.45	0	95.5
1928	7,207.53	7,006	7,208	1.0000	0	1.68	0	94.5
1929	8,169.95	7,909	8,170	1.0000	0	1.92	0	93.5
1930	426.97	412	427	1.0000	0	2.16	0	92.5
1931	1,011.18	971	1,011	1.0000	0	2.40	0	91.5
1932	381.14	364	381	1.0000	0	2.65	0	90.5
1936	360.71	339	361	1.0000	0	3.66	0	86.5
1937	660.42	617	660	1.0000	0	3.92	0	85.5
1938	329.83	307	330	1.0000	0	4.18	0	84.5
1940	52.68	49	53	1.0000	0	4.69	0	82.5
1941	138.51	127	139	1.0000	0	4.95	0	81.5
1947	137.72	123	138	1.0000	0	6.53	0	75.5
1948	2,768.92	2,455	2,769	1.0000	0	6.81	0	74.5
1949	3,079.37	2,715	3,079	1.0000	0	7.09	0	73.5
1950	6,873.04	6,026	6,873	1.0000	0	7.39	0	72.5
1951	6,909.22	6,023	6,909	1.0000	0	7.69	0	71.5
1952	5,902.31	5,115	5,902	1.0000	0	8.01	0	70.5
1953	7,745.66	6,670	7,746	1.0000	0	8.33	0	69.5
1954	21,347.29	18,262	21,347	1.0000	0	8.67	0	68.5
1955	34,893.28	29,647	34,893	1.0000	0	9.02	0	67.5

New Jersey - American Water Company

Account #: 334.200 - Meter Installations

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1956	45,574.72	38,446	45,575	1.0000	0	9.39	0	66.5
1957	44,835.24	37,540	44,835	1.0000	0	9.76	0	65.5
1958	34,149.06	28,369	34,149	1.0000	0	10.16	0	64.5
1959	37,283.06	30,720	37,283	1.0000	0	10.56	0	63.5
1960	37,894.51	30,957	37,895	1.0000	0	10.98	0	62.5
1961	49,839.08	40,351	49,839	1.0000	0	11.42	0	61.5
1962	43,521.63	34,907	43,522	1.0000	0	11.88	0	60.5
1963	27,829.77	22,103	27,830	1.0000	0	12.35	0	59.5
1964	34,389.39	27,035	34,389	1.0000	0	12.83	0	58.5
1965	157,751.41	122,698	157,751	1.0000	0	13.33	0	57.5
1966	47,903.60	36,846	47,904	1.0000	0	13.85	0	56.5
1967	40,663.83	30,916	40,664	1.0000	0	14.38	0	55.5
1968	43,952.10	33,015	43,952	1.0000	0	14.93	0	54.5
1969	47,109.64	34,944	47,110	1.0000	0	15.49	0	53.5
1970	57,334.01	41,975	57,334	1.0000	0	16.07	0	52.5
1971	49,214.84	35,544	49,215	1.0000	0	16.67	0	51.5
1972	86,280.58	61,441	86,281	1.0000	0	17.27	0	50.5
1973	138,042.71	96,871	138,043	1.0000	0	17.90	0	49.5
1974	44,316.53	30,630	44,317	1.0000	0	18.53	0	48.5
1975	88,613.23	60,290	88,613	1.0000	0	19.18	0	47.5
1976	287,320.73	192,320	287,321	1.0000	0	19.84	0	46.5
1977	256,175.62	168,601	256,176	1.0000	0	20.51	0	45.5
1978	257,415.75	166,479	257,416	1.0000	0	21.20	0	44.5
1979	251,984.81	160,041	251,985	1.0000	0	21.89	0	43.5
1980	317,533.74	197,930	317,534	1.0000	0	22.60	0	42.5
1981	373,354.46	228,254	373,354	1.0000	0	23.32	0	41.5
1982	351,200.18	210,441	351,200	1.0000	0	24.05	0	40.5
1983	612,282.96	359,343	612,283	1.0000	0	24.79	0	39.5

New Jersey - American Water Company

Account #: 334.200 - Meter Installations

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	892,256.87	512,517	892,257	1.0000	0	25.54	0	38.5
1985	1,170,399.30	657,474	1,170,399	1.0000	0	26.29	0	37.5
1986	1,466,287.74	804,919	1,466,288	1.0000	0	27.06	0	36.5
1987	1,767,245.67	947,224	1,767,246	1.0000	0	27.84	0	35.5
1988	2,304,070.03	1,204,733	2,251,958	0.9774	52,112	28.63	1,820	34.5
1989	2,535,296.77	1,292,024	2,415,127	0.9526	120,170	29.42	4,084	33.5
1990	2,978,533.41	1,477,968	2,762,706	0.9275	215,827	30.23	7,140	32.5
1991	1,182,195.20	570,589	1,066,579	0.9022	115,616	31.04	3,725	31.5
1992	2,664,694.56	1,249,648	2,335,917	0.8766	328,778	31.86	10,319	30.5
1993	2,902,662.04	1,321,104	2,469,487	0.8508	433,175	32.69	13,250	29.5
1994	2,731,453.39	1,205,027	2,252,508	0.8247	478,946	33.53	14,284	28.5
1995	6,918,130.19	2,954,545	5,522,811	0.7983	1,395,319	34.38	40,590	27.5
1996	4,074,067.14	1,681,956	3,144,012	0.7717	930,055	35.23	26,400	26.5
1997	5,578,835.21	2,223,083	4,155,519	0.7449	1,423,316	36.09	39,437	25.5
1998	4,765,731.43	1,830,078	3,420,891	0.7178	1,344,841	36.96	36,387	24.5
1999	3,199,325.96	1,181,847	2,209,178	0.6905	990,148	37.84	26,170	23.5
2000	44,053.07	15,625	29,207	0.6630	14,846	38.72	383	22.5
2001	20,130.41	6,841	12,788	0.6353	7,342	39.61	185	21.5
2002	11,517.33	3,742	6,995	0.6073	4,523	40.51	112	20.5
2003	6,330,731.22	1,961,481	3,666,517	0.5792	2,664,214	41.41	64,338	19.5
2004	1,499,838.76	441,963	826,143	0.5508	673,695	42.32	15,919	18.5
2005	157,648.80	44,048	82,338	0.5223	75,311	43.24	1,742	17.5
2006	18,398,319.49	4,857,934	9,080,739	0.4936	9,317,581	44.16	211,008	16.5
2007	1,321,019.28	328,389	613,844	0.4647	707,175	45.08	15,685	15.5
2008	2,272,155.74	529,504	989,780	0.4356	1,282,376	46.02	27,867	14.5
2009	10,365,868.52	2,253,595	4,212,555	0.4064	6,153,314	46.96	131,045	13.5
2010	3,162,427.17	637,839	1,192,286	0.3770	1,970,141	47.90	41,132	12.5
2011	3,018,526.41	561,145	1,048,926	0.3475	1,969,601	48.85	40,323	11.5

New Jersey - American Water Company

Account #: 334.200 - Meter Installations

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2012	3,793,352.20	644,994	1,205,662	0.3178	2,587,690	49.80	51,964	10.5
2013	10,982,070.10	1,692,329	3,163,402	0.2881	7,818,668	50.75	154,050	9.5
2014	8,862,333.44	1,223,876	2,287,741	0.2581	6,574,592	51.71	127,133	8.5
2015	8,086,969.12	986,895	1,844,762	0.2281	6,242,207	52.68	118,498	7.5
2016	7,115,980.41	753,705	1,408,870	0.1980	5,707,111	53.64	106,387	6.5
2017	7,888,652.96	707,961	1,323,363	0.1678	6,565,289	54.62	120,210	5.5
2018	7,001,160.35	514,729	962,162	0.1374	6,038,998	55.59	108,637	4.5
2019	7,009,589.77	401,318	750,168	0.1070	6,259,421	56.56	110,659	3.5
2020	7,868,116.40	322,132	602,148	0.0765	7,265,968	57.54	126,269	2.5
2021	8,334,448.54	204,945	383,095	0.0460	7,951,353	58.52	135,863	1.5
2022	11,569,526.98	94,922	177,434	0.0153	11,392,093	59.51	191,439	0.5
TOTAL	186,256,879.45	42,997,236	79,185,065		107,071,815		2,124,454	

COMPOSITE ANNUAL ACCRUAL RATE	1.14%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.43
COMPOSITE AVERAGE AGE (YEARS)	14.77
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	46.15

New Jersey - American Water Company

Account #: 334.300 - Meter Vaults

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	702,548.60	222,263	346,595	0.4933	355,954	27.35	13,017	15.5
2008	2,152,276.49	644,277	1,004,680	0.4668	1,147,596	28.03	40,947	14.5
2009	4,104,120.67	1,157,060	1,804,310	0.4396	2,299,811	28.72	80,069	13.5
2010	2,877,274.56	759,865	1,184,928	0.4118	1,692,347	29.44	57,492	12.5
2011	3,539,110.00	870,018	1,356,700	0.3833	2,182,410	30.17	72,345	11.5
2012	3,057,180.08	694,363	1,082,784	0.3542	1,974,397	30.91	63,865	10.5
2013	6,133,344.40	1,275,517	1,989,031	0.3243	4,144,313	31.68	130,812	9.5
2014	4,809,356.35	905,760	1,412,434	0.2937	3,396,922	32.47	104,628	8.5
2015	6,214,739.59	1,045,418	1,630,217	0.2623	4,584,522	33.27	137,792	7.5
2016	6,605,305.20	974,935	1,520,307	0.2302	5,084,999	34.10	149,137	6.5
2017	6,409,129.28	810,538	1,263,947	0.1972	5,145,182	34.94	147,252	5.5
2018	6,210,252.13	650,843	1,014,920	0.1634	5,195,332	35.81	145,089	4.5
2019	6,037,978.81	498,651	777,593	0.1288	5,260,386	36.70	143,348	3.5
2020	4,431,319.23	264,977	413,202	0.0932	4,018,117	37.61	106,842	2.5
2021	2,986,096.77	108,691	169,492	0.0568	2,816,605	38.54	73,075	1.5
2022	4,349,394.94	53,628	83,627	0.0192	4,265,768	39.51	107,976	0.5
TOTAL	70,619,427.10	10,936,804	17,054,766		53,564,661		1,573,686	

COMPOSITE ANNUAL ACCRUAL RATE	2.23%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.24
COMPOSITE AVERAGE AGE (YEARS)	7.04
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	33.81

New Jersey - American Water Company

Account #: 335.000 - Fire Hydrants

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1911	53.02	53	25	0.4787	28	1.00	28	111.5
1912	64.76	64	31	0.4785	34	1.00	34	110.5
1914	31.65	31	15	0.4758	17	1.00	17	108.5
1918	41.36	40	19	0.4678	22	1.83	12	104.5
1919	77.03	74	36	0.4658	41	2.09	20	103.5
1920	44.04	42	20	0.4637	24	2.36	10	102.5
1921	52.59	50	24	0.4615	28	2.64	11	101.5
1923	378.79	359	173	0.4570	206	3.19	64	99.5
1924	70.35	66	32	0.4547	38	3.47	11	98.5
1925	244.29	229	111	0.4525	134	3.75	36	97.5
1926	1,088.91	1,016	490	0.4501	599	4.04	148	96.5
1927	880.58	817	394	0.4479	486	4.32	112	95.5
1928	1,720.12	1,588	766	0.4455	954	4.61	207	94.5
1929	2,102.61	1,931	932	0.4432	1,171	4.90	239	93.5
1930	2,120.47	1,937	935	0.4409	1,186	5.19	228	92.5
1931	4,480.92	4,072	1,965	0.4386	2,516	5.48	459	91.5
1932	1,586.32	1,434	692	0.4362	894	5.77	155	90.5
1933	4,249.59	3,820	1,844	0.4339	2,406	6.06	397	89.5
1934	2,353.55	2,105	1,016	0.4316	1,338	6.35	211	88.5
1935	4,345.31	3,864	1,865	0.4292	2,480	6.64	373	87.5
1936	5,497.23	4,862	2,346	0.4268	3,151	6.93	454	86.5
1937	3,493.10	3,072	1,483	0.4245	2,010	7.23	278	85.5
1938	4,930.83	4,312	2,081	0.4221	2,850	7.53	379	84.5
1939	3,511.36	3,053	1,474	0.4197	2,038	7.82	260	83.5
1940	3,688.53	3,189	1,539	0.4173	2,149	8.12	265	82.5
1941	843.16	725	350	0.4148	493	8.43	59	81.5
1942	2,342.98	2,002	966	0.4123	1,377	8.74	158	80.5
1943	255.17	217	105	0.4098	151	9.05	17	79.5

New Jersey - American Water Company

Account #: 335.000 - Fire Hydrants

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1944	2,315.90	1,954	943	0.4073	1,373	9.37	147	78.5
1945	1,546.42	1,297	626	0.4047	921	9.69	95	77.5
1946	905.85	755	364	0.4020	542	10.02	54	76.5
1947	2,234.60	1,849	892	0.3993	1,342	10.36	130	75.5
1948	560.27	460	222	0.3966	338	10.70	32	74.5
1949	89.51	73	35	0.3938	54	11.05	5	73.5
1950	183.14	148	72	0.3909	112	11.40	10	72.5
1951	628.72	505	244	0.3880	385	11.77	33	71.5
1952	1,045.07	834	402	0.3850	643	12.14	53	70.5
1953	3,583.44	2,836	1,369	0.3819	2,215	12.52	177	69.5
1954	865.30	679	328	0.3788	538	12.91	42	68.5
1955	44,183.08	34,382	16,594	0.3756	27,589	13.31	2,073	67.5
1956	8,659.15	6,680	3,224	0.3723	5,435	13.72	396	66.5
1957	38,947.63	29,773	14,369	0.3689	24,578	14.13	1,739	65.5
1958	55,756.57	42,226	20,379	0.3655	35,377	14.56	2,430	64.5
1959	106,955.58	80,222	38,718	0.3620	68,238	15.00	4,550	63.5
1960	76,265.73	56,637	27,335	0.3584	48,931	15.44	3,169	62.5
1961	125,681.04	92,378	44,585	0.3547	81,096	15.90	5,101	61.5
1962	130,327.75	94,783	45,745	0.3510	84,583	16.36	5,169	60.5
1963	138,399.18	99,556	48,049	0.3472	90,350	16.84	5,365	59.5
1964	180,086.22	128,085	61,818	0.3433	118,268	17.33	6,826	58.5
1965	215,552.75	151,532	73,134	0.3393	142,419	17.82	7,992	57.5
1966	214,931.73	149,285	72,049	0.3352	142,882	18.33	7,797	56.5
1967	249,956.76	171,464	82,754	0.3311	167,203	18.84	8,874	55.5
1968	255,667.42	173,145	83,565	0.3269	172,103	19.37	8,887	54.5
1969	259,261.36	173,266	83,624	0.3225	175,638	19.90	8,825	53.5
1970	249,354.82	164,380	79,335	0.3182	170,020	20.45	8,315	52.5
1971	271,620.62	176,549	85,208	0.3137	186,413	21.00	8,876	51.5

New Jersey - American Water Company

Account #: 335.000 - Fire Hydrants

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1972	314,656.79	201,563	97,281	0.3092	217,376	21.57	10,080	50.5
1973	230,010.13	145,140	70,049	0.3045	159,961	22.14	7,225	49.5
1974	280,954.03	174,556	84,246	0.2999	196,708	22.72	8,657	48.5
1975	209,805.31	128,280	61,912	0.2951	147,894	23.31	6,343	47.5
1976	307,052.18	184,658	89,122	0.2902	217,931	23.92	9,112	46.5
1977	286,987.97	169,670	81,888	0.2853	205,100	24.53	8,362	45.5
1978	420,658.08	244,351	117,931	0.2803	302,727	25.15	12,038	44.5
1979	442,324.53	252,299	121,767	0.2753	320,557	25.78	12,436	43.5
1980	513,225.88	287,289	138,655	0.2702	374,571	26.41	14,181	42.5
1981	483,954.23	265,691	128,231	0.2650	355,724	27.06	13,146	41.5
1982	552,498.21	297,290	143,482	0.2597	409,017	27.71	14,758	40.5
1983	336,001.03	177,084	85,466	0.2544	250,535	28.38	8,829	39.5
1984	836,989.55	431,757	208,379	0.2490	628,610	29.05	21,639	38.5
1985	1,293,469.62	652,576	314,953	0.2435	978,516	29.73	32,914	37.5
1986	1,475,647.70	727,584	351,155	0.2380	1,124,493	30.42	36,970	36.5
1987	1,545,832.17	744,273	359,209	0.2324	1,186,623	31.11	38,141	35.5
1988	1,583,219.26	743,713	358,939	0.2267	1,224,280	31.82	38,481	34.5
1989	2,032,383.34	930,638	449,155	0.2210	1,583,229	32.53	48,676	33.5
1990	1,609,621.58	717,783	346,424	0.2152	1,263,197	33.24	37,998	32.5
1991	1,685,414.53	731,191	352,895	0.2094	1,332,519	33.97	39,226	31.5
1992	1,996,365.17	841,712	406,236	0.2035	1,590,129	34.70	45,822	30.5
1993	1,682,937.03	688,804	332,438	0.1975	1,350,499	35.44	38,104	29.5
1994	1,697,577.45	673,651	325,125	0.1915	1,372,452	36.19	37,923	28.5
1995	1,838,978.83	706,658	341,055	0.1855	1,497,924	36.94	40,546	27.5
1996	1,721,081.73	639,528	308,656	0.1793	1,412,426	37.70	37,460	26.5
1997	1,803,812.58	647,186	312,352	0.1732	1,491,460	38.47	38,767	25.5
1998	2,371,437.77	820,251	395,879	0.1669	1,975,559	39.25	50,337	24.5
1999	1,475,118.82	491,032	236,987	0.1607	1,238,132	40.03	30,932	23.5

New Jersey - American Water Company

Account #: 335.000 - Fire Hydrants

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2000	1,093,832.24	349,758	168,804	0.1543	925,028	40.81	22,664	22.5
2001	1,024,895.38	314,166	151,626	0.1479	873,269	41.61	20,988	21.5
2002	947,342.93	277,769	134,060	0.1415	813,283	42.41	19,178	20.5
2003	3,077,671.63	861,063	415,576	0.1350	2,662,096	43.21	61,604	19.5
2004	431,604.90	114,916	55,462	0.1285	376,143	44.02	8,544	18.5
2005	843,356.90	213,054	102,827	0.1219	740,530	44.84	16,514	17.5
2006	9,363,919.71	2,237,052	1,079,671	0.1153	8,284,249	45.67	181,410	16.5
2007	2,652,371.70	597,013	288,137	0.1086	2,364,235	46.49	50,849	15.5
2008	3,356,620.93	708,837	342,107	0.1019	3,014,514	47.33	63,692	14.5
2009	4,462,977.28	879,968	424,700	0.0952	4,038,277	48.17	83,834	13.5
2010	4,025,918.09	737,068	355,732	0.0884	3,670,186	49.02	74,879	12.5
2011	4,038,239.32	682,057	329,182	0.0815	3,709,058	49.87	74,380	11.5
2012	3,579,781.83	553,539	267,155	0.0746	3,312,627	50.72	65,309	10.5
2013	13,727,821.10	1,925,721	929,412	0.0677	12,798,409	51.58	248,112	9.5
2014	7,910,748.95	995,505	480,462	0.0607	7,430,287	52.45	141,666	8.5
2015	12,324,937.70	1,372,031	662,185	0.0537	11,662,753	53.32	218,728	7.5
2016	13,724,614.77	1,327,515	640,700	0.0467	13,083,915	54.20	241,416	6.5
2017	14,023,307.06	1,150,583	555,307	0.0396	13,468,000	55.08	244,530	5.5
2018	12,394,307.72	834,037	402,532	0.0325	11,991,776	55.96	214,282	4.5
2019	13,834,342.48	725,816	350,301	0.0253	13,484,041	56.85	237,177	3.5
2020	14,689,603.48	551,774	266,303	0.0181	14,423,300	57.75	249,770	2.5
2021	8,248,072.88	186,292	89,910	0.0109	8,158,163	58.64	139,111	1.5
2022	12,993,436.35	98,017	47,306	0.0036	12,946,130	59.55	217,409	0.5

New Jersey - American Water Company

Account #: 335.000 - Fire Hydrants

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	196,483,855.06	33,290,516	16,067,036		180,416,819		3,736,953	

COMPOSITE ANNUAL ACCRUAL RATE	1.90%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.08
COMPOSITE AVERAGE AGE (YEARS)	12.03
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	49.83

New Jersey - American Water Company

Account #: 336.000 - Backflow Preventers

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S2.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	328.33	125	116	0.3533	212	24.83	9	15.5
2019	2,006.23	176	163	0.0813	1,843	36.50	50	3.5
2020	91,950.53	5,747	5,342	0.0581	86,609	37.50	2,310	2.5
2021	58,387.26	2,190	2,035	0.0349	56,352	38.50	1,464	1.5
2022	79,290.68	991	921	0.0116	78,369	39.50	1,984	0.5
TOTAL	231,963.03	9,227	8,577		223,386		5,817	

COMPOSITE ANNUAL ACCRUAL RATE	2.51%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.04
COMPOSITE AVERAGE AGE (YEARS)	1.59
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	38.41

New Jersey - American Water Company

Account #: 339.100 - Other P/E - Intangible

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 30
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1915	150,198.10	150,198	104,030	0.6926	46,168	1.00	46,168	107.5
1945	179,193.56	179,194	124,113	0.6926	55,081	1.00	55,081	77.5
1965	21,423.99	21,424	14,839	0.6926	6,585	1.00	6,585	57.5
1995	6,000.00	4,534	3,140	0.5234	2,860	7.33	390	27.5
1997	409,641.70	293,759	203,463	0.4967	206,179	8.49	24,295	25.5
1998	4,124.20	2,872	1,989	0.4823	2,135	9.11	234	24.5
2002	15,545.09	9,409	6,517	0.4192	9,028	11.84	762	20.5
2004	16,398.39	9,107	6,307	0.3846	10,091	13.34	756	18.5
2007	12,261.74	5,834	4,041	0.3295	8,221	15.73	523	15.5
2012	12,585.16	4,183	2,897	0.2302	9,688	20.03	484	10.5
2013	99,476.14	30,067	20,825	0.2093	78,651	20.93	3,757	9.5
2015	118,321.12	28,494	19,736	0.1668	98,585	22.78	4,329	7.5
2016	125,661.83	26,333	18,239	0.1451	107,423	23.71	4,530	6.5
2017	271,838.46	48,379	33,508	0.1233	238,330	24.66	9,664	5.5
2018	297,020.03	43,396	30,057	0.1012	266,963	25.62	10,421	4.5
2019	1,168,195.51	133,151	92,223	0.0789	1,075,972	26.58	40,480	3.5
2020	408,289.95	33,331	23,086	0.0565	385,204	27.55	13,982	2.5
2021	112,350.84	5,517	3,821	0.0340	108,530	28.53	3,804	1.5
2022	1,713,265.57	28,098	19,461	0.0114	1,693,804	29.51	57,402	0.5
TOTAL	5,141,791.38	1,057,280	732,292		4,409,499		283,647	

COMPOSITE ANNUAL ACCRUAL RATE	5.52%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.14
COMPOSITE AVERAGE AGE (YEARS)	10.61
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	23.90

New Jersey - American Water Company

Account #: 339.200 - Other P/E - Supply

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 30
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1927	51.38	51	8	0.1633	43	1.00	43	95.5
1949	10,695.38	10,695	1,747	0.1634	8,948	1.00	8,948	73.5
1956	89.53	90	15	0.1634	75	1.00	75	66.5
2004	55,530.35	30,838	5,038	0.0907	50,493	13.34	3,785	18.5
2015	539,351.38	129,887	21,218	0.0393	518,133	22.78	22,750	7.5
2017	35,912.80	6,391	1,044	0.0291	34,869	24.66	1,414	5.5
TOTAL	641,630.82	177,953	29,070		612,561		37,015	

COMPOSITE ANNUAL ACCRUAL RATE	5.77%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.05
COMPOSITE AVERAGE AGE (YEARS)	9.46
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	21.70

New Jersey - American Water Company

Account #: 339.300 - Other P/E - Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1997	17,880.05	7,998	17,880	1.0000	0	27.63	0	25.5
2000	6,588.75	2,632	6,043	0.9171	546	30.02	18	22.5
2007	195,391.93	55,131	126,554	0.6477	68,838	35.89	1,918	15.5
2011	2,313.10	490	1,125	0.4864	1,188	39.41	30	11.5
2012	759,323.33	147,303	338,137	0.4453	421,186	40.30	10,451	10.5
2013	12,633.59	2,223	5,104	0.4040	7,530	41.20	183	9.5
2016	208,424.35	25,286	58,045	0.2785	150,379	43.93	3,423	6.5
TOTAL	1,202,555.10	241,064	552,887		649,668		16,023	

COMPOSITE ANNUAL ACCRUAL RATE	1.33%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.46
COMPOSITE AVERAGE AGE (YEARS)	10.90
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	39.98

New Jersey - American Water Company

Account #: 339.400 - Other P/E - WT Res Hand Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 45
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1994	2,008,912.00	1,141,238	1,116,108	0.5556	892,804	19.44	45,935	28.5
1998	31,165.21	15,534	15,192	0.4875	15,973	22.57	708	24.5
1999	1,240,613.46	595,962	582,839	0.4698	657,775	23.38	28,130	23.5
2000	16,155.09	7,465	7,300	0.4519	8,855	24.21	366	22.5
2001	58,375.30	25,890	25,319	0.4337	33,056	25.04	1,320	21.5
2004	19,173.38	7,409	7,246	0.3779	11,927	27.61	432	18.5
2022	2,573,049.98	28,144	27,524	0.0107	2,545,526	44.51	57,193	0.5
TOTAL	5,947,444.42	1,821,641	1,781,528		4,165,916		134,084	

COMPOSITE ANNUAL ACCRUAL RATE	2.25%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.30
COMPOSITE AVERAGE AGE (YEARS)	15.21
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	31.22

New Jersey - American Water Company

Account #: 339.500 - Other P/E - Transmision and Distribution

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1955	179.76	180	180	1.0000	0	1.00	0	67.5
1960	169.71	170	170	1.0000	0	1.00	0	62.5
1965	208.65	209	209	1.0000	0	1.00	0	57.5
1970	155.02	155	155	1.0000	0	1.00	0	52.5
1975	150.86	151	151	1.0000	0	1.00	0	47.5
1980	110.20	110	110	1.0000	0	1.00	0	42.5
1985	140.82	141	141	1.0000	0	1.00	0	37.5
1990	109.71	107	110	1.0000	0	1.00	0	32.5
1995	185.88	171	186	1.0000	0	1.60	0	27.5
1999	12,500.00	10,820	12,500	1.0000	0	2.69	0	23.5
2000	57.31	49	57	1.0000	0	3.02	0	22.5
2001	2,608.65	2,165	2,609	1.0000	0	3.40	0	21.5
2005	18.86	14	19	1.0000	0	5.36	0	17.5
2010	9.06	5	9	1.0000	0	8.77	0	12.5
2012	12,851.48	6,202	12,851	1.0000	0	10.35	0	10.5
2013	36,855.18	16,257	36,855	1.0000	0	11.18	0	9.5
2014	10,944.87	4,361	10,945	1.0000	0	12.03	0	8.5
2015	14,046.87	4,982	14,047	1.0000	0	12.91	0	7.5
2018	448,405.37	97,479	393,074	0.8766	55,331	15.65	3,535	4.5
2019	4,627.53	787	3,173	0.6856	1,455	16.60	88	3.5
2020	52,122.21	6,360	25,647	0.4921	26,475	17.56	1,508	2.5

New Jersey - American Water Company

Account #: 339.500 - Other P/E - Transmision and Distribution

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	596,458.00	150,874	513,197		83,261		5,131	

COMPOSITE ANNUAL ACCRUAL RATE	0.86%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.86
COMPOSITE AVERAGE AGE (YEARS)	5.48
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	14.94

New Jersey - American Water Company

Account #: 339.600 - CPS

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 5
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2014	433,984.85	433,985	433,985	1.0000	0	1.00	0	9.5
2015	2,122,255.77	2,122,256	2,122,256	1.0000	0	1.00	0	8.5
2016	525,233.97	525,234	525,234	1.0000	0	1.00	0	7.5
2017	4,347,649.94	4,347,650	4,347,650	1.0000	0	1.00	0	6.5
2018	1,740,450.76	1,566,406	1,740,451	1.0000	0	1.00	0	4.5
2019	886,779.05	620,745	882,035	0.9947	4,744	1.50	3,163	3.5
2020	1,577,608.38	788,804	824,514	0.5226	753,095	2.50	301,238	2.5
2021	591,990.98	177,597	185,637	0.3136	406,354	3.50	116,101	1.5
2022	288,875.37	28,888	30,195	0.1045	258,680	4.50	57,484	0.5
TOTAL	12,514,829.07	10,611,565	11,091,957		1,422,872		477,986	

COMPOSITE ANNUAL ACCRUAL RATE	3.82%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.89
COMPOSITE AVERAGE AGE (YEARS)	5.62
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	1.42

New Jersey - American Water Company

Account #: 340.100 - Office Furniture

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2003	129,090.45	125,863	77,893	0.6034	51,197	1.00	51,197	19.5
2004	2,572,840.03	2,379,877	1,472,844	0.5725	1,099,996	1.50	733,331	18.5
2005	8,186.48	7,163	4,433	0.5415	3,753	2.50	1,501	17.5
2006	60,428.19	49,853	30,853	0.5106	29,575	3.50	8,450	16.5
2007	27,415.28	21,247	13,149	0.4796	14,266	4.50	3,170	15.5
2008	655,815.51	475,466	294,254	0.4487	361,562	5.50	65,739	14.5
2009	491,993.85	332,096	205,525	0.4177	286,468	6.50	44,072	13.5
2010	1,706,931.44	1,066,832	660,235	0.3868	1,046,697	7.50	139,560	12.5
2011	205,657.82	118,253	73,184	0.3559	132,474	8.50	15,585	11.5
2012	158,193.91	83,052	51,399	0.3249	106,795	9.50	11,242	10.5
2013	131,510.32	62,467	38,659	0.2940	92,851	10.50	8,843	9.5
2014	116,199.73	49,385	30,563	0.2630	85,637	11.50	7,447	8.5
2015	224,141.07	84,053	52,018	0.2321	172,123	12.50	13,770	7.5
2016	34,037.29	11,062	6,846	0.2011	27,191	13.50	2,014	6.5
2017	44,735.85	12,302	7,614	0.1702	37,122	14.50	2,560	5.5
2018	42,781.37	9,626	5,957	0.1392	36,824	15.50	2,376	4.5
2019	178,532.39	31,243	19,336	0.1083	159,197	16.50	9,648	3.5
2020	12,659.34	1,582	979	0.0774	11,680	17.50	667	2.5
2021	80,803.03	6,060	3,751	0.0464	77,053	18.50	4,165	1.5
2022	704,553.00	17,614	10,901	0.0155	693,652	19.50	35,572	0.5
TOTAL	7,586,506.35	4,945,098	3,060,392		4,526,114		1,160,909	

COMPOSITE ANNUAL ACCRUAL RATE	15.30%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.40
COMPOSITE AVERAGE AGE (YEARS)	13.04
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	6.97

New Jersey - American Water Company

Account #: 340.200 - Computer & Peripheral Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 8
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2018	1,066,018.76	599,636	1,066,019	1.0000	0	3.50	0	4.5
2019	1,244,816.85	544,607	1,244,817	1.0000	0	4.50	0	3.5
2020	1,478,715.30	462,099	1,478,715	1.0000	0	5.50	0	2.5
2021	825,052.11	154,697	825,052	1.0000	0	6.50	0	1.5
2022	926,386.85	57,899	926,387	1.0000	0	7.50	0	0.5
TOTAL	5,540,989.87	1,818,938	5,540,990		0		0	

COMPOSITE ANNUAL ACCRUAL RATE	0.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	1.00
COMPOSITE AVERAGE AGE (YEARS)	2.63
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	5.37

New Jersey - American Water Company

Account #: 340.300 - Computer Software

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 10
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2013	37,253,559.97	35,390,882	31,746,160	0.8522	5,507,400	1.00	5,507,400	9.5
2014	5,480,111.36	4,658,095	4,178,382	0.7625	1,301,730	1.50	867,820	8.5
2015	8,498,352.45	6,373,764	5,717,364	0.6728	2,780,989	2.50	1,112,396	7.5
2016	5,304,704.72	3,448,058	3,092,961	0.5831	2,211,744	3.50	631,927	6.5
2017	6,664,616.71	3,665,539	3,288,044	0.4934	3,376,572	4.50	750,349	5.5
2018	7,150,452.26	3,217,704	2,886,329	0.4037	4,264,123	5.50	775,295	4.5
2019	16,895,118.93	5,913,292	5,304,313	0.3140	11,590,806	6.50	1,783,201	3.5
2020	19,380,249.12	4,845,062	4,346,095	0.2243	15,034,155	7.50	2,004,554	2.5
2021	18,146,181.19	2,721,927	2,441,610	0.1346	15,704,571	8.50	1,847,597	1.5
2022	13,578,898.60	678,945	609,024	0.0449	12,969,875	9.50	1,365,250	0.5
TOTAL	138,352,245.31	70,913,268	63,610,280		74,741,965		16,645,789	

COMPOSITE ANNUAL ACCRUAL RATE	12.03%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.46
COMPOSITE AVERAGE AGE (YEARS)	5.13
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	5.01

New Jersey - American Water Company

Account #: 340.310 - Computer Software - Mainframe

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 8
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2018	195,200.85	109,800	195,201	1.0000	0	3.50	0	4.5
TOTAL	195,200.85	109,800	195,201		0		0	

COMPOSITE ANNUAL ACCRUAL RATE	0.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	1.00
COMPOSITE AVERAGE AGE (YEARS)	4.50
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	3.50

New Jersey - American Water Company

Account #: 340.500 - Other Office Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2019	6,939.07	1,619	6,939	1.0000	0	11.50	0	3.5
TOTAL	6,939.07	1,619	6,939		0		0	

COMPOSITE ANNUAL ACCRUAL RATE	0.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	1.00
COMPOSITE AVERAGE AGE (YEARS)	3.50
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	11.50

New Jersey - American Water Company

Account #: 341.001 - Transportation Equipment - Not Classified

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: L2
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1978	32,522.00	32,522	32,522	1.0000	0	3.00	0	45.5
1984	43,335.00	40,886	43,335	1.0000	0	3.00	0	38.5
1985	133.00	124	133	1.0000	0	3.00	0	37.5
1987	4,456.00	4,059	4,456	1.0000	0	3.00	0	35.5
1990	6,158.90	5,389	6,159	1.0000	0	3.00	0	32.5
1994	313.69	258	314	1.0000	0	3.00	0	28.5
1995	4,954.67	4,009	4,955	1.0000	0	3.00	0	27.5
1996	37,352.96	29,687	37,353	1.0000	0	3.08	0	26.5
1997	4,863.84	3,794	4,864	1.0000	0	3.30	0	25.5
1999	113,988.75	85,412	113,989	1.0000	0	3.76	0	23.5
2000	191,625.70	140,510	190,546	0.9944	1,079	4.00	270	22.5
2001	60,609.14	43,449	58,921	0.9721	1,688	4.25	397	21.5
2002	43,107.88	30,185	40,934	0.9496	2,174	4.50	484	20.5
2003	81,695.96	55,834	75,717	0.9268	5,979	4.75	1,259	19.5
2006	235,094.00	149,060	202,142	0.8598	32,952	5.49	6,003	16.5
2008	5,937.79	3,575	4,848	0.8165	1,089	5.97	183	14.5
2009	11,526.60	6,751	9,155	0.7942	2,372	6.21	382	13.5
2010	103,971.80	59,073	80,109	0.7705	23,863	6.48	3,684	12.5
2011	8,350.99	4,582	6,214	0.7441	2,137	6.77	316	11.5
2012	39,149.63	20,604	27,941	0.7137	11,209	7.11	1,577	10.5
2013	10,523.24	5,259	7,132	0.6778	3,391	7.50	452	9.5
2014	148,294.08	69,422	94,143	0.6348	54,151	7.98	6,788	8.5
2015	27,460.74	11,818	16,027	0.5836	11,434	8.54	1,338	7.5
2016	14,623.16	5,644	7,654	0.5234	6,969	9.21	757	6.5
2018	71,945.80	20,206	27,402	0.3809	44,544	10.79	4,129	4.5
2021	1,410,101.28	139,545	189,238	0.1342	1,220,863	13.52	90,330	1.5
2022	1,685,758.48	56,106	76,086	0.0451	1,609,673	14.50	111,006	0.5

New Jersey - American Water Company

Account #: 341.001 - Transportation Equipment - Not Classified

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: L2
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	4,397,855.08	1,027,764	1,362,288		3,035,567		229,355	

COMPOSITE ANNUAL ACCRUAL RATE	5.22%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.31
COMPOSITE AVERAGE AGE (YEARS)	6.01
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	11.54

New Jersey - American Water Company

Account #: 341.100 - Light Duty Trucks

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: L2
ASL: 10
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2012	232,784.08	144,590	187,203	0.8042	45,581	3.79	12,031	10.5
2014	3,493,392.94	1,997,877	2,586,679	0.7404	906,714	4.28	211,800	8.5
2015	644,453.28	349,768	452,849	0.7027	191,604	4.57	41,902	7.5
2016	1,114,411.04	564,257	730,552	0.6555	383,859	4.94	77,756	6.5
2017	2,464,932.30	1,131,139	1,464,501	0.5941	1,000,431	5.41	184,886	5.5
2018	2,318,996.95	921,726	1,193,371	0.5146	1,125,626	6.03	186,816	4.5
2019	67,827.63	21,847	28,286	0.4170	39,542	6.78	5,833	3.5
2020	1,897,538.07	451,186	584,156	0.3078	1,313,382	7.62	172,309	2.5
2021	6,156,505.27	903,787	1,170,145	0.1901	4,986,360	8.53	584,432	1.5
2022	242,800.45	12,104	15,672	0.0645	227,129	9.50	23,905	0.5
TOTAL	18,633,642.01	6,498,283	8,413,414		10,220,228		1,501,670	

COMPOSITE ANNUAL ACCRUAL RATE	8.06%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.45
COMPOSITE AVERAGE AGE (YEARS)	4.43
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	6.51

New Jersey - American Water Company

Account #: 341.200 - Heavy Duty Trucks

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: L2
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1988	41,430.00	37,254	35,599	0.8593	5,831	3.00	1,944	34.5
2001	52,643.50	37,738	36,062	0.6850	16,581	4.25	3,904	21.5
2002	148,008.76	103,637	99,034	0.6691	48,975	4.50	10,891	20.5
2003	53,433.90	36,519	34,897	0.6531	18,537	4.75	3,904	19.5
2008	292,724.97	176,251	168,422	0.5754	124,303	5.97	20,827	14.5
2010	2,353,949.03	1,337,425	1,278,018	0.5429	1,075,931	6.48	166,101	12.5
2011	2,244.36	1,231	1,177	0.5243	1,068	6.77	158	11.5
2012	2,517,472.81	1,324,906	1,266,055	0.5029	1,251,418	7.11	176,114	10.5
2014	2,832,147.85	1,325,825	1,266,933	0.4473	1,565,215	7.98	196,192	8.5
2015	2,243,624.26	965,569	922,679	0.4112	1,320,945	8.54	154,594	7.5
2016	1,680,225.34	648,528	619,721	0.3688	1,060,505	9.21	115,143	6.5
2017	323,973.01	108,716	103,887	0.3207	220,086	9.97	22,083	5.5
2018	2,038,482.34	572,516	547,085	0.2684	1,491,397	10.79	138,256	4.5
2019	2,677,064.20	597,326	570,793	0.2132	2,106,271	11.65	180,748	3.5
2020	2,920,101.47	474,352	453,282	0.1552	2,466,820	12.56	196,351	2.5
2021	1,778,340.96	175,987	168,169	0.0946	1,610,172	13.52	119,134	1.5
2022	1,088,047.01	36,213	34,604	0.0318	1,053,443	14.50	72,647	0.5
TOTAL	23,043,913.77	7,959,991	7,606,415		15,437,499		1,578,991	

COMPOSITE ANNUAL ACCRUAL RATE	6.85%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.33
COMPOSITE AVERAGE AGE (YEARS)	6.48
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	9.82

New Jersey - American Water Company

Account #: 341.300 - Autos

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 10
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2008	9,954.09	8,055	9,954	1.0000	0	3.00	0	14.5
2010	1,394,491.14	1,029,124	1,339,321	0.9604	55,171	3.00	18,390	12.5
2012	883,420.35	583,178	758,958	0.8591	124,462	3.40	36,621	10.5
2014	66,909.34	38,344	49,901	0.7458	17,008	4.27	3,984	8.5
2021	880,451.78	120,591	156,939	0.1782	723,512	8.63	83,833	1.5
2022	1,360,297.87	65,472	85,207	0.0626	1,275,091	9.52	133,957	0.5
TOTAL	4,595,524.57	1,844,764	2,400,280		2,195,245		276,785	

COMPOSITE ANNUAL ACCRUAL RATE	6.02%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.52
COMPOSITE AVERAGE AGE (YEARS)	6.40
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	6.10

New Jersey - American Water Company

Account #: 341.400 - Other

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S2.5
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1978	34.92	35	31	0.8820	4	1.00	4	44.5
1987	1,154.34	1,102	972	0.8420	182	1.00	182	35.5
1992	1,977.69	1,799	1,587	0.8024	391	1.81	217	30.5
1993	74,766.49	67,302	59,360	0.7939	15,407	2.00	7,716	29.5
1994	1,448.50	1,289	1,137	0.7852	311	2.20	142	28.5
2001	74,535.46	59,663	52,622	0.7060	21,914	3.99	5,491	21.5
2002	68,815.00	53,892	47,532	0.6907	21,283	4.34	4,907	20.5
2004	49,056.18	36,478	32,173	0.6558	16,883	5.13	3,292	18.5
2006	21,216.00	14,774	13,031	0.6142	8,185	6.07	1,348	16.5
2007	153,341.08	102,654	90,540	0.5904	62,801	6.61	9,499	15.5
2008	142,714.08	91,360	80,579	0.5646	62,135	7.20	8,634	14.5
2010	913,545.73	524,486	462,592	0.5064	450,954	8.52	52,944	12.5
2011	198,521.90	106,671	94,083	0.4739	104,439	9.25	11,286	11.5
2012	376,862.75	187,718	165,566	0.4393	211,297	10.04	21,050	10.5
2013	290,832.13	132,798	117,126	0.4027	173,706	10.87	15,984	9.5
2014	34,999.04	14,457	12,751	0.3643	22,248	11.74	1,895	8.5
2015	1,621,592.37	596,304	525,936	0.3243	1,095,657	12.65	86,644	7.5
2016	337,956.34	108,455	95,657	0.2830	242,300	13.58	17,840	6.5
2017	981,701.83	267,947	236,327	0.2407	745,375	14.54	51,260	5.5
2018	1,192,589.29	267,270	235,730	0.1977	956,860	15.52	61,662	4.5
2019	108,362.85	18,930	16,696	0.1541	91,666	16.51	5,553	3.5
2020	488,128.21	60,981	53,785	0.1102	434,343	17.50	24,818	2.5
2021	787,378.00	59,048	52,079	0.0661	735,299	18.50	39,746	1.5

New Jersey - American Water Company

Account #: 341.400 - Other

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S2.5
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	7,921,530.18	2,775,413	2,447,892		5,473,638		432,114	

COMPOSITE ANNUAL ACCRUAL RATE	5.45%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.31
COMPOSITE AVERAGE AGE (YEARS)	7.54
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	12.99

New Jersey - American Water Company

Account #: 342.000 - Stores Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1998	6,900.00	6,762	6,239	0.9042	661	1.00	661	24.5
1999	731,690.21	687,789	634,551	0.8672	97,139	1.50	64,760	23.5
2000	88,033.29	79,230	73,097	0.8303	14,936	2.50	5,974	22.5
2001	60,158.40	51,736	47,732	0.7934	12,427	3.50	3,551	21.5
2002	70,353.96	57,690	53,225	0.7565	17,129	4.50	3,806	20.5
2005	6.66	5	4	0.6456	2	7.50	0	17.5
2007	136,816.82	84,826	78,260	0.5720	58,556	9.50	6,164	15.5
2008	83,883.23	48,652	44,886	0.5351	38,997	10.50	3,714	14.5
2009	125,032.81	67,518	62,292	0.4982	62,741	11.50	5,456	13.5
2010	153,970.81	76,985	71,026	0.4613	82,944	12.50	6,636	12.5
2012	73,253.20	30,766	28,385	0.3875	44,868	14.50	3,094	10.5
2013	870.29	331	305	0.3506	565	15.50	36	9.5
2014	1,692.08	575	531	0.3137	1,161	16.50	70	8.5
2015	1.47	0	0	0.2789	1	17.50	0	7.5
2016	6,670.66	1,734	1,600	0.2399	5,071	18.50	274	6.5
2017	3,578.20	787	726	0.2030	2,852	19.50	146	5.5
2018	72,027.94	12,965	11,961	0.1661	60,066	20.50	2,930	4.5
2019	36,614.10	5,126	4,729	0.1292	31,885	21.50	1,483	3.5
2020	119,062.69	11,906	10,985	0.0923	108,078	22.50	4,803	2.5
TOTAL	1,770,616.82	1,225,385	1,130,535		640,082		113,558	

COMPOSITE ANNUAL ACCRUAL RATE	6.41%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.64
COMPOSITE AVERAGE AGE (YEARS)	17.30
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	7.70

New Jersey - American Water Company

Account #: 343.000 - Tools, Shop, and Garage Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1998	241,109.54	236,287	221,317	0.9179	19,792	1.00	19,792	24.5
1999	80,735.40	75,891	71,083	0.8804	9,652	1.50	6,435	23.5
2000	160,382.04	144,344	135,199	0.8430	25,183	2.50	10,073	22.5
2001	642,848.14	552,849	517,823	0.8055	125,025	3.50	35,721	21.5
2002	1,289,669.63	1,057,529	990,528	0.7680	299,142	4.50	66,476	20.5
2003	315,238.89	245,886	230,308	0.7306	84,931	5.50	15,442	19.5
2004	340,340.38	251,852	235,895	0.6931	104,445	6.50	16,068	18.5
2005	276,253.26	193,377	181,126	0.6557	95,128	7.50	12,684	17.5
2006	387,376.98	255,669	239,471	0.6182	147,906	8.50	17,401	16.5
2007	465,412.94	288,556	270,274	0.5807	195,139	9.50	20,541	15.5
2008	641,245.46	371,922	348,359	0.5433	292,887	10.50	27,894	14.5
2009	245,043.70	132,324	123,940	0.5058	121,104	11.50	10,531	13.5
2010	673,789.55	336,895	315,550	0.4683	358,239	12.50	28,659	12.5
2011	353,237.57	162,489	152,195	0.4309	201,043	13.50	14,892	11.5
2012	202,245.65	84,943	79,561	0.3934	122,684	14.50	8,461	10.5
2013	681,584.97	259,002	242,593	0.3559	438,992	15.50	28,322	9.5
2014	644,980.19	219,293	205,400	0.3185	439,581	16.50	26,641	8.5
2015	508,932.35	152,680	143,006	0.2810	365,926	17.50	20,910	7.5
2016	628,895.33	163,513	153,153	0.2435	475,742	18.50	25,716	6.5
2017	3,839,680.33	844,730	791,211	0.2061	3,048,470	19.50	156,332	5.5
2018	2,101,235.40	378,222	354,260	0.1686	1,746,976	20.50	85,218	4.5
2019	764,865.21	107,081	100,297	0.1311	664,568	21.50	30,910	3.5
2020	677,790.54	67,779	63,485	0.0937	614,306	22.50	27,302	2.5
2021	1,056,849.09	63,411	59,393	0.0562	997,456	23.50	42,445	1.5
2022	1,064,625.18	21,293	19,943	0.0187	1,044,682	24.50	42,640	0.5

New Jersey - American Water Company

Account #: 343.000 - Tools, Shop, and Garage Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	18,284,367.72	6,667,818	6,245,370		12,038,998		797,506	

COMPOSITE ANNUAL ACCRUAL RATE	4.36%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.34
COMPOSITE AVERAGE AGE (YEARS)	9.12
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	15.89

New Jersey - American Water Company

Account #: 344.000 - Laboratory Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2003	494,642.96	482,277	494,643	1.0000	0	1.00	0	19.5
2004	416,686.26	385,435	416,686	1.0000	0	1.50	0	18.5
2005	55,982.50	48,985	55,983	1.0000	0	2.50	0	17.5
2006	299,283.53	246,909	299,284	1.0000	0	3.50	0	16.5
2007	6,260.93	4,852	6,261	1.0000	0	4.50	0	15.5
2008	584,571.64	423,814	584,572	1.0000	0	5.50	0	14.5
2009	75,850.91	51,199	75,851	1.0000	0	6.50	0	13.5
2010	60,846.39	38,029	60,846	1.0000	0	7.50	0	12.5
2011	166,627.92	95,811	166,628	1.0000	0	8.50	0	11.5
2012	194,624.36	102,178	194,624	1.0000	0	9.50	0	10.5
2013	153,992.40	73,146	153,992	1.0000	0	10.50	0	9.5
2014	15,167.32	6,446	15,167	1.0000	0	11.50	0	8.5
2015	226,425.05	84,909	168,461	0.7440	57,964	12.50	4,637	7.5
2016	102,963.28	33,463	44,088	0.4282	58,875	13.50	4,361	6.5
2017	237,065.16	65,193	85,893	0.3623	151,172	14.50	10,426	5.5
2018	176,505.09	39,714	52,324	0.2964	124,182	15.50	8,012	4.5
2019	42,647.01	7,463	9,833	0.2306	32,814	16.50	1,989	3.5
2020	77,560.57	9,695	12,773	0.1647	64,787	17.50	3,702	2.5
2021	14,096.52	1,057	1,393	0.0988	12,704	18.50	687	1.5
2022	74,408.32	1,860	2,451	0.0329	71,957	19.50	3,690	0.5
TOTAL	3,476,208.12	2,202,436	2,901,753		574,455		37,504	

COMPOSITE ANNUAL ACCRUAL RATE	1.08%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.83
COMPOSITE AVERAGE AGE (YEARS)	12.67
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	7.40

New Jersey - American Water Company

Account #: 345.000 - Power Operated Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2002	21,253.33	14,126	17,891	0.8418	3,362	8.38	401	20.5
2003	12,574.78	8,046	10,191	0.8104	2,384	9.00	265	19.5
2004	30,038.42	18,442	23,359	0.7776	6,680	9.65	692	18.5
2006	92,609.25	51,789	65,596	0.7083	27,013	11.02	2,451	16.5
2007	67,705.60	35,917	45,493	0.6719	22,213	11.74	1,892	15.5
2008	110,981.10	55,593	70,414	0.6345	40,567	12.48	3,251	14.5
2009	1,339,953.81	630,520	798,611	0.5960	541,342	13.24	40,899	13.5
2010	2,407.92	1,058	1,340	0.5566	1,068	14.01	76	12.5
2011	307,730.94	125,418	158,853	0.5162	148,878	14.81	10,052	11.5
2012	1,802.44	676	856	0.4750	946	15.63	61	10.5
2013	140,207.38	47,919	60,693	0.4329	79,514	16.46	4,832	9.5
2015	31,396.88	8,586	10,875	0.3464	20,522	18.16	1,130	7.5
2016	147,673.52	35,214	44,602	0.3020	103,072	19.04	5,414	6.5
2017	12,776.13	2,593	3,284	0.2570	9,492	19.93	476	5.5
2018	36,459.35	6,086	7,709	0.2114	28,751	20.83	1,380	4.5
2019	234,637.22	30,616	38,778	0.1653	195,859	21.74	9,010	3.5
2020	29,781.53	2,789	3,532	0.1186	26,249	22.66	1,158	2.5
2021	10,604.39	598	758	0.0715	9,847	23.59	417	1.5
2022	135,252.61	2,554	3,235	0.0239	132,018	24.53	5,382	0.5
TOTAL	2,765,846.60	1,078,540	1,366,069		1,399,778		89,239	

COMPOSITE ANNUAL ACCRUAL RATE	3.23%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.49
COMPOSITE AVERAGE AGE (YEARS)	11.15
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	15.25

New Jersey - American Water Company

Account #: 346.000 - Communication Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2008	33,209.89	32,103	-3,372	-0.1015	36,582	1.00	36,582	14.5
2009	5,764.74	5,188	-545	-0.0945	6,310	1.50	4,206	13.5
2010	16,089.07	13,408	-1,408	-0.0875	17,497	2.50	6,999	12.5
2011	25,312.19	19,406	-2,038	-0.0805	27,350	3.50	7,814	11.5
2012	709,333.32	496,533	-52,152	-0.0735	761,486	4.50	169,219	10.5
2013	166,305.34	105,327	-11,063	-0.0665	177,368	5.50	32,249	9.5
2014	247,451.46	140,222	-14,728	-0.0595	262,179	6.50	40,335	8.5
2015	775,702.36	387,851	-40,737	-0.0525	816,439	7.50	108,859	7.5
2016	1,180,782.80	511,673	-53,742	-0.0455	1,234,525	8.50	145,238	6.5
2017	1,312,089.77	481,100	-50,531	-0.0385	1,362,621	9.50	143,434	5.5
2018	457,702.66	137,311	-14,422	-0.0315	472,125	10.50	44,964	4.5
2019	2,233,693.32	521,195	-54,743	-0.0245	2,288,436	11.50	198,994	3.5
2020	4,740,382.30	790,064	-82,983	-0.0175	4,823,365	12.50	385,869	2.5
2021	5,893,487.21	589,349	-61,901	-0.0105	5,955,388	13.50	441,140	1.5
2022	12,632,541.28	421,085	-44,228	-0.0035	12,676,769	14.50	874,260	0.5
TOTAL	30,429,847.71	4,651,814	-488,593		30,918,441		2,640,162	

COMPOSITE ANNUAL ACCRUAL RATE	8.68%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	-0.02
COMPOSITE AVERAGE AGE (YEARS)	2.29
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	12.71

New Jersey - American Water Company

Account #: 346.100 - Communication Equipment - Non-Telephone

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2008	88,095.75	85,159	88,096	1.0000	0	1.00	0	14.5
2009	37,227.08	33,504	37,227	1.0000	0	1.50	0	13.5
2010	72,392.39	60,327	72,392	1.0000	0	2.50	0	12.5
2011	14,053.76	10,775	14,054	1.0000	0	3.50	0	11.5
2013	756,997.23	479,432	756,997	1.0000	0	5.50	0	9.5
2014	121,018.79	68,577	121,019	1.0000	0	6.50	0	8.5
2015	14,718.68	7,359	14,719	1.0000	0	7.50	0	7.5
2017	22,914.04	8,402	22,914	1.0000	0	9.50	0	5.5
2018	127,058.49	38,118	93,180	0.7334	33,878	10.50	3,226	4.5
2019	736,279.52	171,799	264,885	0.3598	471,395	11.50	40,991	3.5
2020	3,175,136.77	529,189	815,923	0.2570	2,359,214	12.50	188,737	2.5
2021	1,042,129.15	104,213	160,679	0.1542	881,450	13.50	65,293	1.5
2022	5,676,164.77	189,205	291,724	0.0514	5,384,441	14.50	371,341	0.5
TOTAL	11,884,186.42	1,786,059	2,753,808		9,130,378		669,588	

COMPOSITE ANNUAL ACCRUAL RATE	5.63%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.23
COMPOSITE AVERAGE AGE (YEARS)	2.25
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	12.75

New Jersey - American Water Company

Account #: 346.190 - Remote Control & Instrument

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2008	3,235,702.98	3,127,846	3,096,050	0.9568	139,653	1.00	139,653	14.5
2009	374,429.47	336,987	333,561	0.8909	40,869	1.50	27,246	13.5
2010	1,341,722.27	1,118,102	1,106,736	0.8249	234,986	2.50	93,995	12.5
2011	2,325,129.24	1,782,599	1,764,478	0.7589	560,651	3.50	160,186	11.5
2012	3,082,172.44	2,157,521	2,135,589	0.6929	946,584	4.50	210,352	10.5
2013	265,776.38	168,325	166,614	0.6269	99,162	5.50	18,030	9.5
2014	495,104.71	280,559	277,707	0.5609	217,397	6.50	33,446	8.5
2015	2,680,118.58	1,340,059	1,326,437	0.4949	1,353,682	7.50	180,491	7.5
2016	2,544,708.63	1,102,707	1,091,498	0.4289	1,453,211	8.50	170,966	6.5
2017	8,031,852.23	2,945,012	2,915,075	0.3629	5,116,777	9.50	538,608	5.5
2018	12,706,144.76	3,811,843	3,773,094	0.2970	8,933,050	10.50	850,767	4.5
2019	633,786.28	147,883	146,380	0.2310	487,406	11.50	42,383	3.5
2020	3,453,299.05	575,550	569,699	0.1650	2,883,600	12.50	230,688	2.5
2021	19,328.64	1,933	1,913	0.0990	17,415	13.50	1,290	1.5
2022	752,421.47	25,081	24,826	0.0330	727,596	14.50	50,179	0.5
TOTAL	41,941,697.13	18,922,008	18,729,657		23,212,040		2,748,280	

COMPOSITE ANNUAL ACCRUAL RATE	6.55%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.45
COMPOSITE AVERAGE AGE (YEARS)	6.77
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	8.27

New Jersey - American Water Company

Account #: 346.200 - Communication Equipment - Telephone

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2008	295,808.34	285,948	295,808	1.0000	0	1.00	0	14.5
2009	1,009.51	909	1,010	1.0000	0	1.50	0	13.5
2010	63,227.79	52,690	63,228	1.0000	0	2.50	0	12.5
2011	1,368.08	1,049	1,368	1.0000	0	3.50	0	11.5
2012	637,832.71	446,483	637,833	1.0000	0	4.50	0	10.5
2014	416,718.94	236,141	416,719	1.0000	0	6.50	0	8.5
2015	26,702.44	13,351	26,702	1.0000	0	7.50	0	7.5
2018	26,448.21	7,934	26,448	1.0000	0	10.50	0	4.5
2019	33,090.21	7,721	33,090	1.0000	0	11.50	0	3.5
2020	5,429.14	905	5,429	1.0000	0	12.50	0	2.5
TOTAL	1,507,635.37	1,053,131	1,507,635		0		0	

COMPOSITE ANNUAL ACCRUAL RATE	0.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	1.00
COMPOSITE AVERAGE AGE (YEARS)	10.48
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	4.62

New Jersey - American Water Company

Account #: 347.000 - Miscellaneous Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1998	8,850.11	8,673	8,022	0.9064	828	1.00	828	24.5
1999	36,848.17	34,637	32,038	0.8694	4,811	1.50	3,207	23.5
2000	63,143.52	56,829	52,564	0.8324	10,580	2.50	4,232	22.5
2001	159,888.50	137,504	127,184	0.7955	32,705	3.50	9,344	21.5
2002	209,374.07	171,687	158,801	0.7585	50,573	4.50	11,239	20.5
2003	74,868.91	58,398	54,015	0.7215	20,854	5.50	3,792	19.5
2004	210,427.30	155,716	144,029	0.6845	66,399	6.50	10,215	18.5
2005	385,095.86	269,567	249,335	0.6475	135,761	7.50	18,102	17.5
2006	324,314.32	214,047	197,982	0.6105	126,332	8.50	14,863	16.5
2007	33,907.75	21,023	19,445	0.5735	14,463	9.50	1,522	15.5
2008	698,947.96	405,390	374,963	0.5365	323,985	10.50	30,856	14.5
2009	11,600.86	6,264	5,794	0.4995	5,807	11.50	505	13.5
2010	125,171.34	62,586	57,888	0.4625	67,283	12.50	5,383	12.5
2011	618,821.37	284,658	263,293	0.4255	355,529	13.50	26,335	11.5
2012	122,284.99	51,360	47,505	0.3885	74,780	14.50	5,157	10.5
2013	321,903.58	122,323	113,142	0.3515	208,761	15.50	13,468	9.5
2014	1,190,913.93	404,911	374,520	0.3145	816,394	16.50	49,478	8.5
2015	900,148.13	270,044	249,776	0.2775	650,372	17.50	37,164	7.5
2016	3,881,118.05	1,009,091	933,353	0.2405	2,947,766	18.50	159,339	6.5
2017	1,213,280.53	266,922	246,888	0.2035	966,393	19.50	49,559	5.5
2018	1,728,863.90	311,196	287,838	0.1665	1,441,025	20.50	70,294	4.5
2019	7,889,778.85	1,104,569	1,021,665	0.1295	6,868,114	21.50	319,447	3.5
2020	3,166,421.04	316,642	292,876	0.0925	2,873,545	22.50	127,713	2.5
2021	7,337,723.57	440,263	407,219	0.0555	6,930,505	23.50	294,915	1.5
2022	5,143,112.82	102,862	95,142	0.0185	5,047,971	24.50	206,040	0.5

New Jersey - American Water Company

Account #: 347.000 - Miscellaneous Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	35,856,809.43	6,287,162	5,815,274		30,041,535		1,472,997	

COMPOSITE ANNUAL ACCRUAL RATE	4.11%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.16
COMPOSITE AVERAGE AGE (YEARS)	4.38
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	20.62

New Jersey - American Water Company

Account #: 348.000 - Other Tangible Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2002	11,975.06	9,820	8,638	0.7214	3,337	4.50	742	20.5
2003	51,500.00	40,170	35,338	0.6862	16,162	5.50	2,939	19.5
2004	128,361.71	94,988	83,561	0.6510	44,801	6.50	6,892	18.5
2005	26,079.07	18,255	16,059	0.6158	10,020	7.50	1,336	17.5
2006	53,260.01	35,152	30,923	0.5806	22,337	8.50	2,628	16.5
2010	52,444.99	26,223	23,068	0.4399	29,377	12.50	2,350	12.5
2014	3,192.62	1,085	955	0.2991	2,238	16.50	136	8.5
2018	23,640.00	4,255	3,743	0.1583	19,897	20.50	971	4.5
2019	208,530.41	29,194	25,682	0.1232	182,848	21.50	8,505	3.5
2021	41,057.14	2,463	2,167	0.0528	38,890	23.50	1,655	1.5
2022	95,500.49	1,910	1,680	0.0176	93,820	24.50	3,829	0.5
TOTAL	695,541.50	263,515	231,815		463,726		31,983	

COMPOSITE ANNUAL ACCRUAL RATE	4.60%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.33
COMPOSITE AVERAGE AGE (YEARS)	9.47
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	15.53

SECTION 9

9 ESTIMATION OF SURVIVOR CURVES

9.1 Average Service Life

All assets have a service life, which is defined as "the period of time from its installation until it is retired from service" [4]. All account groups of property are made up of various assets with differing service lives and investment values. To calculate a depreciation rate, one must first calculate an average life for all assets in a single account. This can be done by ascertaining the age at retirement for every asset in an account and plotting it as a percentage of the units surviving at each age interval (a "Survivor Curve"). From the average life for each account, remaining lives can then be found which are then used to calculate the annual depreciation accruals and ultimately depreciation rate. A discussion of the general concept of survivor curves is presented and the Iowa type survivor curves are reviewed.

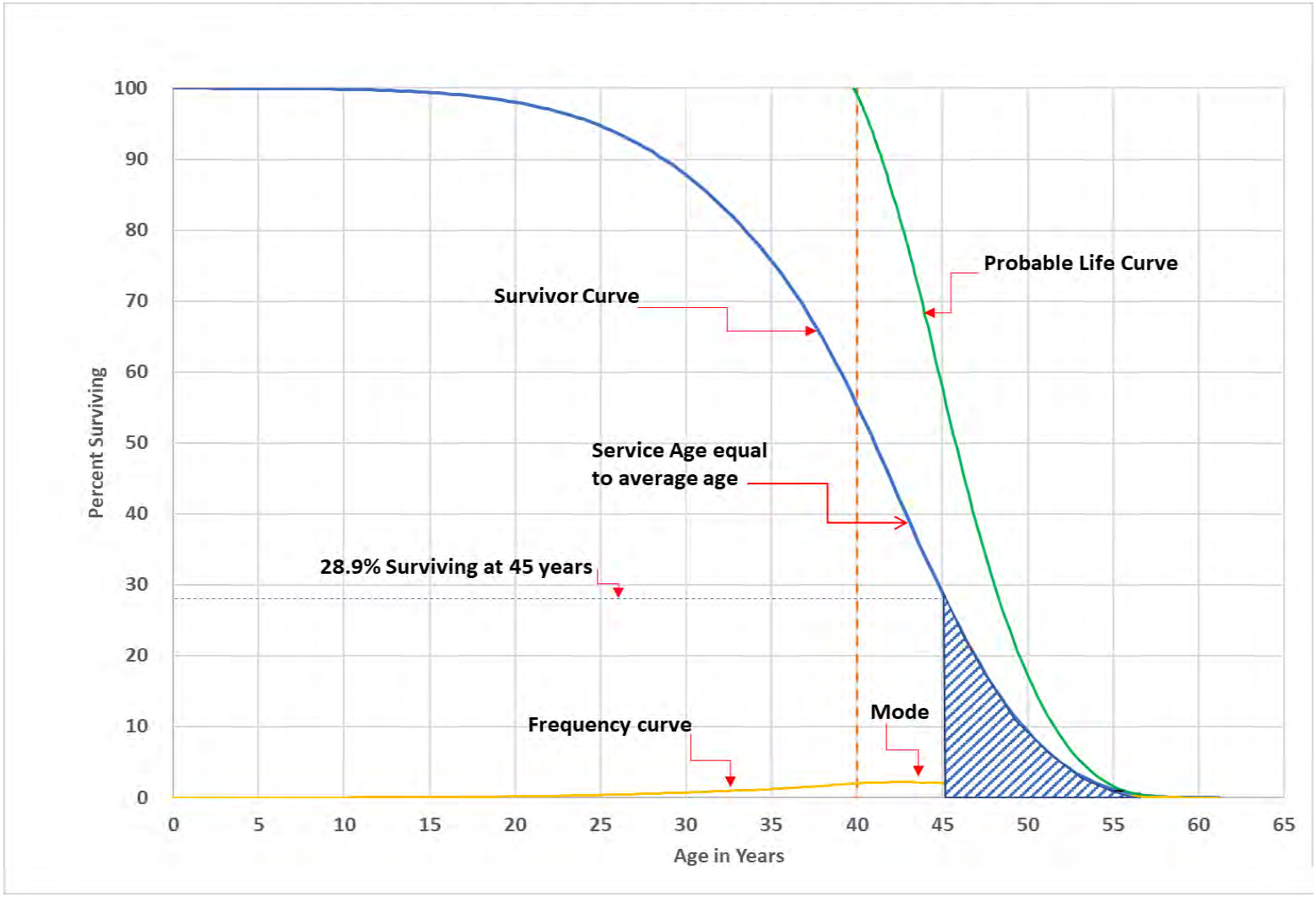
9.2 Survivor Curves

A survivor curve is defined as "a graph of the percent of units remaining in service expressed as a function of age" [5]. To calculate the average life of the group, the remaining life expectancy, the probable life and the frequency curve, one must first create a survivor curve. Figure 1 shows a typical 40-R4 smoothed survivor curve as well as the accompanying derived curves. The type 40-R4 refers to the Iowa type curve, whose designation will be explained in further detail in the next section

To calculate the average service life, one must calculate the area under the survivor curve and divide by the percent surviving at age zero. The remaining life is equal to the area under the survivor curve and to the right of the current age, divided by the percent surviving at the current age. In Figure 1, for example, the hatched area to the right of age 45 divided by 28.9 percent surviving balance represents the remaining life for an asset that has reached that age. The probable life is "the total life expectancy of the property surviving at any age and is equal to the remaining life plus the current age." [6] If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve is calculated by taking the difference between the percent surviving on successive years on the survivor curve[7]. Alternatively, frequency can be empirically determined by finding the amount of retirements at any given age. Plotting retirement frequency from the youngest to oldest ages and then taking the cumulative frequencies will generate percent surviving versus age.

[4] Wolf, Frank K. and W. Chester Fitch, Depreciation Systems (Iowa State University Press, 1994), 21.
[5] *Ibid*, 23.
[6] *Ibid*, 29.
[7] *Ibid*, 23-24.

Figure 1: Typical Survivor Curve (40-R4) and Derived Curves



9.3 Iowa Type Curves

In 1931, Robley Winfrey and Edwin Kurtz of the Engineering Research Institute at Iowa State University published Bulletin 103, which laid the groundwork for what would eventually be known as the Iowa Curves. "The 13 type curves can be used as valuable aids in forecasting the probable future service lives of individual items and of groups of items of different kinds of physical equipment" [8]. The 13 curves described in Bulletin 103 eventually became a series of 22 generalized survivor curves which are used throughout the regulated utility industry. These 22 curves were described in Bulletin 125, published in 1967 by Harold A. Cowles, which became known as the Iowa curves.

The Iowa curves are organized with three variables: the average life of the plant; the location of the mode; and the variation of the life. All Iowa curves have both a letter and a number to represent the shape and height of the mode. The L curves, or left-moded curves, are used when the mode of the curve should be to the left of the average life. There are six L curves are presented in Figure 2. The R curves, or right-moded, are used when the mode of the curve should be to the right of the average life. There are five R curves, which are presented in Figure 3. The S curves, or symmetrically-moded, are used when the mode is equal to the average life. There are seven S curves, which are presented in Figure 4. The O curves, or origin curves, are used when the mode occurs at age 0. There are four O curves, which are presented in Figure 5. There are some occasions where it is appropriate to use a half curve. In these cases, the curve is assumed to be exactly half way between the two curves.

In addition to Bulletin 125, Iowa curves have also been presented in subsequent Experiment Station bulletins and in the text Engineering Valuation and Depreciation[9]. In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis[10] presenting his development of the fourth family consisting of the four O-type survivor curves.

[8] *Ibid*, 21

[9] Marston, Anson, Robley Winfrey and Jean C. Hempstead, Engineering Valuation and Depreciation (The Iowa State University Press, 1953)

[10] Couch, Frank V. B., Jr., Classification of Type O Retirement Characteristics of Industrial Property Unpublished M.S. Thesis (Engineering Valuation, Library, Iowa State College, Ames, Iowa, 1957)

Figure 2: Left Modal or "L" Iowa Type Survivor Curves

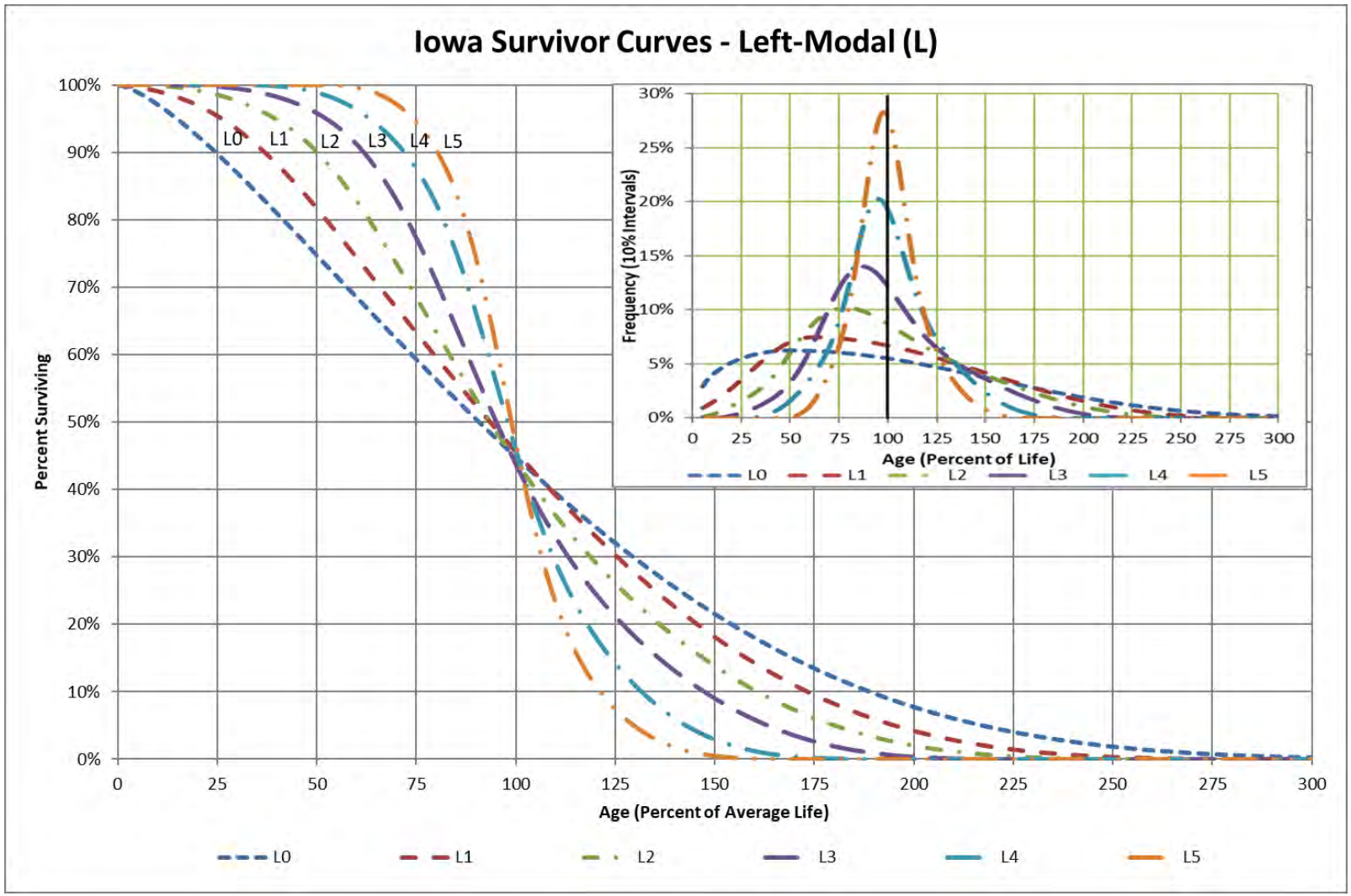


Figure 3: Right Modal or "R" Iowa Type Survivor Curves

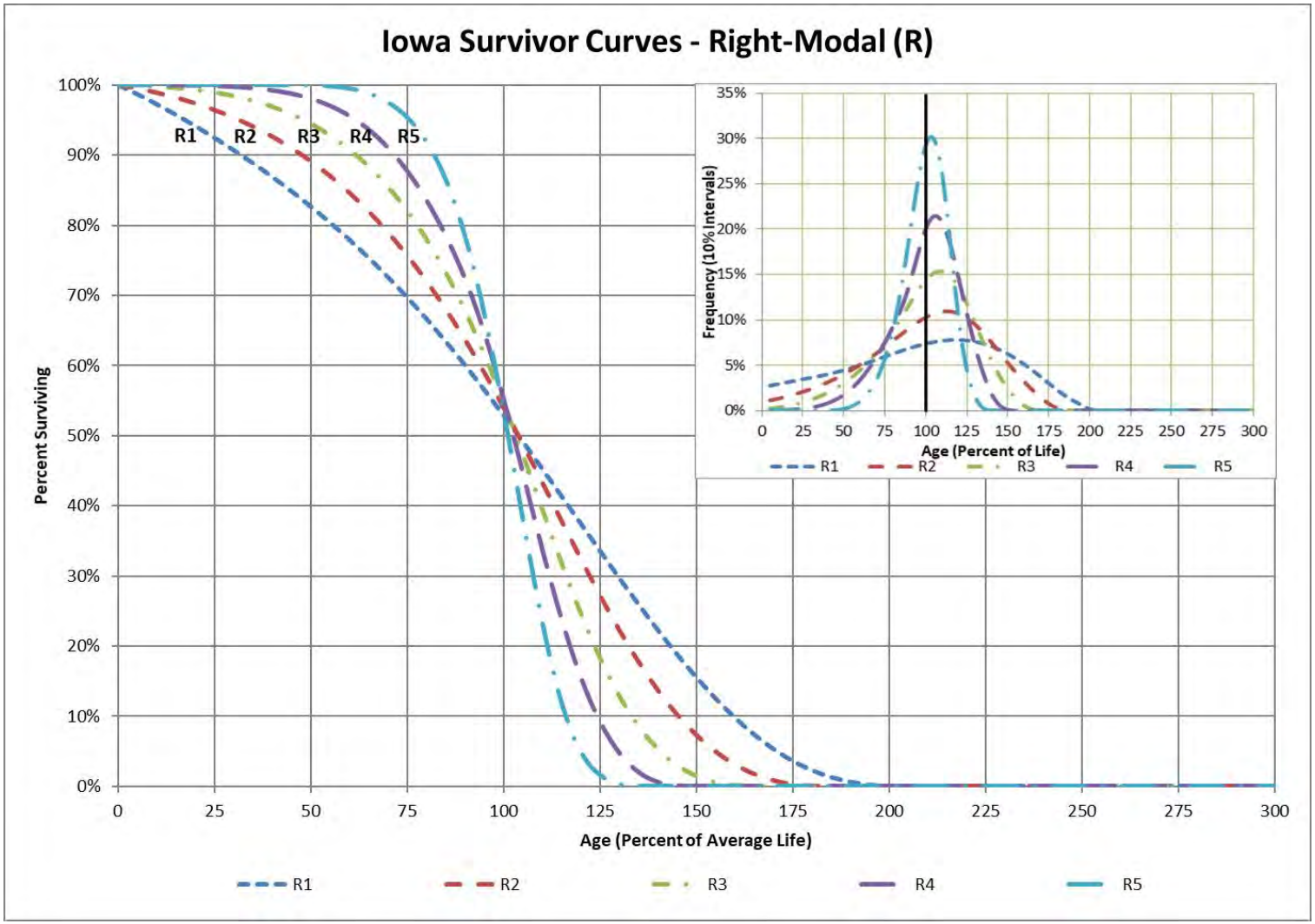


Figure 4: Symmetrical or "S" Iowa Type Survivor Curves

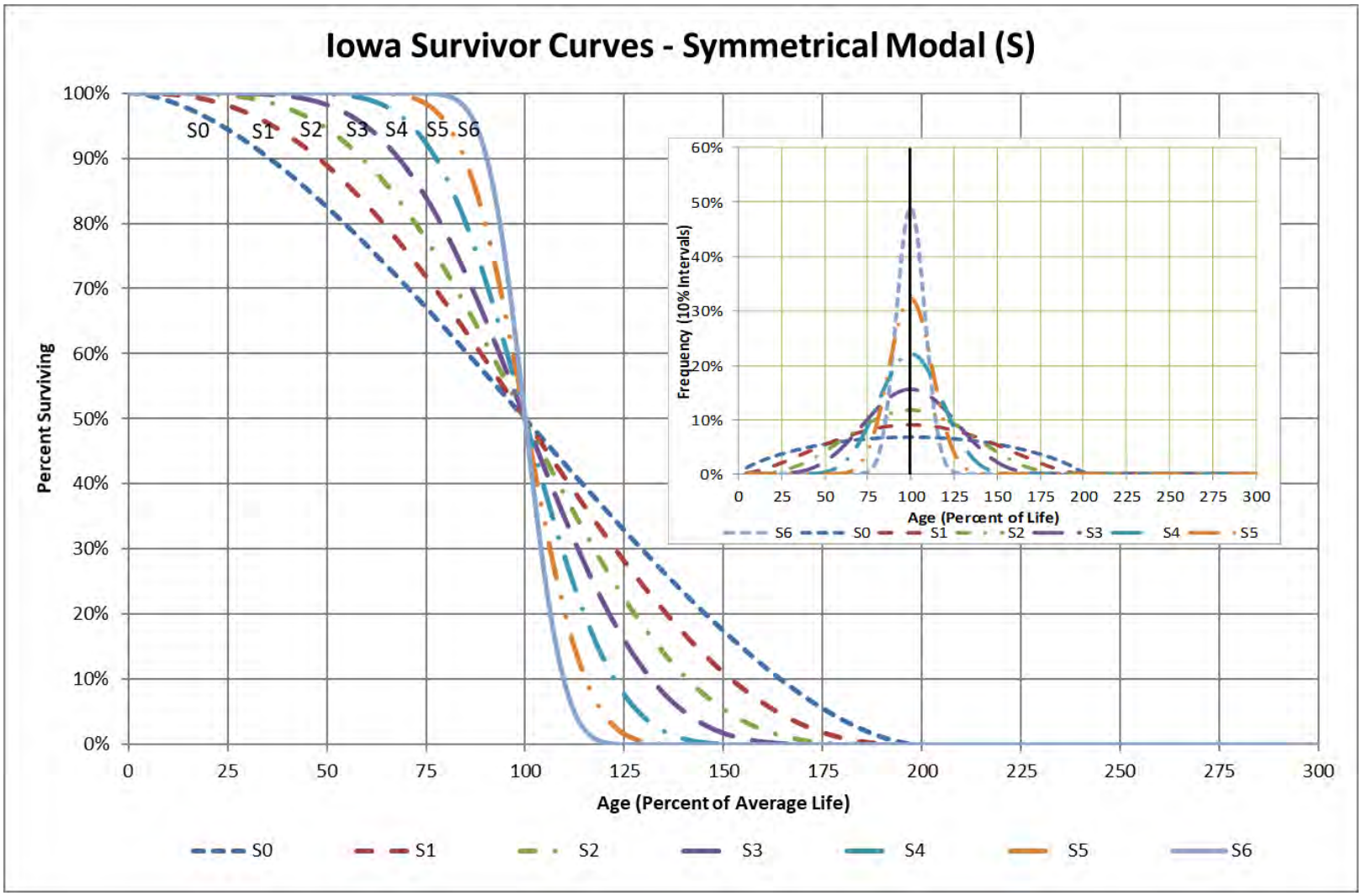
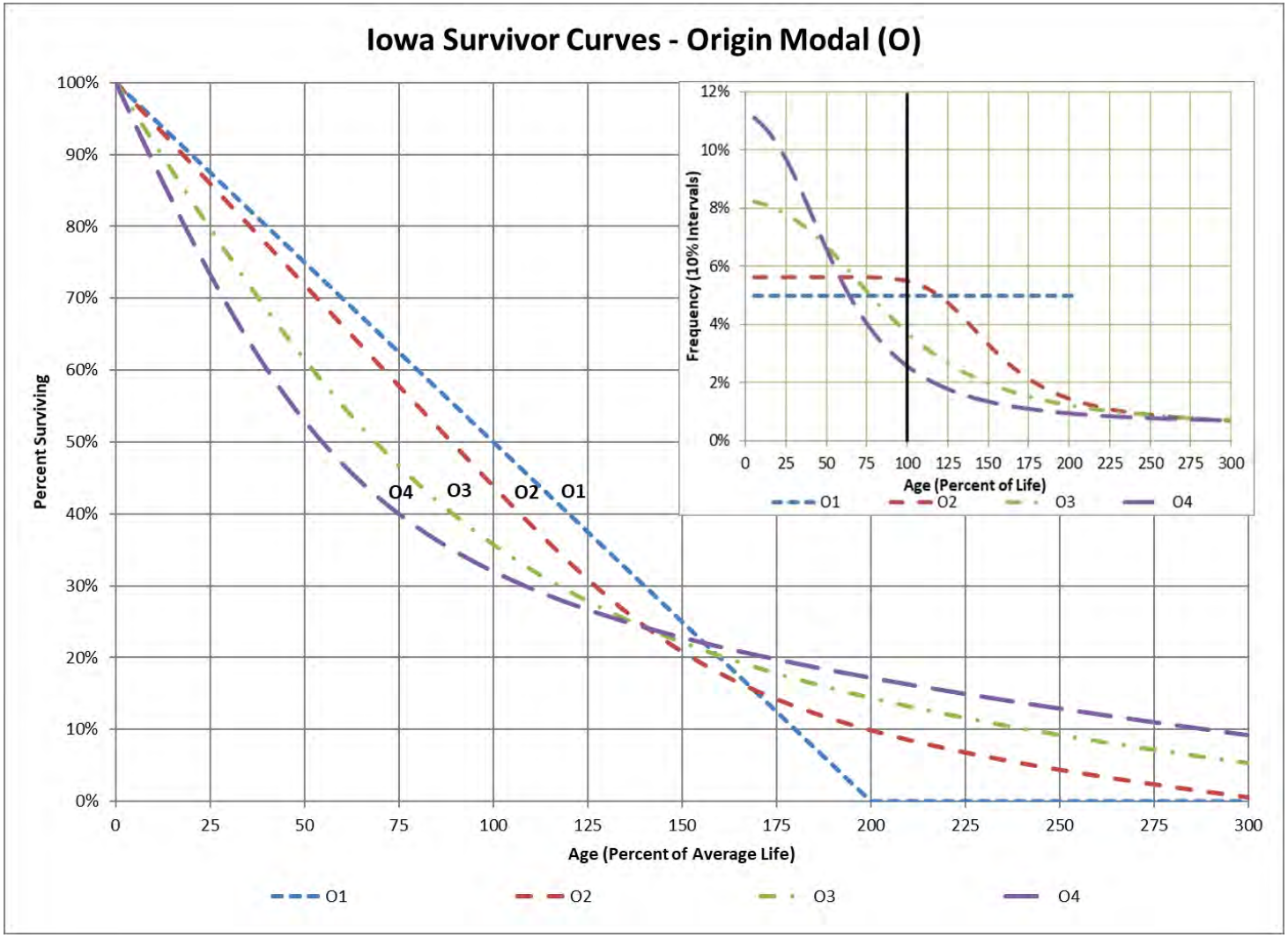


Figure 5: Origin Modal or "O" Iowa Type Survivor Curves



9.4 Retirement Rate Method of Analysis

The retirement rate method is a widely accepted actuarial method used to create survivor curves. This method is also referred to as an original life table. These survivor curves can then be used to determine the average service life of a plant account. The retirement rate method is thoroughly explained in several publications, including Statistical Analyses of Industrial Property Retirements, [11] Engineering Valuation and Depreciation [12] and Depreciation Systems. [13]

The retirement rate method is a subgroup of the placement and the experience band methods, as described in "Depreciation Systems". The placement band method creates a survivor curve which describes the life characteristics of assets placed into service during a selected timeframe. The experience band method creates a survivor curve which describes the life characteristics of assets removed from service during a selected time frame. The retirement rate method creates both placement and experience bands to give the most complete or representative data. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

9.5 Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2008-2017 during which there were placements during the years 2003-2017. In order to illustrate the summation of the aged data by age interval, the data was compiled in the manner presented in Schedules 1 and 2. In Schedule 1 (page 9-10), the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $10,000 of the asset invested in 2003 were retired in 2008. The $10,000 retirement occurred during the age interval between 4 ½ and 5 ½ years (2008 - 2003) on the basis that approximately one-half of the amount of property was installed prior to and after July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2008 retirements of 2003 installations and ending with the 2016 retirements of the 2011 installations. Thus, the total amount of $143,000 for age interval 4½-5½ equals the sum of:

$$\$10 + \$12 + \$13 + \$11 + \$13 + \$13 + \$15 + \$17 + \$19 + \$20 = \$143\ k$$

[11] Anson, Winfrey & Hempstead, supra note 6

[12] Anson, Winfrey & Hempstead, supra note 6

[13] Wolf & Fitch, supra note 1

Other transactions which affect the group are recorded in a similar manner in Schedule 2 (page 9-11). The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements but are used in developing the exposures at the beginning of each age interval.

Schedule 1. Retirements for each year 2008-2017 – summarized by age interval

Experience Band 2008-2017 Placement Band 2003-2017

Retirements (Thousands of Dollars)
Annual Survivors at the Beginning of the Year

Year Placed	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total Durring Age Interval	Age Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2003	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2004	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2005	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2006	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2007	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2008	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2009		5	11	12	13	14	15	16	18	20	113	7½-8½
2010			6	12	13	15	16	17	19	19	124	6½-7½
2011				6	13	15	16	17	19	19	131	5½-6½
2012					7	14	16	17	19	20	143	4½-5½
2013						8	18	20	22	23	146	3½-4½
2014							9	20	22	25	150	2½-3½
2015								11	23	25	151	1½-2½
2016									11	24	153	½-1½
2017										13	80	0-½
Total	**53**	**68**	**86**	**106**	**128**	**157**	**196**	**231**	**273**	**308**	**1,606**	

Schedule 2. Other Transactions for Each year 2008-2017 – summarized by age interval

Experience Band 2008-2017 Placement Band 2003-2017

Acquisitions, Transfers and Sales (Thousands of Dollars)
Annual Survivors at the Beginning of the Year

Year Placed (1)	2008 (2)	2009 (3)	2010 (4)	2011 (5)	2012 (6)	2013 (7)	2014 (8)	2015 (9)	2016 (10)	2017 (11)	Total Durring Age Interval (12)	Age Interval (13)
2003	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
2004	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2005	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2006	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2007	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2008	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2009		-	-	-	-	-	-	-	-	-	-	7½-8½
2010			-	-	-	-	-	-	-	-	-	6½-7½
2011				-	-	-	-	(12)[b]	-	-	-	5½-6½
2012					-	-	-	-	22[a]	-	-	4½-5½
2013						-	-	(19)[b]	-	-	10	3½-4½
2014							-	-	-	-	-	2½-3½
2015								-	-	(102)[c]	(121)	1½-2½
2016									-	-	-	½-1½
2017												0-½
Total	**-**	**-**	**-**	**-**	**-**	**-**	**60**	**(30)**	**22**	**(102)**	**(50)**	

[a] *Transfer Affecting Exposures at Beginning of Year*
[b] *Transfer Affecting Exposures at End of Year*
[c] *Sale with Continued Use*
Parentheses denote Credit amount.

9.6 Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 (page 9-13). The surviving plant at the beginning of each year from 2007 through 2016 is recorded by year in the portion of the table titled "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition, are obtained by adding or subtracting the net entries shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2013 are calculated in the following manner:

Exposures at age 0	=	amount of addition	=	$750,000
Exposures at age ½	=	$750,000 - $ 8,000	=	$742,000
Exposures at age 1½	=	$742,000 - $18,000	=	$724,000
Exposures at age 2½	=	$724,000 - $20,000 - $19,000	=	$685,000
Exposures at age 3½	=	$685,000 - $22,000	=	$663,000

For the entire experience band 2008-2018, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$255 + $268 + $ 284 + $311 + $334 + $374 + $405 + $448 + $501 $ $609 = $3,789k

Schedule 3 – Plant exposed to retirement at the beginning of each year, 2008 -2017 – summarized by age interval

Experience Band 2008 - 2017 Placement Band 2003-2017

Exposures (Thousands of Dollars)
Annual Survivors at the Beginning of the Year

Year Placed (1)	2008 (2)	2009 (3)	2010 (4)	2011 (5)	2012 (6)	2013 (7)	2014 (8)	2015 (9)	2016 (10)	2017 (11)	Total at Beginning of Age Interval (12)	Age Interval (13)
2003	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2004	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2005	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2006	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2007	376	367	257	346	334	321	307	267	280	261	1,097	9½-10½
2008	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2009		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
2010			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
2011				580[a]	574	561	546	530	501	482	3,057	5½-6½
2012					660[a]	653	639	623	628	609	3,789	4½-5½
2013						750[a]	742	724	685	663	4,332	3½-4½
2014							850[a]	841	821	799	4,955	2½-3½
2015								960[a]	949	923	5,719	1½-2½
2016									1,080[a]	1,069	6,579	½-1½
2017										1,220[a]	7,490	0-½
Total	**1,975**	**2,382**	**2,724**	**3,318**	**3,872**	**4,494**	**5,247**	**5,987**	**6,852**	**7,796**	**44,780**	

[a] *Additions during the year.*

	1555	1922	2214	2738	3212	3744	4397	5027	5772	6576	44780
	420	460	510	580	660	750	850	960	1080	1220	0
	1975	2382	2724	3318	3872	4494	5247	5987	6852	7796	44780

9.7 Original Life Tables

The original life table, illustrated in Schedule 4 (page 9-15) is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100 percent at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15		
Exposures at age 4½	=	$3,789,000		
Retirements from age 4½ to 5½		= $143,000		
Retirement Ratio	=	$143,000 ÷ $3,789,000	=	0.0377
Survivor Ratio	=	1.000 - 0.0377	=	0.9623
Percent surviving at age 5½	=	(88.15) x (0.9623)	=	84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless. The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Schedule 4: Original Life Table - Calculated by the Retirement Rate Method

Experience Band 2008-2017					Placement Band 2003-2017
Age at Beginning of Interval	**Exposures at Beginning of Age Interval**	**Retirements During Age Interval**	**Retirement Ratio**	**Survivor Ratio**	**% Surviving at Beginning of Age Interval**
0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.6
12.5	323	44	0.1362	0.8638	48.9
13.5	167	26	0.1557	0.8443	42.24
					35.66
Total	**44,780**	**1,606**			

- Exposure and Retirement Amounts are in Thousands of Dollars
- Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.
- Column 3 from Schedule 1, Column 12, Retirements for Each Year.
- Column 4 = Column 3 divided by Column 2.
- Column 5 = 1.0000 minus Column 4.
- Column 6 = Column 5 multiplied by Column 6 as of the Preceding Age Interval.

9.8 Smoothing the Original Survivor Curve

The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100 percent to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percentages surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group.

Figure 6: Illustration of the Matching of an Original Survivor Curve with a L1 Iowa Type Curve Original and Smooth Survivor Curves

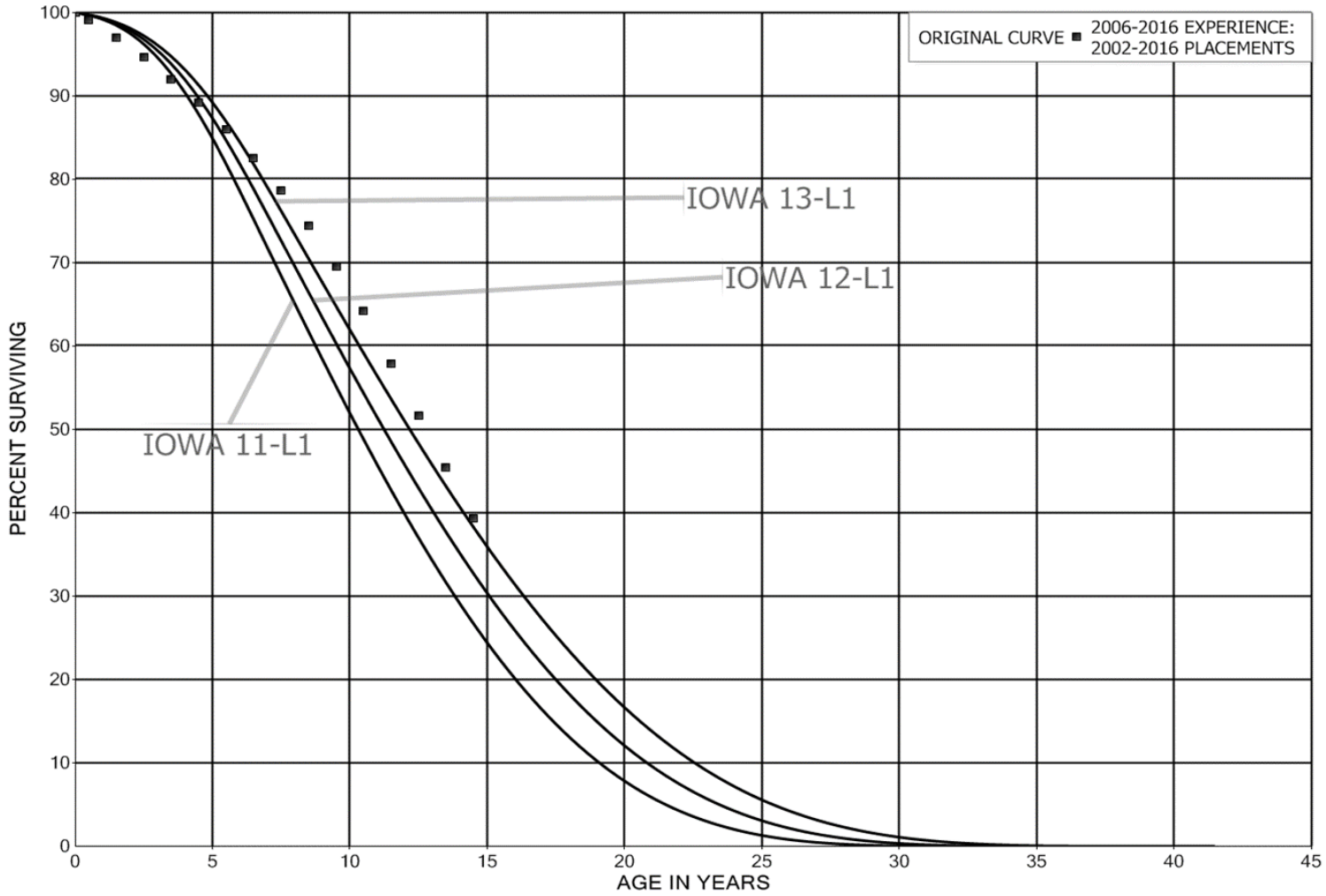


Figure 7: Illustration of the Matching of an Original Survivor Curve with a SO Iowa Type Curve Original and Smooth Survivor Curves

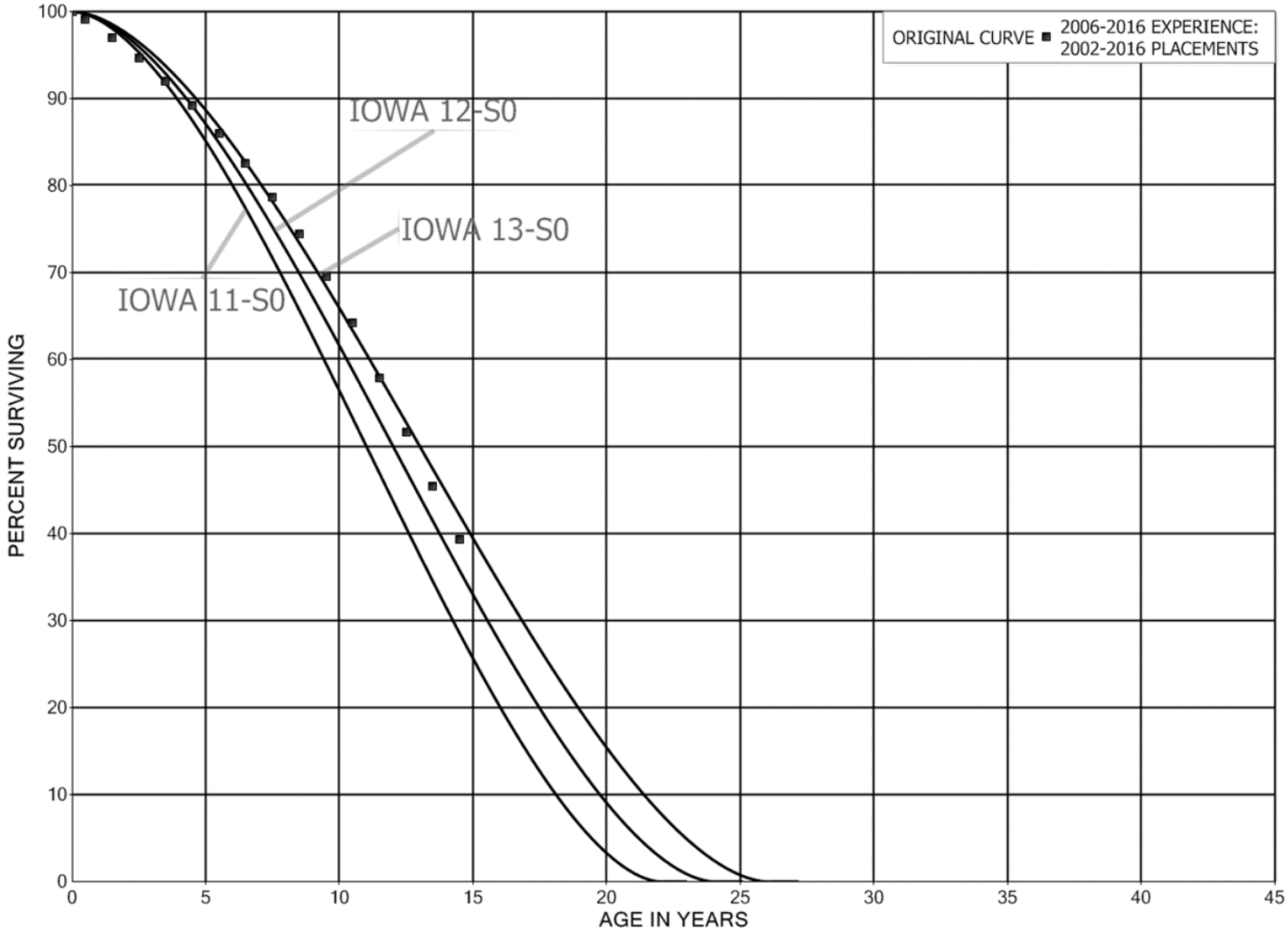


Figure 8: Illustration of the Matching of an Original Survivor Curve with a R1 Iowa Type Curve Original and Smooth Survivor Curves

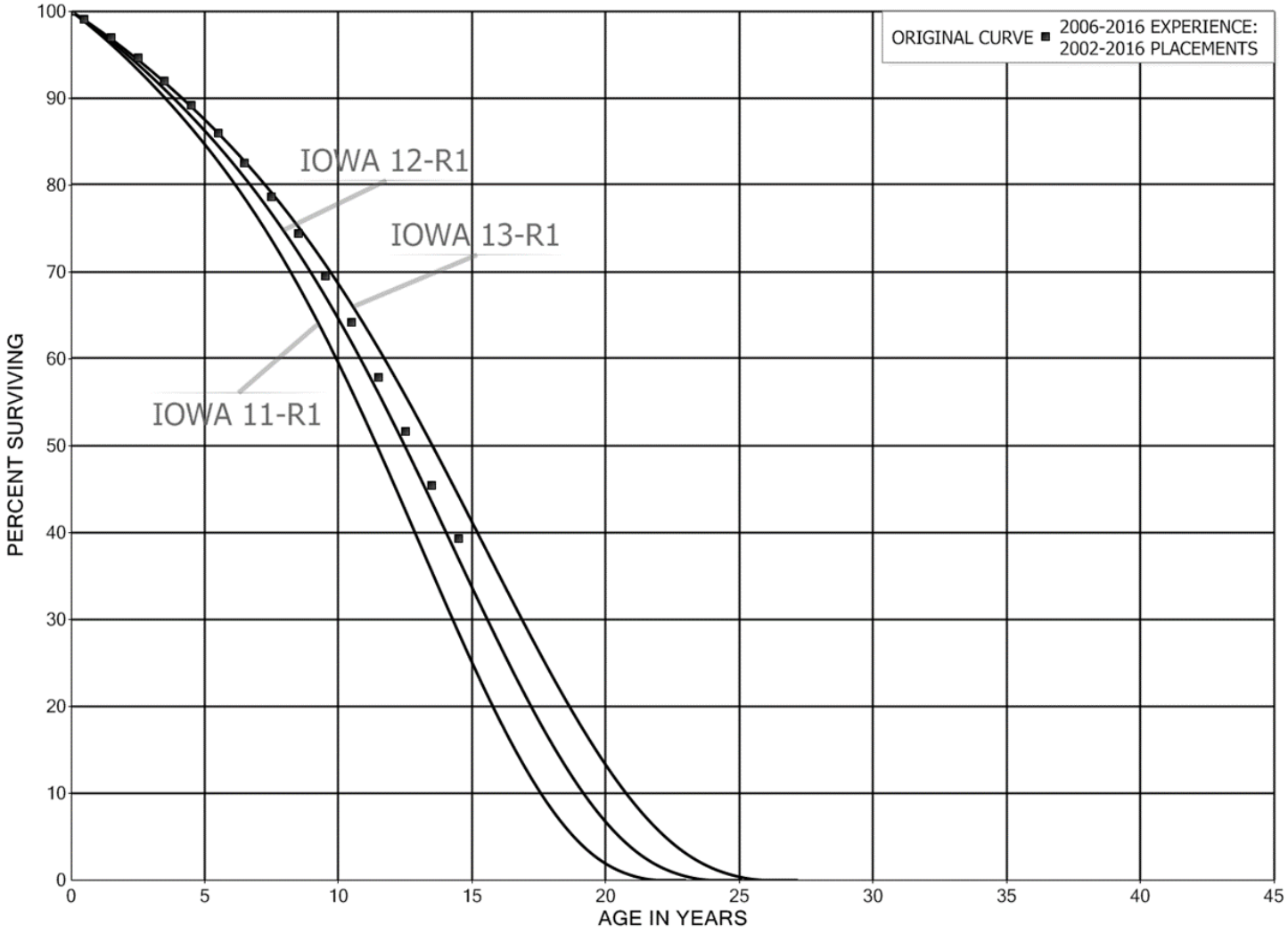
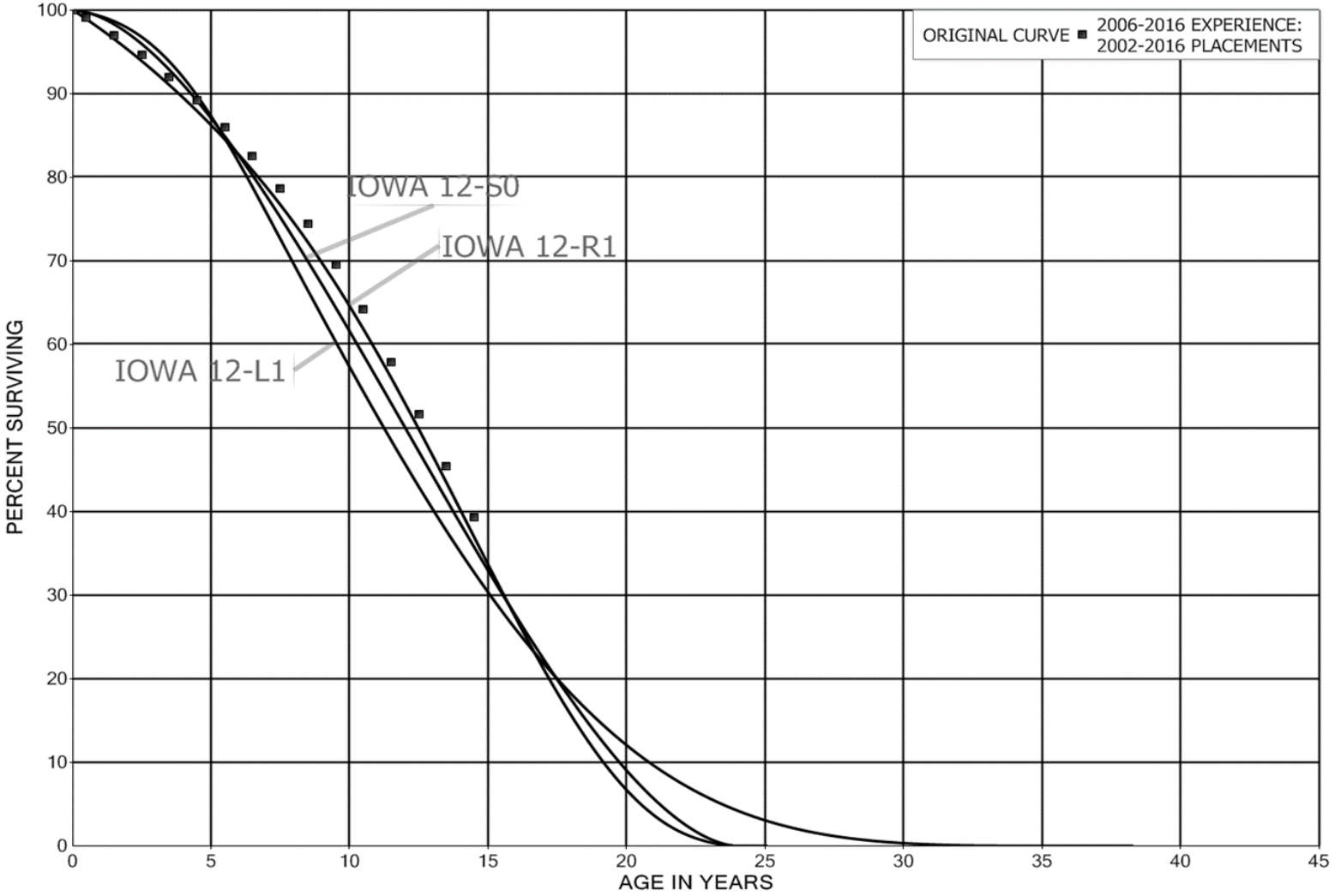


Figure 9: Illustration of the Matching of an Original Survivor Curve with a L1 Iowa Type Curve Original and Smooth Survivor Curves



2022 DEPRECIATION STUDY – WASTEWATER ASSETS

Prepared for New Jersey American Water Company

Prepared December, 2023

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TABLE OF CONTENTS

SECTION 1

1 STUDY HIGHLIGHTS

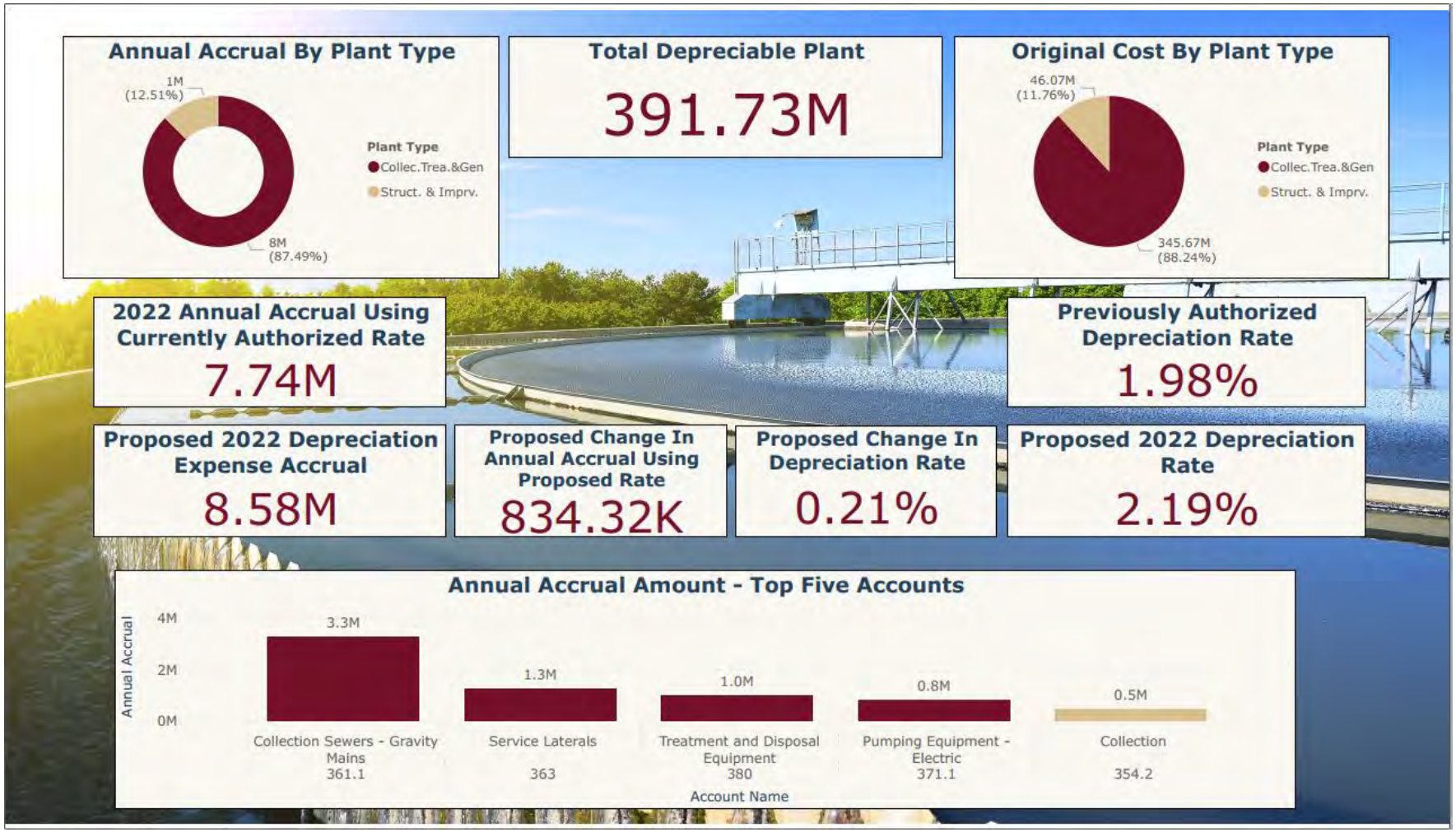
Pursuant to New Jersey American Water's ("NJAWC" or the "Company") request, Concentric Advisors, ULC ("Concentric") conducted a depreciation study related to the Company's Wastewater Collecting, Treatment, and General Plant accounts. The purpose of the study is to determine the annual depreciation accrual rates and amounts applicable to the original cost of water utility plant, as of December 31, 2022.

The depreciation rates are based on the Straight-Line method using the Average Life Group procedure and were applied on a Remaining Life basis. The calculations were based on attained ages, estimated average service life and forecasting net salvage characteristics for each depreciable group of assets.

Concentric recommends the calculated annual depreciation accrual rates set forth herein apply specifically to Wastewater Collecting, Treatment, and General Plant assets in service, as of December 31, 2022, summarized in Table 1 on pages 5-2. Supporting data and calculations are also provided within this report.

Concentric's study results in an annual depreciation expense accrual of $8.58 million when applied to depreciable plant balances of $392 million, as of December 31, 2022. The report study results are summarized at an aggregate functional group level as follows:

1.1 Executive Summary (Power BI)



SECTION 2

2 BASIS OF THE STUDY

2.1 Scope

This study sets forth the results of the depreciation study for the collecting, treatment, and general wastewater plant assets of NJAWC, to determine the annual depreciation accrual rates and amounts for book purposes applicable to the original cost of investment as of December 31, 2022. The rates and amounts are based on the Straight-Line Method, incorporating the ALG Procedure applied on a Remaining Life Basis. This study also describes the concepts, methods and judgments which underlie the recommended annual depreciation accrual rates related to the NJAWC assets in service, as of December 31, 2022.

The service life estimates resulting from the study were based on:

- informed professional judgment which incorporated analyses of historical plant retirement data recorded through December 31, 2022;
- a review of NJAWC company practice and outlook, as they relate to plant operation and retirement; and
- consideration of current practice in the Water system industry, including knowledge of service life estimates used for other Water system companies.

The depreciation accrual rates presented herein are based on generally-accepted methods and procedures for calculating depreciation. The estimated survivor curves used in this study are based on studies incorporating actual data through 2022 for most accounts.

2.2 Plan of Study

The report is presented in the following order:

SECTION 1	Study Highlights presents a brief summary of the depreciation study and results
SECTION 2	Basis of the Update contains statements with respect to the plan and the basis of the study
SECTION 3	Development of the Required Depreciation Rates presents descriptions of the methods used and factors considered in the service life study
SECTION 4	Calculation of Annual and Accrued Depreciation presents the methods and procedures used in the calculation of depreciation
SECTION 5	Results of Study presents summaries by depreciable group of annual and accrued depreciation in Table 1
SECTION 6	Presents the results of the Retirement Rate Analysis
SECTION 7	Presents the results of the Net Salvage Study
SECTION 8	Presents the results of the Detailed Depreciation Calculations
SECTION 9	Estimation of Survivor Curves is an overview of Iowa curves and the Retirement Rate Analysis

2.3 Depreciation

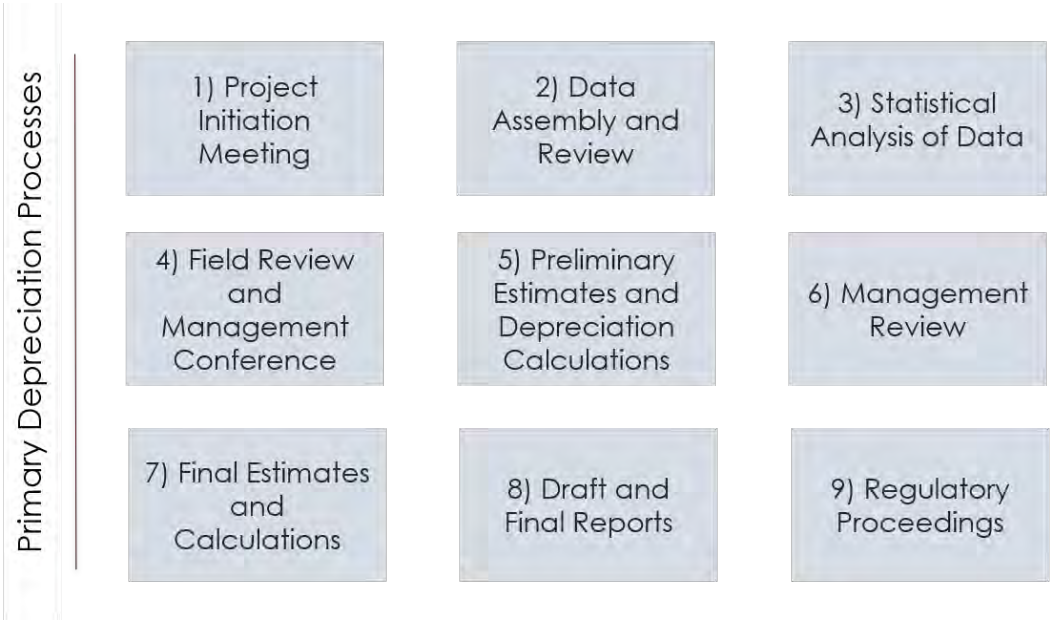
A full and comprehensive depreciation study includes the following components:

1. supported recommendations regarding Average Service Life estimates for each account;
2. supported recommendations regarding estimated Net Salvage requirements for each account;
3. selection of an appropriate grouping procedure;
4. detailed calculation of the depreciation rate utilizing the estimated Average Service Life and Net Salvage requirements; and
5. a document explaining the procedures followed and justifying the results in a format suitable for submission to senior management and regulatory authorities.

A diagram of the nine primary processes followed by Concentric in the development of the depreciation study is provided below. Each of the steps is undertaken by Concentric using proprietary software.

For most accounts, the annual and accrued depreciation were calculated by the Straight-Line Method using the ALG Procedure. For certain general plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages and an estimate of service lives.

Consistent with the current NJAWC practice, amortization accounting continues to be recommended for certain general plant accounts because of the disproportionate plant accounting effort required in these accounts. Many regulated utilities in North America have received approval to adopt amortization accounting for these accounts.



2.4 Information Provided by NJAWC

NJAWC has provided Concentric with the required information, as of December 31, 2022 for all accounts being studied. This information has been compiled from the plant accounting records and includes the following:

- current balances by vintage year for each account (aged balances). The balances provide the amount of investment sorted by installation year currently in operation. This file is only inclusive of current plant in service and does not include any retirement information;
- detailed retirement transactions for all accounts. The transactions include information regarding the transaction year of the retirement, the installation year of the asset being retired, and the original cost of the asset being retired; and
- detailed cost of removal and gross salvage transactions for all accounts requiring the recovery of net salvage. The transactions include information regarding the transaction year of the retirement, the costs associated with the retirement, and any gross salvage proceeds from the sale or reuse of the property; and
- Accumulated Depreciation balances as of December 31, 2022 for accounts studied.

2.5 Data Reconciliation

The above data was reviewed and reconciled to Company control schedules to ensure accuracy and reasonableness in use of the calculations developed in this study. These checks include:

- that the surviving investment by account equals (or can be reconciled to) the Company's gross plant in service and accumulated depreciation ledger balances;
- that the surviving investment in each vintage is not negative. In other words, this check confirms that the sum of retirements from any given vintage have not exceeded the amount of plant additions to the vintage; and
- that any adjusting transactions are properly accounted for within the databases.

SECTION 3

3 DEVELOPMENT OF THE REQUIRED DEPRECIATION RATES

3.1 Depreciation

The development of the depreciation calculations requires the input of an Average Service Life, a retirement dispersion curve ("Survivor Curve" or "Iowa curve"), Net Salvage estimates, and Life Span dates for a number of accounts. (the "depreciation parameters"). Additionally, to complete the depreciation calculations, the calculation methods must be established. Specifically, the selection of the depreciation method must establish three types of additional input:

1. the choice of a depreciation method;
2. a basis upon which to apply the method, and
3. in the case of group assets, a procedure to use in grouping the assets.

In this study, the depreciation rates for NJAWC have been calculated in accordance with the Straight-Line method, the ALG procedure and applied using the Remaining Life technique, with any accumulated depreciation variances trued-up over the composite remaining life of each account.

Depreciation, as applied to depreciable plant, means the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of water plant in the course of service from causes which are known to be in current operation and against which the utility is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art and changes in demand and requirements of public authorities.[1]

When considering the action of the elements, the average service life and net salvage calculations have considered large catastrophic events that have occurred and impacted the life estimates of utilities across North America. The average service life of utilities has been influenced by events including:

- forest fires;
- earthquakes;
- tornadoes;
- ice storms;
- wind-storms;
- large scale flooding;
- fires;
- lightning;
- intentional actions of third parties;
- hoar frost; and
- other natural forces of nature.

[1] The National Association of Railroad and Utilities Commissioners, Uniform System of Accounts for Gas Utilities.

Depreciation, as used in accounting, is a method of distributing fixed capital costs, less net salvage, over a time period by allocating annual amounts to expense. Each annual amount of such depreciation expense is part of that year's total cost of providing water utility service. Normally, the time over which the fixed capital cost is allocated to the cost of service, is equal to the time over which an item renders service - that is the item's service life. The most prevalent method of allocation is to distribute an equal amount of cost to each year of service life. This method is known as the Straight-Line method of depreciation.

The calculation of annual and accrued depreciation based on the Straight-Line method when applied to utility group accounts requires the estimation of survivor curves and is described in the following sections of this study. The development of the proposed depreciation rates also requires the selection of group depreciation procedures, as discussed below.

3.1.1 Study Depreciation Methods and Procedures

When more than a single item of property is under consideration, a group procedure for depreciation is appropriate because normally all of the items within a group do not have identical service lives but have lives that are dispersed over a range of time. There are two primary group procedures, namely, the Average Life Group (ALG) and Equal Life Group (ELG) procedures.

In the ALG Procedure, the rate of annual depreciation is based on the average service life of the group. This rate is applied to the surviving balances of the group's cost. A characteristic of this procedure is that the cost of plant retired prior to average life is not fully recouped at the time of retirement, whereas the cost of plant retired subsequent to the average life is more than fully recouped. Over the entire life cycle, the portion of cost not recouped prior to average life is balanced by the cost recouped subsequent to average life.

In the Equal Life Group Procedure, also known as the Unit Summation Procedure, the property group is subdivided according to service life. That is, each equal life group includes that portion of the property which experiences the life of that specific group. The relative size of each equal life group is determined from the property's life dispersion curve. The calculated depreciation for the property group is the summation of the calculated depreciation based on the service life of each equal life unit.

For most accounts, the annual and accrued depreciation were calculated by the Straight-Line Method using the ALG Procedure. For certain Structures & Improvements, Transmission & Distribution, and General plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages and an estimate of service lives.

While the Equal Life Group Procedure provides an enhanced matching of depreciation expense to the consumption of service value, the Straight-Line Method, Average Life Group Procedure is a commonly used depreciation calculation that has been widely accepted in jurisdictions throughout North America including NJAWC in prior studies. Concentric recommends its continued use.

Amortization accounting is used for certain transmission and compression plant accounts because of the disproportionate plant accounting effort required in these accounts. Many regulated utilities in North America have received approval to adopt amortization accounting for these accounts. This study calculates the annual and accrued depreciation using the Straight-Line Method and ALG

Procedure for most accounts. For certain general plant accounts, the annual and accrued depreciation are based on amortization accounting. Both types of calculations were based on original cost, attained ages and estimates of service lives.

Continued monitoring and maintenance of the accumulated depreciation reserve at the account level is recommended. Concentric has determined an amortization amount to correct the present variance with the calculated accrued depreciation (theoretical reserve) over the composite remaining life of each account.

3.1.2 Remaining Life Calculations

The depreciation rates calculated in this study were calculated on the same manner as used in the prior full depreciation study – i.e. using the straight-line method, the ALG Procedure applied on a remaining life basis. The vintaged remaining life approach weighs the calculations of remaining life on an allocation of the actual book accumulated depreciation account by the Calculated Accumulated Depreciation (CAD) factor determined for each vintage of plant in service. This method is described as a CAD weighted calculation in the textbook Depreciation Systems by Frank K. Wolf and W. Chester Fitch, published by the Iowa State University in 1994 under the title "Adjustments" within the Broad Group Model. This approach to the calculation of remaining life has not changed since the last depreciation study.

When depreciation rates are calculated utilizing a remaining life technique, the depreciation rate is established by dividing the undepreciated value of each group of assets (after consideration to the net salvage requirements) by the composite remaining life of the group of assets. This calculation is made for each vintage surviving investment as of the date of the study (December 31, 2022), and then composited into a calculation for the account or group as a whole. This calculation requires two estimates:

1. The actual booked accumulated depreciation for each vintage within each account.

   NJAWC does not track the booked accumulated depreciation reserve by vintage within each account. Rather the depreciation expense is calculated at an account level and booked to accumulated depreciation at the same account level. Concentric notes that this is the practice employed by virtually all regulated utilities. As such, the accumulated depreciation by account is allocated within the account to each vintage, on the basis of the calculated accumulated depreciation by vintage. The calculated accumulated depreciation is a function of the estimated survivor curve, the average service life estimate, the net salvage estimates and the achieved age of each vintage.

2. The estimated remaining life of each vintage with each account. The estimated remaining life of each vintage is a direct function of the achieved age of each vintage, the estimated survivor curve and the average service life estimate.

Once the above two estimates are determined (the allocated booked reserve by vintage and the average remaining life of each vintage), an annual accrual requirement for each vintage is determined by dividing the net book value for each vintage (considering the estimated future salvage requirements) by the average remaining life of the vintage. The annual requirement for each vintage

is summed at the account level and divided into the sum of the accounts original cost surviving as of December 31, 2022.

This process results in each vintage's calculated net book value to be depreciated over an appropriate remaining life. This vintage weighting on CAD approach to the remaining life calculations is widely considered to be the most accurate. Concentric agrees and views this methodology as the correct and most appropriate calculation.

3.1.3 Net Salvage Calculations

This study was conducted using the normalization approach to net salvage calculation, as is the long-standing norm within the State of New Jersey. As the last depreciation study was conducted more than 3 years ago, Concentric has used a five-year average to calculate the net salvage requirement for all accounts. However, even with this 5-year averaging, the resultant net salvage accrual amounts are still below the expected amounts of net salvage required over the next test period. This is in line with the experience of the last five years, where there has been an increase in the amount of net salvage necessary relative to the amount of original cost in the account. This has led to an increase in the regulatory account where net salvage is booked.

Concentric recommends increasing the accrual amount related to the recovery of cost of removal to account for the increase in expected cost of removal over the next five-year period. This is an accepted approach to the recovery of net salvage throughout the United States. Typically jurisdictions that mandate the use of the normalization approach, such as Connecticut, allow for an increase in the accrual amount when necessary to account for increased future costs. As such, Concentric has adjusted the accrual amount for the recovery of net salvage by a factor of 1.25 to ensure the full recovery of all costs of removal over the upcoming test period.

3.1.4 Truncation Cuts

It is commonly accepted within depreciation texts that some data points, particularly towards the end of the Iowa curve, may be less reliable due to the lower amount of exposures that the retirements are calculated on. It is widespread practice to place lesser weighting on these data points, through the use of a Truncation Cut (or "T-Cut"). This practice is described in detail in the text "Public Utility Depreciation Practices" compiled and edited by the Staff Subcommittee on Depreciation of the Finance and Technology Committee of the National Association of Regulatory Utility Commissioners on page 122 where it is stated:

"A T-cut is used to mathematically perform a function that is automatic in visual fitting (i.e., setting a point beyond which the observed data are considered irrelevant or unreliable and are, therefore, ignored).

Careful selection of a T-cut can greatly enhance the reliability of the resulting analysis. Conversely, since the use of a T-cut involves truncating the observed data, careless selection can impair the reliability of subsequent work."

Concentric has utilized T-cuts throughout the Iowa curve selection where necessary. Where a T-cut is utilized, Concentric has indicated such in the account-by-account write up below.

3.1.5 Survivor Curves

The use of an average service life or a property group implies that the various units in the group have different lives. Thus, the average life may be obtained by determining the separate lives of each of the units, or by constructing a survivor curve plotting the number of units which survive at successive ages using the retirement rate method of analysis.

The range of survivor characteristics usually experienced by utility and industrial properties is encompassed by a system of generalized survivor curves known as the Iowa type curves. The Iowa curves *"…were sorted into three groups according to whether the mode was to the left, approximately coincident with, or to the right of the average-life ordinate. The curves in each of these three groups were then sub-classified in accordance with the height of the mode, taking also into consideration the distance of the mode to the left or right of the average life."* [2] The Iowa curves are described as L-type (i.e. left-moded), R-type (i.e. right-moded), and S-type (i.e. symmetrical). Further development resulted in the introduction of O-type (i.e. origin-moded curves) where the greatest frequency of retirement occurs at the origin, or immediately after age zero. Individual type curves are further depicted with numerical subscripts which represent the relative heights of the modes of the frequency curves within each family.

The program that is used by Concentric for statistical smooth curve fitting utilizes an internal "goodness-of-fit" criterion known as the Residual Measure. This Residual Measure is based on a least squares solution of the differences between the stub curve (or original data points) and smooth survivor curve which also requires a balancing of the differences above and below the stub curve.

The criterion of goodness-of-fit is the mean square of the differences between the points on the stub and fitted smooth survivor curves. The residual measure, or standard error of estimate, shown in the output format is the square root of this mean square. As such, the lower the Residual Measure the better the statistical fit between the analyzed Iowa curve and the observed data points. Concentric follows the widely used practice of fitting Iowa curves up to one percent of the maximum exposures. This standard practice is utilized to minimize the influence of typically small retirements applied to similarly small exposures which may unduly affect the Iowa curve fitting process. However, Concentric will recognize the observed data points beyond the one percent of maximum exposures if it is determined that the additional data is a valid consideration for life recommendation.

A discussion of the general concept of survivor curves and retirement rate method is presented in Section 9.

3.1.6 Survivor Curve and Net Salvage Judgments

The service life and net salvage estimates used in the depreciation and amortization calculations were based on informed professional judgment which incorporated a review of management's plans, policies and outlook, a general knowledge of the water utility industry, and comparisons of the service life and net salvage estimates from Concentric's studies of other water utilities. The use of survivor curves, to reflect the expected dispersion of retirement, provides a consistent method of

[2] Robley Winfrey, Statistical Analyses of Industrial Property Retirements, Bulletin 125 revised (Engineering Research Institute, Iowa State University, 1935) 65

estimating depreciation for water plant. Iowa type survivor curves were used to depict the estimated survivor curves for the plant accounts not subject to amortization accounting.

The procedure for estimating service lives consisted of compiling historical data for the plant accounts or depreciable groups, analyzing this history through the use of widely accepted techniques, and forecasting the survivor characteristics for each depreciable group on the basis of interpretations of the historical data and the probable future. The forecasting of a probable future included management and operational staff interviews. The combination of the historical experience and the probable future yielded estimated survivor curves from which the average service lives were derived.

The resultant depreciation rates are summarized in the applicable tables of this study (Section 5). The depreciation rates should be reviewed periodically to reflect the changes that result from plant and reserve account activity. A depreciation reserve deficiency or surplus will develop if future capital expenditures vary significantly from those anticipated in this study.

The estimates of net salvage for the mass property accounts were based mostly in part on historical data related to actual retirement activity for the years 1975 through 2022, for most accounts. Gross salvage and cost of removal as recorded to the depreciation reserve account and related to experienced retirements were used. Concentric notes the data from the previous depreciation consultant was used and considered in the historic net salvage analysis, but more relevancy was placed on the more recent data from 2017 through 2022 provided directly to Concentric by NJAWC. Percentages of the cost of plant retired were calculated for each component of net salvage on an annual, three-year, five-year, and on a cumulative moving average basis.

The following discussion, dealing with a number of accounts which comprise the majority of the investment analyzed, presents an overview of the factors considered by Concentric in the determination of the average service life and net salvage estimates. The survivor curve estimates for the remainder of the accounts not discussed in the following sections were based on similar considerations.

ACCOUNT 354.20 – STRUCTURES AND IMPROVEMENTS – COLLECTION

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$16,708,878	4.27%	35	40-R2.5	0.09%	0.15%

The investment in Structures and Improvements – Collection is $16.7 million representing 4.3 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 35-S0, and the approved rate in service for this account is 2.69 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1930 through 2022, were analyzed by the retirement rate method. Retirements that occurred between 2012 and 2023 were utilized in the development of the depreciation parameters. In conducting the retirement rate analysis, this account included the use of a T-cut at age 31.5, when exposures remaining in

service dipped below 1% of total exposures at age 0. As such, retirements of $1,169,982 were considered in the retirement rate analysis.

Concentric notes that this account was previously combined in the last depreciation study with accounts 354.3 through 354.51 for actuarial analysis. However, since that time the retirement experience has increased to the point where these accounts can now be studied for life analysis independently. The previously applied for Iowa 35-S0 has a related Residual Measure of 0.6825, while the Iowa 40-R2.5 has a better Residual Measure of 0.1308 as depicted on page 6-2 of this report. The average age of retirements has increased in recent years from 10.94 in 2012, where there were up to 20.32 in 2022 and peaking at an average age of 26 in 2019. The weighted average age of retirement for this account is 13.01.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 40-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities studied by Concentric produced a range from 45 to 50 years and a comparison of peers used by other consultants produced estimates of 50 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 40-R2.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 40-R2.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $25,588, resulting in a net salvage normalization rate of 0.15%, up from the approved normalized net salvage rate of 0.09%.

ACCOUNT 354.3 – STRUCTURES AND IMPROVEMENTS – PUMPING

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$7,276,067	1.86%	35	40-R2.5	0.10%	0.15%

The investment in Structures and Improvements – Pumping is approximately $7.3 million representing 1.86 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 35-S0, and the approved rate in service for this account is 2.56 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions for the period 1924 through 2022 were analyzed by the retirement rate method. Retirements that occurred between 2007 and 2022 were utilized in the development of the depreciation parameters. In conducting the retirement rate analysis, this account included the use of a T-cut at age 67.5, when

exposures remaining in service dipped below 1% of total exposures at age 0. As such, retirements of $698,985 were considered in the retirement rate analysis.

Concentric notes that this account was previously combined in the last depreciation study with accounts 354.2 through 354.51 for actuarial analysis. However, since that time the retirement experience has increased to the point where these accounts can now be studied for life analysis independently. The currently applied for Iowa 35-S0 has a related Residual Measure of 2.9580, as opposed to the 40-R2.5 which produces a Residual Measure of 2.7069 as depicted on page 6-5 of this report. The average age of retirements has increased since 2007 when it was 13.5, to 32.8 in 2022, with a peak in 2016 of 59.78 years. The overall weighted average age of retirement is 22.90 years. Historically, the 35-year average service life recommendation for this account fit the observed data well over the same experience and placement bands of analysis. However, with six additional years of retirement experience, and with sufficient data to break the account out for life analysis, the previously applied for curve of an Iowa 35-S0 no longer does an adequate job of aligning to the data.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 40-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities studied by Concentric produced a life recommendation of 50 years and a comparison of peers used by other consultants produced a range of 45 to 50 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 40-R2.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 40-R2.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $11,143, which resulted in a net salvage normalization rate of 0.15%, up from the approved cost of removal rate of 0.10%.

ACCOUNT 354.40 – STRUCTURES AND IMPROVEMENTS – TREATMENT

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$16,290,696	4.16%	35	40-R2.5	0.00%	0.15%

The investment in Structures and Improvements – Treatment is approximately $16.3 million representing 4.2 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 35-S0, and the approved rate in service for this account is 1.98 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions for the

period 1984 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $326,938 were recorded for the period 2015 through 2022.

Concentric notes that this account was previously combined in the last depreciation study with accounts 354.2 through 354.51 for actuarial analysis. However, since that time the retirement experience has increased to the point where these accounts can now be studied for life analysis independently. The currently applied for Iowa 35-S0 has a related Residual Measure of 1.6202, as opposed to the Iowa 40-R2.5 which produces a Residual Measure of 0.8566 as depicted on page 6-9 of this report. The average age of retirements has increased in recent years, from 13 in 2015 to 19.22 in 2022, with a peak of 24 years in 2017. The overall weighted average age of retirement for this account is 21.76 years. Concentric acknowledges that as more retirements are experienced, the life may need to be lengthened or shortened compared to the other Structure and Improvement accounts, as has happened in the peer group that was analyzed.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 40-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 50 to 55 years and a comparison of peers used by other consultants produced a range of 45 to 60 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 40-R2.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 40-R2.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $24,948, which resulted in a net salvage normalization rate of 0.15%, up from the approved net salvage normalization rate of 0%.

ACCOUNT 354.50 – STRUCTURES AND IMPROVEMENTS – GENERAL

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$4,900,924	1.25%	35	35-R2	0.15%	0.15%

The investment in Structures and Improvements – General is approximately $4.9 million representing 1.3 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 35-R1.5, and the approved rate in service for this account is 2.61 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions,

for the period 1984 through 2022 were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $351,040 were recorded for the period 2011 through 2022.

Concentric notes that this account was previously combined in the last depreciation study with accounts 354.2 through 354.51 for actuarial analysis. However, since that time the retirement experience has increased to the point where these accounts can now be studied for life analysis independently. The currently applied for Iowa 35-S0 has a related Residual Measure of 0.9261, as opposed to the Iowa 35-R2 which produces a Residual Measure of 0.7136 as depicted on page 6-12 of this report. There are consistent retirements in this account from age 5 through age 20 of plant in service, with no large retirements relative to beginning exposures in any of these intervals. The average age of retirement has increased in recent years since 2012 where it was 7.86, to 18.89 in 2022. However, the total dollars being retired has not yet reached a threshold where the increase in the average age of retirement is affecting the life analysis, and subsequent average service life recommendation. The overall weighted average age of retirement for this account is 11.35 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 35-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 35 to 50 years and a comparison of peers used by other consultants produced a range of 35 to 50 years as well. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 35-R2 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 35-R2 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $7,505, which resulted in a net salvage normalization rate of 0.15%, equal with the approved net salvage normalization rate of 0.13%.

ACCOUNT 360 – COLLECTION SEWERS – FORCE MAINS

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$12,190,510	3.11%	65	60-R2.5	0.01%	0.08%

The investment in Collection Sewers – Force Mains is approximately $12.2 million representing 3.1 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 65-R2.5, and the approved rate in service is 1.28 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in

service. The retirements, additions and other plant transactions, for the period 1914 through 2022 were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $43,092 were recorded for the period 2009 through 2022.

The previously applied for Iowa 65-R2.5 has a related Residual Measure of 5.0494 as opposed to the 60-R2.5 which produces a Residual Measure of 5.5521 as depicted on page 6-23 of this report. The previous experience band for this account in the last depreciation study was only nine years long, whereas the current recommendation is based on an additional five years of data. In this time, there has been an increase in retirements of almost 43%. The average age of retirements has marginally increased since 2009 where it was 81.50, to 100 in 2022. However, the amounts being retired in these transaction years are quite small. This is reflected in the overall weighted average age of retirements being much lower at 28.97 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the recommended 60-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a recommendation of 55 years and a comparison of peers used by other consultants produced a range of 60 to 65 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 60-R2.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 60-R2.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $10,075, which resulted in a net salvage normalization rate of 0.08%, up from the approved net salvage normalization rate of 0.01%.

ACCOUNT 361.10 – COLLECTION SEWERS – GRAVITY MAINS

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$208,199,245	53.15%	80	80-R3	0.15%	0.24%

The investment in Collection Sewers – Gravity Mains is approximately $208.2 million representing over 53 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 80-R2.5, and the approved rate in service is 1.03 percent. Concentric has combined 361.101 – Collection Sewers – Gravity Mains – Other with this account for the purposes of setting depreciation rates. The previously applied for life for 361.101 was an Iowa 60-R2.5 and the previously approved rate was 1.99 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced these current rates in service. The retirements,

additions and other plant transactions, for the period 1909 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $3,196,880 were recorded for the period 2008 through 2022.

The previously applied for Iowa 80-R2.5 has a related Residual Measure of 3.2696, as opposed to the Iowa 80-R3 that has a related Residual Measure of 3.3963 as depicted on page 6-28 of this report. The additional years of retirement data since the previous study have not materially changed the retirement pattern in this account, rather just displayed a slight change in the retirement dispersion. To capture this, Concentric has recommended the R3 curve over the previously applied for R2.5. The average age of retirement has marginally increased from 52.14 in 2008 to 63.03 in 2022. However, the overall weighted average age of retirement in this account is lower at 22.72 years.

Conversations with NJAWC operational staff and subject matter experts indicated that the previously applied and recommended 80-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 60 to 65 years and a comparison of peers used by other consultants produced a range of 55 to 70 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 80-R3 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 80-R3 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $642,066, which produced a net salvage normalization rate of 0.31%, up from the approved net salvage normalization rate of 0.15% for 361.10, and the approved net salvage normalization rate of 0.18% for 361.101.

ACCOUNT 363.00 – SERVICES - SEWER

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$59,065,815	15.08%	65	60-R1	0.81%	0.46%

The investment in Services – Sewer is approximately $59 million representing just over 15 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 65-R2.5, and the approved rate in service is 2.25 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1902 through 2022, were analyzed by the retirement rate method. Retirements that occurred between 2008 and 2022 were utilized in the development of the depreciation parameters. In conducting the retirement rate analysis, this

account included the use of a T-cut at age 96.5. As such, retirements of $5,347,230 were considered in the retirement rate analysis.

The previously applied for 65-R2.5 has a related Residual Measure of 1.3669 as opposed to the proposed Iowa 60-R1 which has a related Residual Measure of 0.7732, as depicted on page 6-36 of this report. The average age of retirements trended upward for a couple of years, but since 2014 it has been on the decline, from 78 in 2014 to 25.47 in 2022. The overall weighted average age of retirement in this account is 16.83 years. Since the previous study, there have been more early retirements between the ages 0 and 40, as well as a larger number of retirements overall. This has had the impact of causing the previously applied for Iowa 65-R2.5 to miss capturing most of the retirements between 90 and 50 percent of plant surviving. Moving the life recommendation down five years and lowering the mode of the curve helps to better incorporate this retirement experience.

Conversations with NJAWC operational staff and subject matter experts indicated that the 60-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 50 to 55 years and a comparison of peers used by other consultants produced a range of 50 to 60 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 60-R1 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 60-R1 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $274,068, which produced a net salvage normalization rate of 0.46%, down from the approved net salvage normalization rate of 0.81%.

ACCOUNT 371.10 – PUMPING EQUIPMENT – ELECTRIC

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$21,507,059	5.49%	20	25-S0.5	0.24%	0.44%

The investment in Pumping Equipment - Electric is approximately $21.5 million representing roughly 5 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 20-S0.5, and the approved rate in service is 5.19 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1950 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $1,075,261 were recorded for the period 2008 through 2022.

Concentric notes that in the previous depreciation study, this account was combined with accounts 371.2 and 371.3 for the purposes of actuarial analysis. However, as there is now stronger retirement experience data available, Concentric has analyzed these accounts separately. The previously applied for Iowa 20-S0.5 has a related Residual Measure of 4.1021 as opposed to the proposed Iowa 25-S0.5 which has a related Residual Measure of 3.5266, as depicted on page 6-49 of this report. The average age of retirements has increased since 2008, where it was 8.5, to 16.09 in 2022. The retirement dollars were the largest in 2018, where the average age of retirement was 17.06. The overall weighted average age of retirement in this account is 15.01 years. The proposed Iowa 25-S0.5 provides a better mathematical fit to the data as referenced by the Residual Measure, however it also provides a better visual fit as seen on page 6-49.

Conversations with NJAWC operational staff and subject matter experts indicated that the 25-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 18 to 25 years and a comparison of peers used by other consultants produced a range of 15 to 35 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 25-S0.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 25-S0.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $93,725, which produced a net salvage normalization rate of 0.44%, up from the approved net salvage normalization rate of 0.24%.

ACCOUNT 380.00 – TREATMENT AND DISPOSAL EQUIPMENT

Investment $	Investment %	Previously Applied Life	Concentric Recommended Curves	Previously Approved Normalized Salvage Rate	Concentric Recommended Normalized Salvage Rate
$19,177,285	4.90%	27	27-R1.5	0.49%	0.75%

The investment in Treatment and Disposal Equipment is approximately $19.2 million representing roughly 5 percent of the total depreciable plant studied. The previously applied for life parameter for this account is an Iowa 27-R1.5, and the approved rate in service is 3.86 percent. However, Concentric is not aware of what the precise depreciation parameters were that produced the current rate in service. The retirements, additions and other plant transactions, for the period 1974 through 2022, were analyzed by the retirement rate method. There was no T-cut utilized for this account and retirements of $2,011,828 were recorded for the period 2012 through 2022.

The previously applied for and currently proposed Iowa 27-R1.5 has a related Residual Measure of 2.6468 as depicted on page 6-59 of this report. The average age of retirements has increased since 2012, from 1.14, up to 14.28 in 2022, however that reflects a larger base of retirements. With this increase in mind, Concentric has noted that this account will need to be monitored moving forward for any potential life increase recommendations.

Conversations with NJAWC operational staff and subject matter experts indicated that the 70-year life for this account is consistent with their opinion that there is no material change in the retirement practice and that future retirement activity will not be drastically different than what has been experienced in the past. A peer comparison of American water utilities Concentric has studied produced a range from 30 to 35 years and a comparison of peers used by other consultants produced a range of 30 to 40 years. Based on the above discussion and considerations, and on Concentric's experience, the Iowa 27-R1.5 is a reasonable expectation for the investment in this account. As such, Concentric recommends the Iowa 27-R1.5 to represent the future expectations for the investment in this account.

As in the previous depreciation study, based on the commission standard in the state of New Jersey, the net salvage calculations for NJAWC were completed using a normalization average of the last several years of actual cost of removal and gross salvage expenditures. This standard is different than other jurisdictions in which American Water operates, so utilizing a peer analysis for net salvage accruals must be considered in this context. There was a five-year average of recorded net salvage activity used for this account which produced a total net salvage normalization amount of $143,858, which resulted in a net salvage normalization rate of 0.75%, up from the approved net salvage normalization rate of 0.49%.

OTHER ACCOUNTS

The above analysis provides the consideration relating to over 93 percent of the depreciable plant. Many of the accounts related to the remaining seven percent of the depreciable plant studied as of December 31, 2022, are subjected to amortization accounting. This is proposed for a number of accounts that represent numerous units of property, but very small portions of depreciable water plant in service.

SECTION 4

4 CALCULATION OF ANNUAL AND ACCRUED DEPRECIATION

4.1 Calculation of Annual and Accrued Amortization

Amortization is the gradual extinguishment of an amount in an account by distributing such amount over a fixed period, over the life of the asset or liability to which it applies, or over the period during which it is anticipated the benefit will be realized. Normally, the distribution of the amount is in equal amounts to each year of the amortization period.

The calculation of annual and accrued amortization requires the selection of an amortization period. The amortization periods used in this report were based on judgment which incorporated a consideration of the period during which the assets will render most of their service, the amortization period and service lives used by other utilities, and the service life estimates previously used for the asset under depreciation accounting.

Amortization accounting is proposed for a number of accounts that represent numerous units of property, but a very small portion of depreciable water plant in service. The accounts and their amortization periods are as follows:

Account	Title	Amortization Period-Years
390.00	Office Furniture and Equipment	20
390.20	Office Furniture and Equipment – Computers and Periphery Equipment	5
393.00	Tools, Shop, and Garage Equipment	25
394.00	Laboratory Equipment	20
396.00	Communication Equipment	15
397.00	Miscellaneous Equipment	25
398.00	Other Tangible Property	25

For the purpose of calculating annual amortization amounts, as of December 31, 2022, the book depreciation reserve for each plant account or subaccount is assigned or allocated to vintages. The book reserve assigned to vintages with an age greater than the amortization period is equal to the vintage's original cost where possible. The remaining book reserve is allocated among vintages with an age less than the amortization period in proportion to the calculated accrued amortization. The calculated accrued amortization is equal to the original cost multiplied by the ratio of the vintage's age to its amortization period. The annual amortization amount is determined by dividing the future amortizations (original cost less allocated book reserve) by the remaining period of amortization for the vintage.

4.2 Monitoring of Book Accumulated Depreciation

The calculated accrued depreciation or amortization represents that portion of the depreciable cost which will not be allocated to expense through future depreciation accruals, if current forecasts of

service life characteristics materialize and are used as a basis for depreciation accounting. Thus, the calculated accrued depreciation provides a measure of the book accumulated depreciation. The use of this measure is recommended in the amortization of book accumulated depreciation variances to insure complete recovery of capital over the life of the property.

The composite remaining life for use in the calculation of depreciation accruals is derived by developing the composite sum of the individual remaining lives in accordance with the following equation:

$$Composite\ Remaining\ Life = \frac{\sum(\frac{Book\ Cost}{Life}\ x\ Remaining\ Life)}{\sum\frac{Book\ Cost}{Life}} \quad (1)$$

The book costs and lives of the several vintages, which are summed in the foregoing equation, are defined by the estimated future survivor curve. In as much as book cost divided by life equals the whole life annual accrual, the foregoing equation reduces to the following form:

$$Composite\ Remaining\ Life = \frac{\sum Whole\ Life\ Future\ Accruals}{\sum Whole\ Life\ Annual\ Accrual} \quad (2)$$

or

$$Composite\ Remaining\ Life = \frac{\sum\ BookCost - Calc, Reserve}{\sum Whole\ Life\ Annual\ Accrual} \quad (3)$$

SECTION 5

5 RESULTS OF THE STUDY

5.1 Qualification of Results

The calculated annual and accrued depreciation are the principal results of the study. Continued surveillance and periodic revisions are normally required to maintain continued use of appropriate annual depreciation accrual rates. An assumption that accrual rates can remain unchanged over a long period of time implies a disregard for the inherent variability in service lives and salvage, and for the change of the composition of property in service. The annual accrual rates and the accrued depreciation were calculated in accordance with the Straight-line method, using the ALG procedure based on estimates which reflect considerations of current historical evidence and expected future conditions.

5.2 Description of Detailed Tabulations

The following tables provides summaries by account of the original cost of investment, booked accumulated depreciation amounts, the required amount of annual depreciation expense, the required depreciation rate to be applied against the original cost of the account and the estimated composite remaining life of the surviving plant in service.

The detailed calculations of annual depreciation applicable to depreciable assets, as of December 31, 2022, are presented in account sequence starting in Section 5 – Page 5-2. The tables indicate the estimated average survivor curves used in the calculations. The tables set forth (for each installation year) the original cost, calculated accrued depreciation and the calculated annual accrual.

NEW JERSEY - AMERICAN WATER COMPANY

TOTAL SYSTEM

TABLE 1 SUMMARY OF SERVICE LIFE AND NET SALVAGE ESTIMATES AND CALCULATED ANNUAL AND ACCRUED DEPRECIATION RELATED TO THE RECOVERY OF AVERAGE ORIGINAL COST IN WASTEWATER PLANT

BASED ON ORIGINAL COSTS AS OF DECEMBER 31, 2022

TOTAL LIFE AND NET SALVAGE

ACCOUNT	DESCRIPTION	Truncation Date	Estimated Survivor Curve	Investment Percentage	Net Salvage Percent	Surviving Original Cost as of 12/31/2022	Booked Reserve	Future Accruals	Annual Accrual Amount	Annual Accrual Rate	Composite Remaining Life	Normalization Accrual Amount	Normalization Rate	Total Annual Accrual	Total Depreciation Rate
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
STRUCTURES AND IMPROVEMENTS															
354.200	Collection		40-R2.5	4.27% *	0%	$16,708,878	$4,709,123	$11,999,755	$428,598	2.57%	28.2	25,588	0.15%	454,186	2.72%
354.300	Pumping		40-R2.5	1.86% *	0%	$7,276,067	$2,821,843	$4,454,224	$177,602	2.44%	24.7	11,143	0.15%	188,745	2.59%
354.400	Treatment		40-R2.5	4.16% *	0%	$16,290,696	$6,118,408	$10,172,288	$252,292	1.55%	20.7	24,948	0.15%	277,240	1.70%
354.500	General		35-R2	1.25% *	0%	$4,900,924	$1,880,493	$3,020,431	$129,730	2.65%	23.1	7,505	0.15%	137,235	2.80%
354.510	General - Capital Lease		35-R2	0.23%	0%	$888,532	$709,868	$178,664	$14,191	1.60%	12.0	1,361	0.15%	15,552	1.75%
TOTAL STRUCTURES AND IMPROVEMENTS						**$46,065,098**	**$20,293,616**	**$25,771,482**	**$1,002,413**	**2.18%**		**$70,545**	**0.15%**	**$1,072,958**	**2.33%**
Collecting, Treatment and General Plant															
355.200	Power Generation Equipment - Collection		25-R2.5	0.18%	0%	$692,535	$229,680	$462,855	$28,830	4.16%	16.2	2,902	0.42%	31,732	4.58%
355.400	Power Generation Equipment - Ttreatment		25-R2.5	0.21%	0%	$825,843	$81,657	$744,186	$39,919	4.83%	19.2	3,460	0.42%	43,379	5.25%
360.000	Collection Sewers - Force Mains		60-R2.5	3.11% *	0%	$12,190,510	$1,617,260	$10,573,250	$197,895	1.62%	52.7	10,075	0.08%	207,970	1.71%
361.100	Collection Sewers - Gravity Mains		80-R3	53.15% *	0%	$208,199,245	$42,559,796	$165,639,449	$2,630,665	1.26%	63.2	642,066	0.31%	3,272,731	1.57%
362.000	Special Collecting Structures		50-R3	0.08%	0%	$296,381	$175,147	$121,234	$5,290	1.78%	22.8	-	0.00%	5,290	1.78%
363.000	Services - Sewer		60-R1	15.08% *	0%	$59,065,815	$7,616,996	$51,448,820	$986,751	1.67%	52.2	274,068	0.46%	1,260,819	2.13%
364.000	Flow Measuring Devices		35-S1	0.03%	0%	$135,753	$46,106	$89,647	$3,334	2.46%	26.5	611	0.45%	3,945	2.91%
370.000	Receiving Wells		35-R1.5	0.47%	0%	$1,860,051	$356,030	$1,504,021	$51,251	2.76%	28.6	1,304	0.07%	52,555	2.83%
371.100	Pumping Equipment - Electric		25-S0.5	5.49% *	0%	$21,507,059	$7,734,942	$13,772,117	$702,406	3.27%	18.3	93,725	0.44%	796,131	3.70%
371.200	Pumping Equipment - Other		25-S0.5	0.30%	0%	$1,186,156	$788,339	$397,816	$22,904	1.93%	14.9	5,169	0.44%	28,073	2.37%
371.300	Pumping Equipment - Miscellaneous		25-S0.5	0.06%	0%	$231,984	$73,040	$158,944	$10,365	4.47%	15.6	1,011	0.44%	11,376	4.90%
380.000	Treatment and Disposal Equipment		27-R1.5	4.90% *	0%	$19,177,285	$1,475,088	$17,702,197	$845,788	4.41%	23.2	143,858	0.75%	989,646	5.16%
380.050	Treatment and Disposal Equipment - Grit Removal		27-R1.5	0.01%	0%	$36,894	$30,536	$6,358	$893	2.42%	6.9	277	0.75%	1,170	3.17%
380.100	Treatment and Disposal Equipment - Sedimentation Tanks & Access.		27-R1.5	0.84%	0%	$3,303,596	$2,505,339	$798,257	$88,965	2.69%	8.4	24,782	0.75%	113,747	3.44%
380.200	Treatment and Disposal Equipment - Sludge & Effluent Removal		27-R1.5	0.06%	0%	$250,160	$165,681	$84,479	$8,543	3.42%	9.7	1,877	0.75%	10,420	4.17%
380.250	Treatment and Disposal Equipment - Sludge Dig Tank		27-R1.5	0.00%	0%	$4,791	$780	$4,011	$184	3.84%	21.8	36	0.75%	220	4.59%
380.300	Treatment and Disposal Equipment - Sludge Drying & Filtering		27-R1.5	0.19%	0%	$759,010	$618,442	$140,568	$19,137	2.52%	7.1	5,694	0.75%	24,831	3.27%
380.350	Treatment and Disposal Equipment - Secondary Treatment Filters		27-R1.5	0.88%	0%	$3,456,316	$2,080,518	$1,375,798	$117,223	3.39%	11.4	25,927	0.75%	143,150	4.14%
380.400	Treatment and Disposal Equipment - Aux. Effluent Treatment		27-R1.5	0.13%	0%	$508,917	$226,844	$282,073	$20,614	4.05%	14.1	3,818	0.75%	24,432	4.80%
380.450	Treatment and Disposal Equipment - Other Sewer Removal		27-R1.5	0.03%	0%	$98,621	$63,718	$34,903	$3,147	3.19%	10.5	740	0.75%	3,887	3.94%
380.500	Treatment and Disposal Equipment - Chemical Treatment Plant		27-R1.5	0.08%	0%	$312,724	$197,231	$115,493	$11,604	3.71%	10.0	2,346	0.75%	13,950	4.46%
380.600	Treatment and Disposal Equipment - Other		27-R1.5	0.23%	0%	$888,547	$652,017	$236,530	$24,890	2.80%	8.8	6,665	0.75%	31,555	3.55%
381.000	Plant Sewers		50-R2.5	0.23%	0%	$892,429	$303,776	$588,654	$14,160	1.59%	40.9	296	0.03%	14,456	1.62%
382.000	Outfall Sewer Lines		40-R3	0.06%	0%	$244,944	$200,192	$44,752	$2,634	1.08%	15.3	1,578	0.64%	4,212	1.72%
389.100	Other Plant and Miscellaneous Equipment - Intangibles		20-S3	0.91%	0%	$3,546,796	$2,881,317	$665,478	$148,265	4.18%	4.5	-	0.00%	148,265	4.18%
389.200	Other Plant and Miscellaneous Equipment - Collection		25-R3	0.00%	0%	$9,090	$957	$8,133	$456	5.02%	17.8	-	0.00%	456	5.02%
389.600	Other Plant and Miscellaneous Equipment - CPS		10-S5	0.01%	0%	$19,839	-$8,917	$28,756	$8,206	41.36%	3.5	-	0.00%	8,206	41.36%
390.000	Office Furniture and Equipment		20-SQ	0.01%	0%	$20,678	$22,333	-$1,655	$0	0.00%	10.8	1,689	8.17%	1,689	8.17%
390.200	Office Furniture and Equipment - Computers and Periphery Equipment		5-SQ	0.03%	0%	$127,754	$8,363	$119,391	$29,583	23.16%	4.2	-	0.00%	29,583	23.16%
391.000	Transportation Equipment		11-L2	0.19%	0%	$727,863	$703,280	$24,583	$2,580	0.35%	5.6	-	0.00%	2,580	0.35%
391.200	Transportation Equipment - Heavy Duty Trucks		18-L3	0.09%	0%	$350,263	$619,206	-$268,943	$0	0.00%	6.1	-	0.00%	-	0.00%
393.000	Tools, Shop, and Garage Equipment		25-SQ	0.21%	0%	$821,717	$292,127	$529,590	$23,327	2.84%	22.1	3,418	0.42%	26,745	3.25%
394.000	Laboratory Equipment		20-SQ	0.03%	0%	$113,823	$81,614	$32,209	$3,689	3.24%	6.7	336	0.30%	4,025	3.54%
395.000	Power Operated Equipment		25-L3	0.13%	0%	$496,929	$381,309	$115,620	$10,544	2.12%	10.2	-	0.00%	10,544	2.12%
396.000	Communication Equipment		15-SQ	0.51%	0%	$1,986,526	$398,061	$1,588,465	$137,038	6.90%	11.7	3,469	0.17%	140,507	7.07%
397.000	Miscellaneous Equipment		25-SQ	0.32%	0%	$1,243,901	$593,442	$650,459	$39,740	3.19%	14.5	1,507	0.12%	41,247	3.32%
398.000	Other Tangible Property		25-SQ	0.02%	0%	$75,354	$197,969	-$122,615	$817	1.08%	17.9	408	0.54%	1,225	1.63%
Total Collecting, Treatment and General Plant						**$345,666,098**	**$75,970,214**	**$269,695,884**	**$6,240,820**	**1.81%**		**1,263,111**	**0.37%**	**7,504,748**	**2.17%**
Total Depreciable Plant						**$391,731,196**	**$96,263,829**	**$295,467,366**	**$7,243,233**	**1.85%**		**$1,333,656**		**$8,577,706**	**2.19%**
Non Depreciable Plant															
351.000	Organization					$32,045									
352.000	Franchises and Consents					$1,418,305									
352.200	Other Intangible Plant					$63,044									
353.200	Land and Land Rights - Collection					$156,168									
353.300	Land and Land Rights - Pumping					$136,433									
353.400	Land and Land Rights - Treatment					$79,767									
Total Non Depreciable Plant						**$1,885,762**									
TOTAL PLANT						**$393,616,957**									

SECTION 6

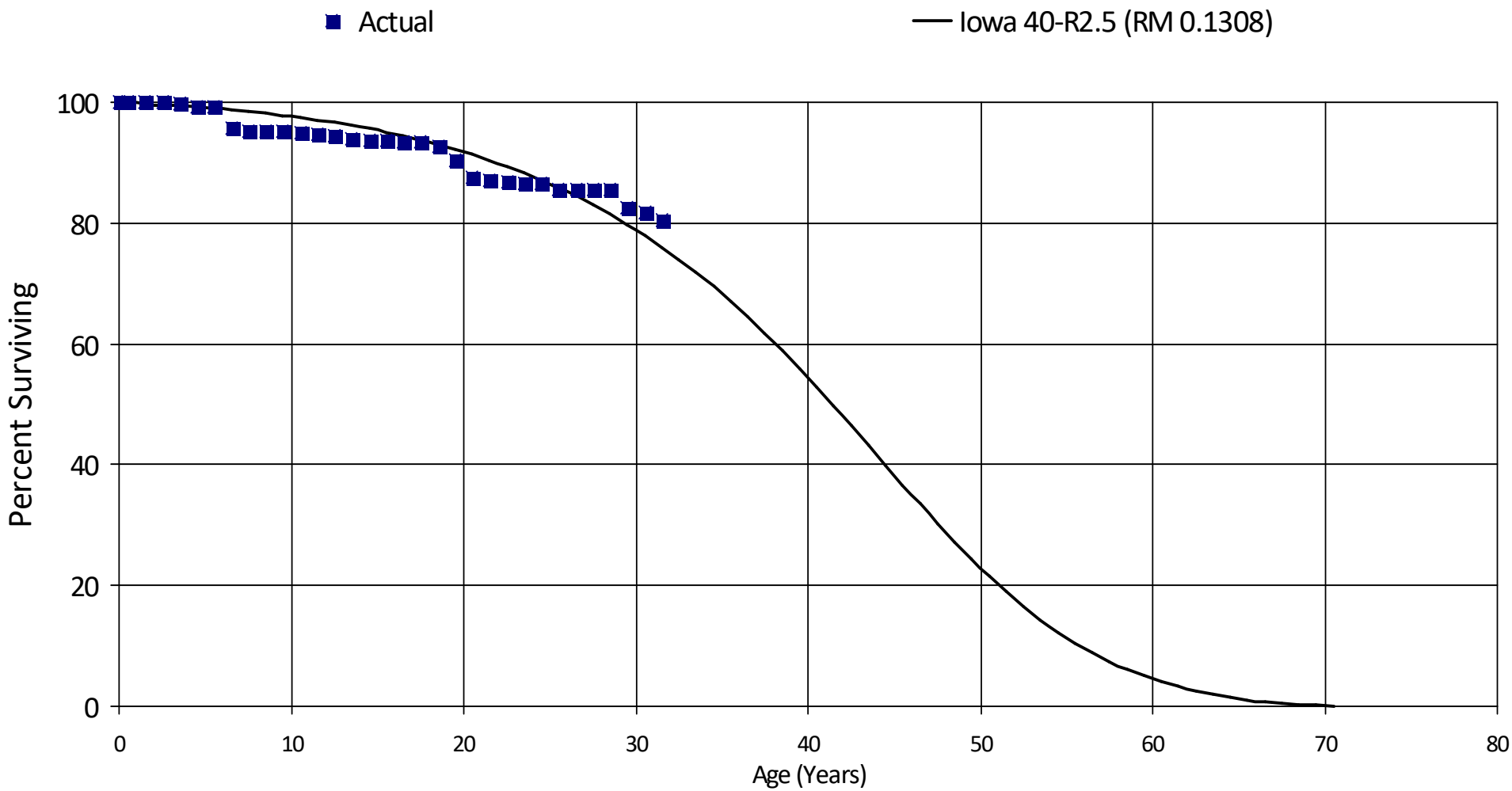
6 RETIREMENT RATE ANALYSIS

New Jersey - American Water Company

Account 354.200 - Structures and Improvements - Collection

Placement Band - 1930 - 2022 Experience Band - 2012 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 354.200 - Structures and Improvements - Collection

Placement Band - 1930 - 2022 Experience Band - 2012 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	17,928,986	0	0.00000	1.00000	100.00
0.5	17,639,786	0	0.00000	1.00000	100.00
1.5	17,478,597	0	0.00000	1.00000	100.00
2.5	17,109,157	30,286	0.00177	0.99823	100.00
3.5	14,824,737	90,504	0.00610	0.99390	99.82
4.5	13,418,030	6,869	0.00051	0.99949	99.21
5.5	12,673,059	443,749	0.03502	0.96498	99.16
6.5	12,193,062	54,325	0.00446	0.99554	95.69
7.5	11,296,566	6,952	0.00062	0.99938	95.26
8.5	10,576,937	5,546	0.00052	0.99948	95.20
9.5	10,571,390	28,680	0.00271	0.99729	95.15
10.5	10,508,743	28,359	0.00270	0.99730	94.89
11.5	10,480,384	18,249	0.00174	0.99826	94.63
12.5	9,688,891	48,063	0.00496	0.99504	94.47
13.5	9,302,944	26,416	0.00284	0.99716	94.00
14.5	8,072,931	8,601	0.00107	0.99893	93.73
15.5	7,128,911	17,104	0.00240	0.99760	93.63
16.5	4,795,006	5,048	0.00105	0.99895	93.41
17.5	3,874,418	27,474	0.00709	0.99291	93.31
18.5	3,054,939	75,483	0.02471	0.97529	92.65
19.5	2,747,415	83,977	0.03057	0.96943	90.36
20.5	2,525,157	13,842	0.00548	0.99452	87.60
21.5	2,509,049	12,608	0.00503	0.99497	87.12
22.5	2,480,464	1,830	0.00074	0.99926	86.68
23.5	2,478,634	849	0.00034	0.99966	86.62
24.5	2,477,785	28,757	0.01161	0.98839	86.59
25.5	2,441,253	0	0.00000	1.00000	85.58
26.5	2,441,253	0	0.00000	1.00000	85.58

New Jersey - American Water Company

Account 354.200 - Structures and Improvements - Collection

Placement Band - 1930 - 2022 Experience Band - 2012 - 2022

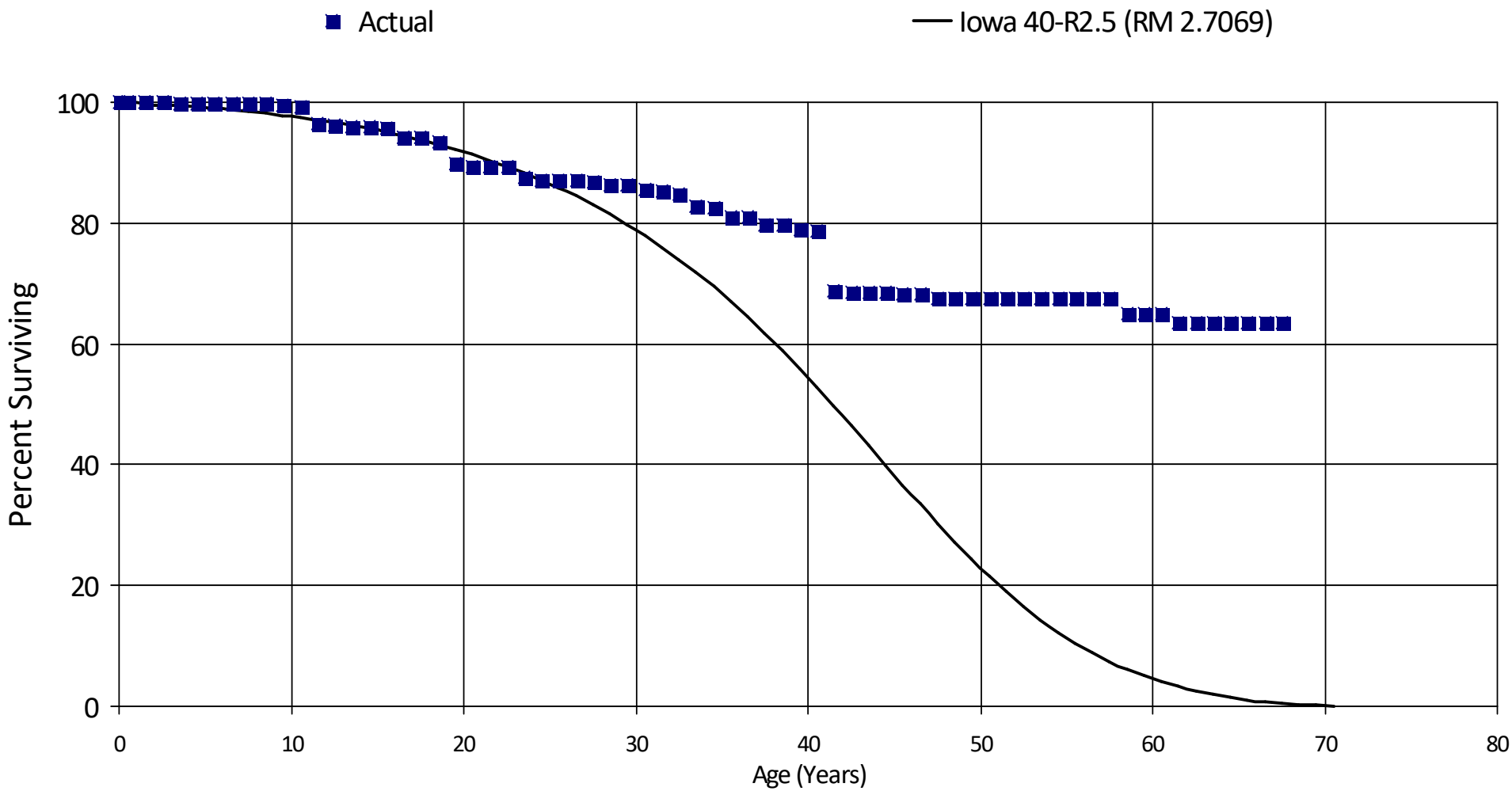
27.5	2,233,202	0	0.00000	1.00000	85.58
28.5	2,233,202	81,154	0.03634	0.96366	85.58
29.5	1,048,816	8,595	0.00819	0.99181	82.47
30.5	1,040,221	16,662	0.01602	0.98398	81.79
31.5	178,248	0	0.00000	1.00000	80.48
	Totals:	1,169,982			

New Jersey - American Water Company

Account 354.300 - Structures and Improvements - Pumping

Placement Band - 1924 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 354.300 - Structures and Improvements - Pumping

Placement Band - 1924 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	7,990,345	0	0.00000	1.00000	100.00
0.5	7,990,345	3,412	0.00043	0.99957	100.00
1.5	7,986,933	0	0.00000	1.00000	99.96
2.5	7,831,406	20,376	0.00260	0.99740	99.96
3.5	7,811,030	84	0.00001	0.99999	99.70
4.5	7,803,467	5,449	0.00070	0.99930	99.70
5.5	7,798,018	296	0.00004	0.99996	99.63
6.5	6,637,658	0	0.00000	1.00000	99.63
7.5	5,328,192	0	0.00000	1.00000	99.63
8.5	5,021,708	5,010	0.00100	0.99900	99.63
9.5	5,009,197	14,867	0.00297	0.99703	99.53
10.5	4,115,064	117,383	0.02853	0.97147	99.23
11.5	3,925,026	5,811	0.00148	0.99852	96.40
12.5	3,878,307	8,032	0.00207	0.99793	96.26
13.5	3,870,275	7,350	0.00190	0.99810	96.06
14.5	3,661,930	11,978	0.00327	0.99673	95.88
15.5	3,642,317	54,227	0.01489	0.98511	95.57
16.5	3,523,660	1,595	0.00045	0.99955	94.15
17.5	3,522,065	26,979	0.00766	0.99234	94.11
18.5	3,488,132	134,712	0.03862	0.96138	93.39
19.5	3,351,762	13,279	0.00396	0.99604	89.78
20.5	3,321,090	322	0.00010	0.99990	89.42
21.5	3,316,420	1,667	0.00050	0.99950	89.41
22.5	3,099,254	62,379	0.02013	0.97987	89.37
23.5	2,953,927	18,852	0.00638	0.99362	87.57
24.5	2,668,026	1,362	0.00051	0.99949	87.01
25.5	2,513,889	741	0.00029	0.99971	86.97
26.5	2,513,148	1,175	0.00047	0.99953	86.94

New Jersey - American Water Company

Account 354.300 - Structures and Improvements - Pumping

Placement Band - 1924 - 2022 Experience Band - 2007 - 2022

27.5	2,063,394	14,162	0.00686	0.99314	86.90
28.5	2,005,960	743	0.00037	0.99963	86.30
29.5	1,936,869	14,145	0.00730	0.99270	86.27
30.5	1,855,406	8,591	0.00463	0.99537	85.64
31.5	1,104,073	5,995	0.00543	0.99457	85.24
32.5	1,098,077	27,034	0.02462	0.97538	84.78
33.5	1,004,810	978	0.00097	0.99903	82.69
34.5	1,001,973	18,843	0.01881	0.98119	82.61
35.5	983,131	991	0.00101	0.99899	81.06
36.5	946,886	13,873	0.01465	0.98535	80.98
37.5	783,355	0	0.00000	1.00000	79.79
38.5	440,238	4,406	0.01001	0.98999	79.79
39.5	435,832	1,372	0.00315	0.99685	78.99
40.5	431,117	55,122	0.12786	0.87214	78.74
41.5	326,445	150	0.00046	0.99954	68.67
42.5	326,296	0	0.00000	1.00000	68.64
43.5	325,286	0	0.00000	1.00000	68.64
44.5	325,286	1,888	0.00580	0.99420	68.64
45.5	312,125	0	0.00000	1.00000	68.24
46.5	312,125	3,206	0.01027	0.98973	68.24
47.5	308,920	379	0.00123	0.99877	67.54
48.5	243,551	0	0.00000	1.00000	67.46
49.5	234,684	0	0.00000	1.00000	67.46
50.5	208,622	0	0.00000	1.00000	67.46
51.5	208,622	0	0.00000	1.00000	67.46
52.5	164,590	0	0.00000	1.00000	67.46
53.5	164,590	0	0.00000	1.00000	67.46
54.5	164,590	0	0.00000	1.00000	67.46
55.5	164,590	0	0.00000	1.00000	67.46
56.5	164,590	0	0.00000	1.00000	67.46
57.5	164,590	6,243	0.03793	0.96207	67.46

New Jersey - American Water Company

Account 354.300 - Structures and Improvements - Pumping

Placement Band - 1924 - 2022 Experience Band - 2007 - 2022

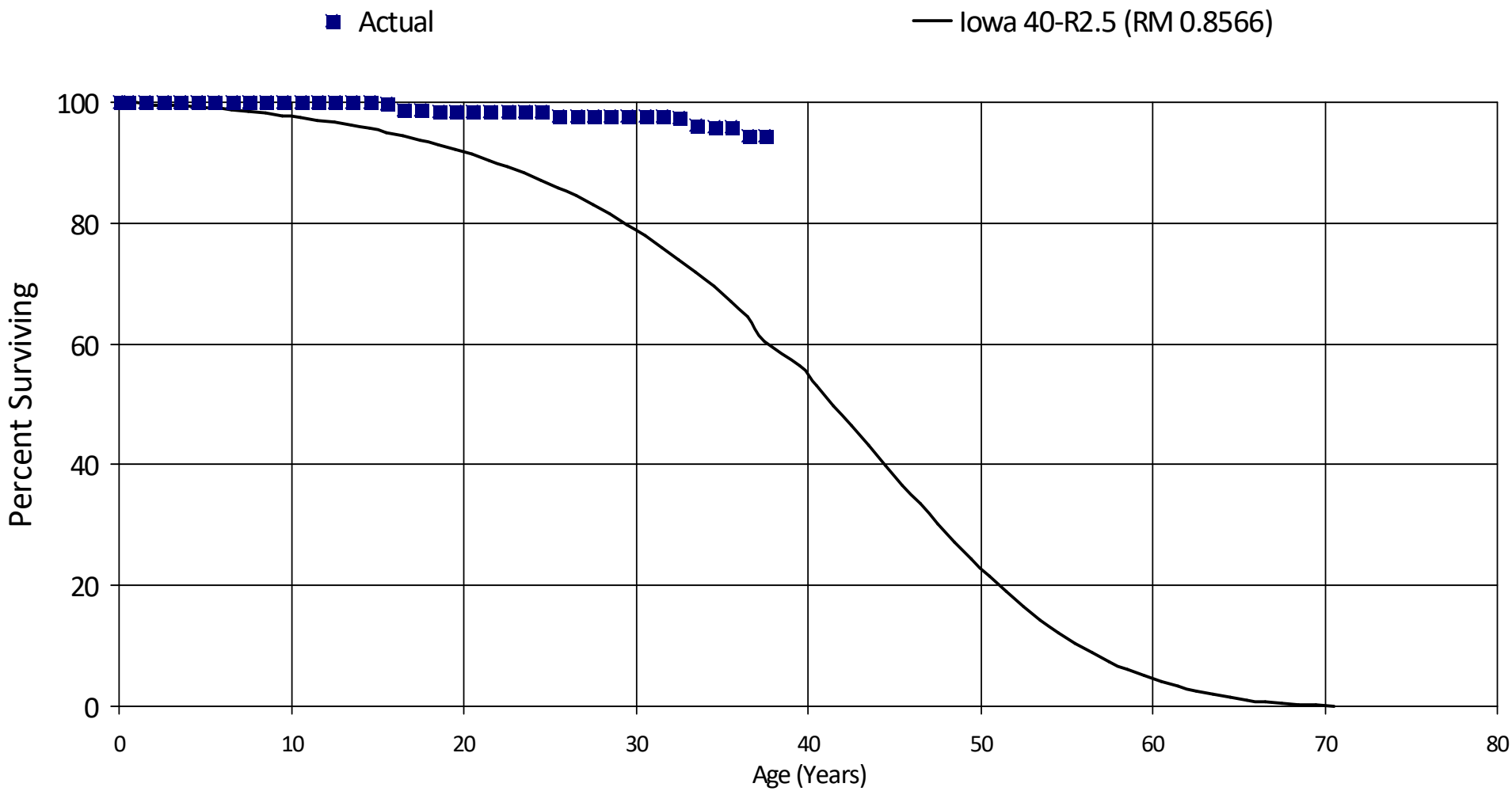
58.5	158,347	0	0.00000	1.00000	64.90
59.5	158,347	0	0.00000	1.00000	64.90
60.5	158,347	3,526	0.02227	0.97773	64.90
61.5	154,821	0	0.00000	1.00000	63.45
62.5	154,821	0	0.00000	1.00000	63.45
63.5	154,821	0	0.00000	1.00000	63.45
64.5	154,821	0	0.00000	1.00000	63.45
65.5	154,821	0	0.00000	1.00000	63.45
66.5	154,821	0	0.00000	1.00000	63.45
67.5	75,396	0	0.00000	1.00000	63.45
	Totals:	698,985			

New Jersey - American Water Company

Account 354.400 - Structures and Improvements - Treatment

Placement Band - 1984 - 2022 Experience Band - 2015 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 354.400 - Structures and Improvements - Treatment

Placement Band - 1984 - 2022 Experience Band - 2015 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	16,617,635	0	0.00000	1.00000	100.00
0.5	16,460,286	0	0.00000	1.00000	100.00
1.5	16,460,286	0	0.00000	1.00000	100.00
2.5	16,351,181	0	0.00000	1.00000	100.00
3.5	15,639,138	7,081	0.00045	0.99955	100.00
4.5	15,232,346	0	0.00000	1.00000	99.96
5.5	14,506,583	0	0.00000	1.00000	99.96
6.5	14,324,745	0	0.00000	1.00000	99.96
7.5	13,102,268	1,671	0.00013	0.99987	99.96
8.5	12,966,268	0	0.00000	1.00000	99.95
9.5	12,926,679	1	0.00000	1.00000	99.95
10.5	12,824,660	72	0.00001	0.99999	99.95
11.5	11,339,759	0	0.00000	1.00000	99.95
12.5	11,339,759	8,209	0.00072	0.99928	99.95
13.5	11,325,761	0	0.00000	1.00000	99.88
14.5	11,243,511	11,209	0.00100	0.99900	99.88
15.5	11,209,551	110,303	0.00984	0.99016	99.78
16.5	11,070,037	14,776	0.00133	0.99867	98.80
17.5	11,037,761	8,236	0.00075	0.99925	98.67
18.5	11,029,525	0	0.00000	1.00000	98.60
19.5	11,029,525	20,667	0.00187	0.99813	98.60
20.5	10,831,564	0	0.00000	1.00000	98.42
21.5	10,828,918	0	0.00000	1.00000	98.42
22.5	10,828,918	0	0.00000	1.00000	98.42
23.5	10,828,918	949	0.00009	0.99991	98.42
24.5	10,827,969	80,448	0.00743	0.99257	98.41
25.5	10,747,521	0	0.00000	1.00000	97.68
26.5	10,747,521	0	0.00000	1.00000	97.68

New Jersey - American Water Company

Account 354.400 - Structures and Improvements - Treatment

Placement Band - 1984 - 2022 Experience Band - 2015 - 2022

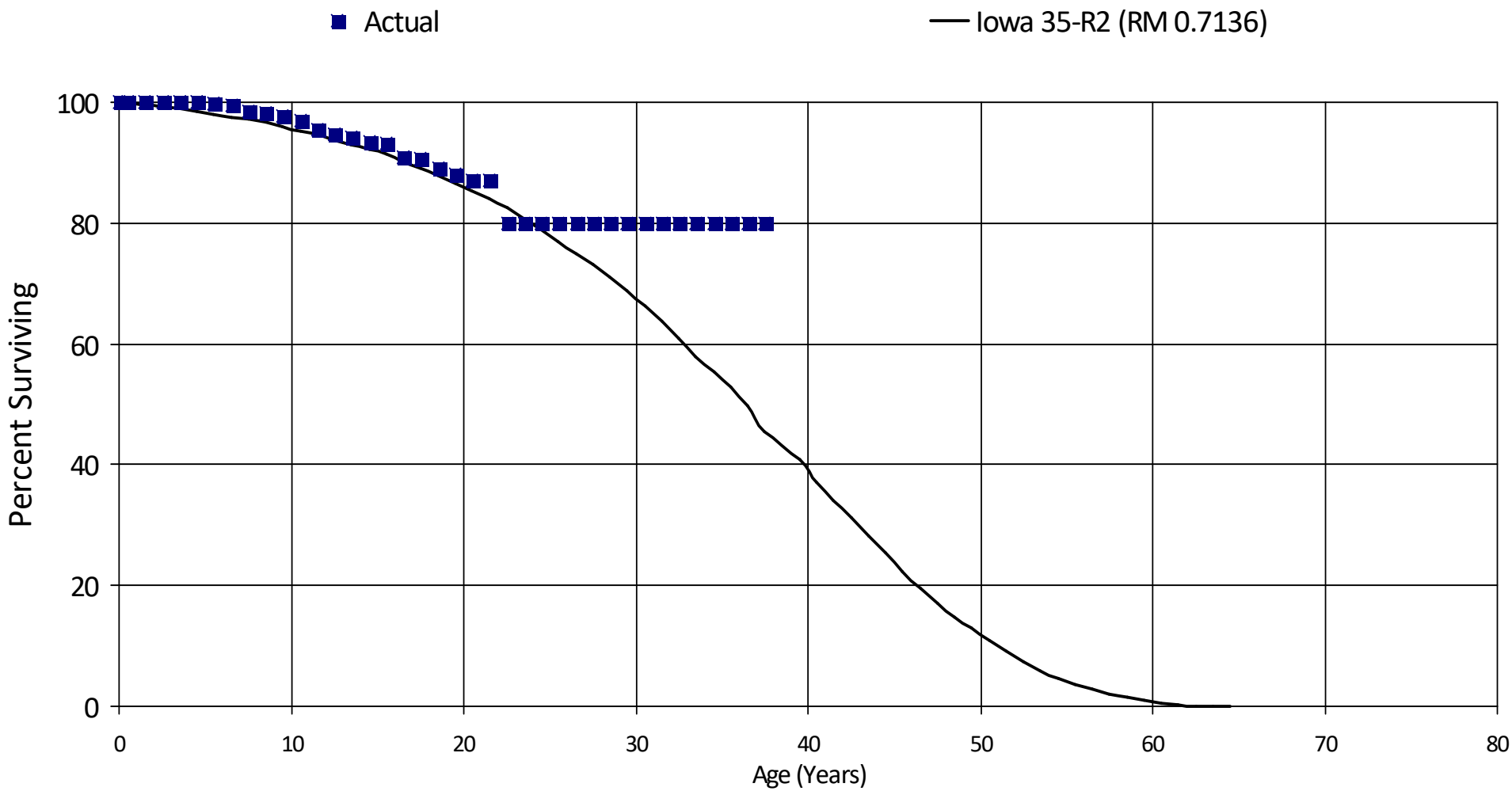
27.5	7,460,334	0	0.00000	1.00000	97.68
28.5	7,460,334	0	0.00000	1.00000	97.68
29.5	7,460,334	0	0.00000	1.00000	97.68
30.5	7,460,334	172	0.00002	0.99998	97.68
31.5	1,756,407	5,039	0.00287	0.99713	97.68
32.5	1,751,368	21,055	0.01202	0.98798	97.40
33.5	1,730,314	6,647	0.00384	0.99616	96.23
34.5	1,723,667	330	0.00019	0.99981	95.86
35.5	1,723,337	27,802	0.01613	0.98387	95.84
36.5	1,695,534	0	0.00000	1.00000	94.29
37.5	1,695,534	2,271	0.00134	0.99866	94.29
	Totals:	326,938			

New Jersey - American Water Company

Account 354.500 - Structures and Improvements - General

Placement Band - 1984 - 2022 Experience Band - 2011 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 354.500 - Structures and Improvements - General

Placement Band - 1984 - 2022 Experience Band - 2011 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	5,251,965	0	0.00000	1.00000	100.00
0.5	5,146,956	0	0.00000	1.00000	100.00
1.5	5,049,201	0	0.00000	1.00000	100.00
2.5	4,982,285	0	0.00000	1.00000	100.00
3.5	4,979,387	0	0.00000	1.00000	100.00
4.5	4,844,162	10,011	0.00207	0.99793	100.00
5.5	4,808,536	14,599	0.00304	0.99696	99.79
6.5	4,750,689	45,671	0.00961	0.99039	99.49
7.5	4,426,574	11,126	0.00251	0.99749	98.53
8.5	4,188,550	22,272	0.00532	0.99468	98.28
9.5	4,165,966	35,266	0.00847	0.99153	97.76
10.5	4,130,700	63,287	0.01532	0.98468	96.93
11.5	4,012,866	37,913	0.00945	0.99055	95.45
12.5	3,907,951	11,884	0.00304	0.99696	94.55
13.5	3,857,369	35,464	0.00919	0.99081	94.26
14.5	3,514,946	5,231	0.00149	0.99851	93.39
15.5	1,212,578	30,457	0.02512	0.97488	93.25
16.5	945,678	3,599	0.00381	0.99619	90.91
17.5	907,569	15,583	0.01717	0.98283	90.56
18.5	484,908	4,449	0.00917	0.99083	89.01
19.5	144,508	1,988	0.01376	0.98624	88.19
20.5	27,738	0	0.00000	1.00000	86.98
21.5	27,738	2,240	0.08076	0.91924	86.98
22.5	25,274	0	0.00000	1.00000	79.96
23.5	25,274	0	0.00000	1.00000	79.96
24.5	25,274	0	0.00000	1.00000	79.96
25.5	25,274	0	0.00000	1.00000	79.96
26.5	25,274	0	0.00000	1.00000	79.96

New Jersey - American Water Company

Account 354.500 - Structures and Improvements - General

Placement Band - 1984 - 2022 Experience Band - 2011 - 2022

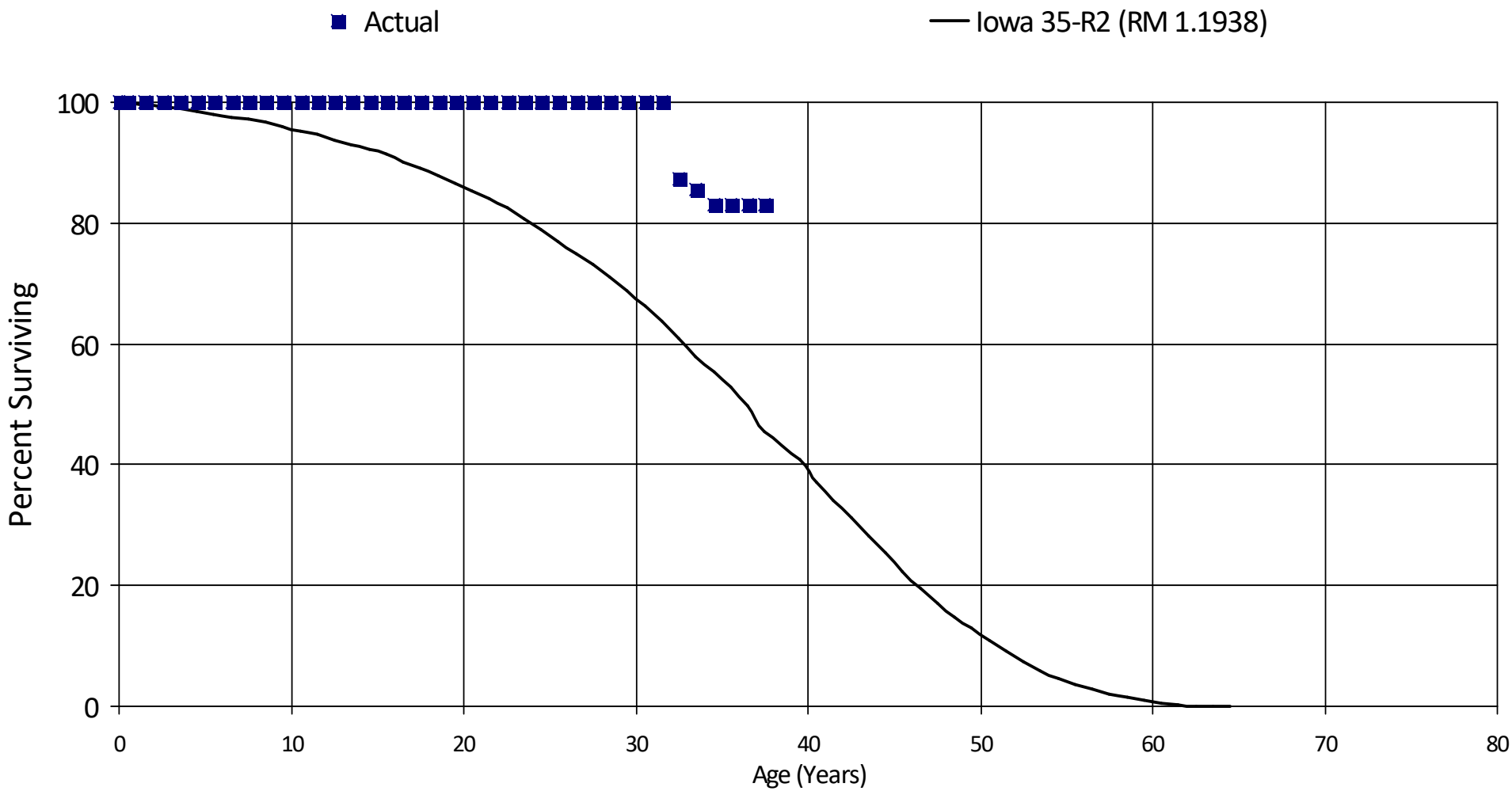
27.5	25,274	0	0.00000	1.00000	79.96
28.5	25,274	0	0.00000	1.00000	79.96
29.5	25,274	0	0.00000	1.00000	79.96
30.5	25,274	0	0.00000	1.00000	79.96
31.5	25,274	0	0.00000	1.00000	79.96
32.5	25,274	0	0.00000	1.00000	79.96
33.5	25,274	0	0.00000	1.00000	79.96
34.5	25,274	0	0.00000	1.00000	79.96
35.5	25,274	0	0.00000	1.00000	79.96
36.5	25,274	0	0.00000	1.00000	79.96
37.5	25,274	0	0.00000	1.00000	79.96
	Totals:	351,040			

New Jersey - American Water Company

Account 354.510 - Structures and Improvements - Gen Leased

Placement Band - 1984 - 2022 Experience Band - 2016 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 354.510 - Structures and Improvements - Gen Leased

Placement Band - 1984 - 2022 Experience Band - 2016 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	913,755	0	0.00000	1.00000	100.00
0.5	913,755	0	0.00000	1.00000	100.00
1.5	913,755	0	0.00000	1.00000	100.00
2.5	913,755	0	0.00000	1.00000	100.00
3.5	913,755	0	0.00000	1.00000	100.00
4.5	913,755	0	0.00000	1.00000	100.00
5.5	913,755	0	0.00000	1.00000	100.00
6.5	907,967	0	0.00000	1.00000	100.00
7.5	906,034	0	0.00000	1.00000	100.00
8.5	901,952	0	0.00000	1.00000	100.00
9.5	897,717	0	0.00000	1.00000	100.00
10.5	897,717	0	0.00000	1.00000	100.00
11.5	897,717	0	0.00000	1.00000	100.00
12.5	897,717	0	0.00000	1.00000	100.00
13.5	897,717	0	0.00000	1.00000	100.00
14.5	897,717	0	0.00000	1.00000	100.00
15.5	897,717	0	0.00000	1.00000	100.00
16.5	897,717	0	0.00000	1.00000	100.00
17.5	897,717	0	0.00000	1.00000	100.00
18.5	897,717	0	0.00000	1.00000	100.00
19.5	897,717	0	0.00000	1.00000	100.00
20.5	897,717	0	0.00000	1.00000	100.00
21.5	897,717	0	0.00000	1.00000	100.00
22.5	897,717	0	0.00000	1.00000	100.00
23.5	897,717	0	0.00000	1.00000	100.00
24.5	897,717	0	0.00000	1.00000	100.00
25.5	897,717	0	0.00000	1.00000	100.00
26.5	897,717	0	0.00000	1.00000	100.00

New Jersey - American Water Company

Account 354.510 - Structures and Improvements - Gen Leased

Placement Band - 1984 - 2022 Experience Band - 2016 - 2022

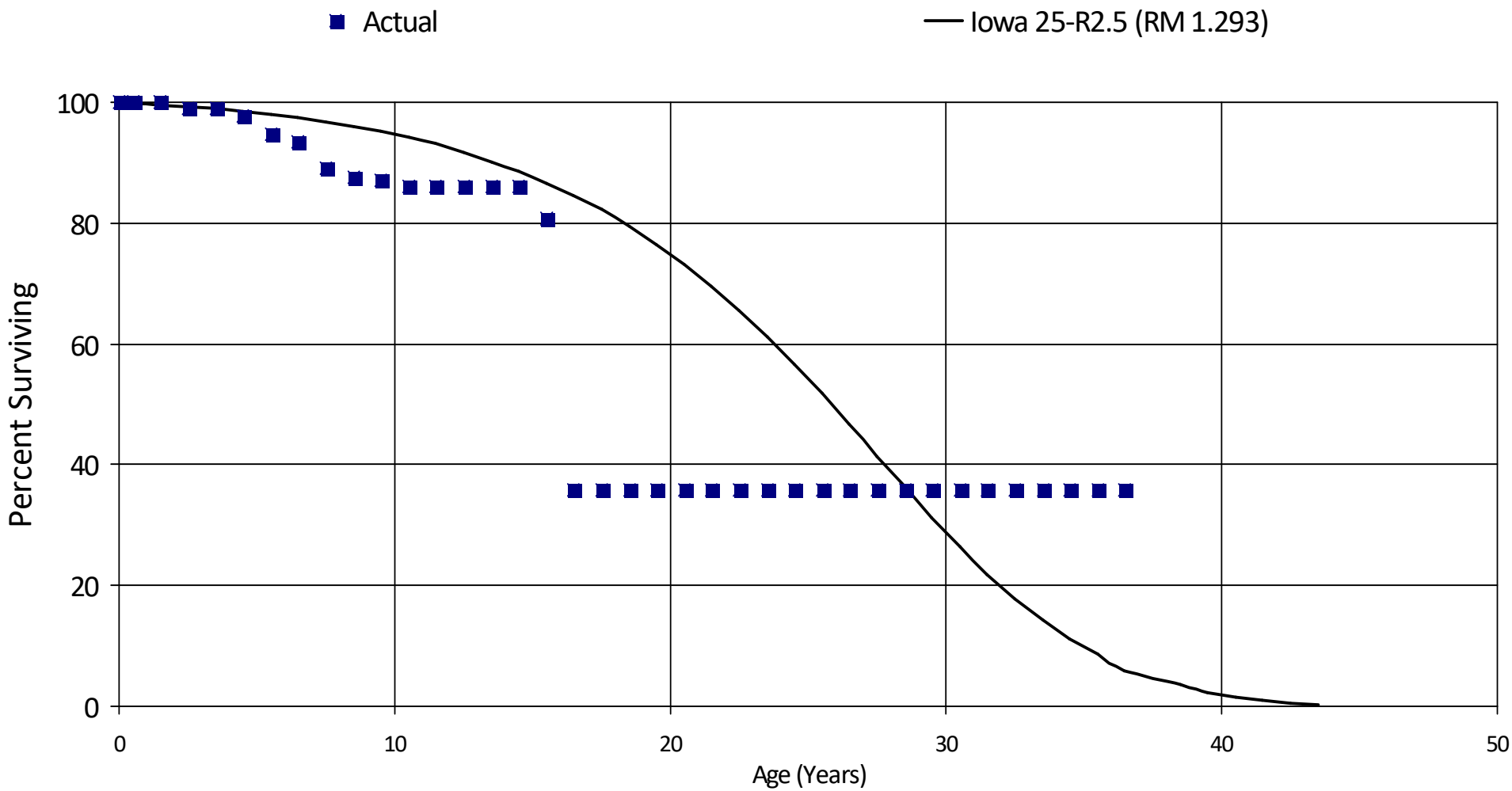
27.5	614,667	0	0.00000	1.00000	100.00
28.5	614,667	0	0.00000	1.00000	100.00
29.5	614,667	0	0.00000	1.00000	100.00
30.5	614,667	0	0.00000	1.00000	100.00
31.5	147,585	18,803	0.12740	0.87260	100.00
32.5	128,782	2,455	0.01906	0.98094	87.26
33.5	126,326	3,965	0.03139	0.96861	85.60
34.5	122,362	0	0.00000	1.00000	82.91
35.5	122,362	0	0.00000	1.00000	82.91
36.5	122,362	0	0.00000	1.00000	82.91
37.5	122,362	0	0.00000	1.00000	82.91
	Totals:	25,223			

New Jersey - American Water Company

Account 355.200 - Power Generation Equipment - Collection

Placement Band - 1985 - 2022 Experience Band - 2012 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 355.200 - Power Generation Equipment - Collection

Placement Band - 1985 - 2022 Experience Band - 2012 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	798,300	0	0.00000	1.00000	100.00
0.5	792,278	0	0.00000	1.00000	100.00
1.5	702,742	6,792	0.00967	0.99033	100.00
2.5	695,950	0	0.00000	1.00000	99.03
3.5	695,950	8,885	0.01277	0.98723	99.03
4.5	687,065	22,428	0.03264	0.96736	97.77
5.5	660,046	8,100	0.01227	0.98773	94.58
6.5	649,323	29,814	0.04592	0.95408	93.42
7.5	520,834	9,078	0.01743	0.98257	89.13
8.5	356,197	2,354	0.00661	0.99339	87.58
9.5	353,843	3,819	0.01079	0.98921	87.00
10.5	350,024	0	0.00000	1.00000	86.06
11.5	327,532	0	0.00000	1.00000	86.06
12.5	191,886	0	0.00000	1.00000	86.06
13.5	191,886	0	0.00000	1.00000	86.06
14.5	129,618	8,098	0.06248	0.93752	86.06
15.5	11,528	6,397	0.55492	0.44508	80.68
16.5	5,131	0	0.00000	1.00000	35.91
17.5	5,131	0	0.00000	1.00000	35.91
18.5	4,528	0	0.00000	1.00000	35.91
19.5	4,528	0	0.00000	1.00000	35.91
20.5	4,528	0	0.00000	1.00000	35.91
21.5	4,528	0	0.00000	1.00000	35.91
22.5	4,528	0	0.00000	1.00000	35.91
23.5	4,528	0	0.00000	1.00000	35.91
24.5	4,528	0	0.00000	1.00000	35.91
25.5	4,528	0	0.00000	1.00000	35.91
26.5	4,528	0	0.00000	1.00000	35.91

New Jersey - American Water Company

Account 355.200 - Power Generation Equipment - Collection

Placement Band - 1985 - 2022 Experience Band - 2012 - 2022

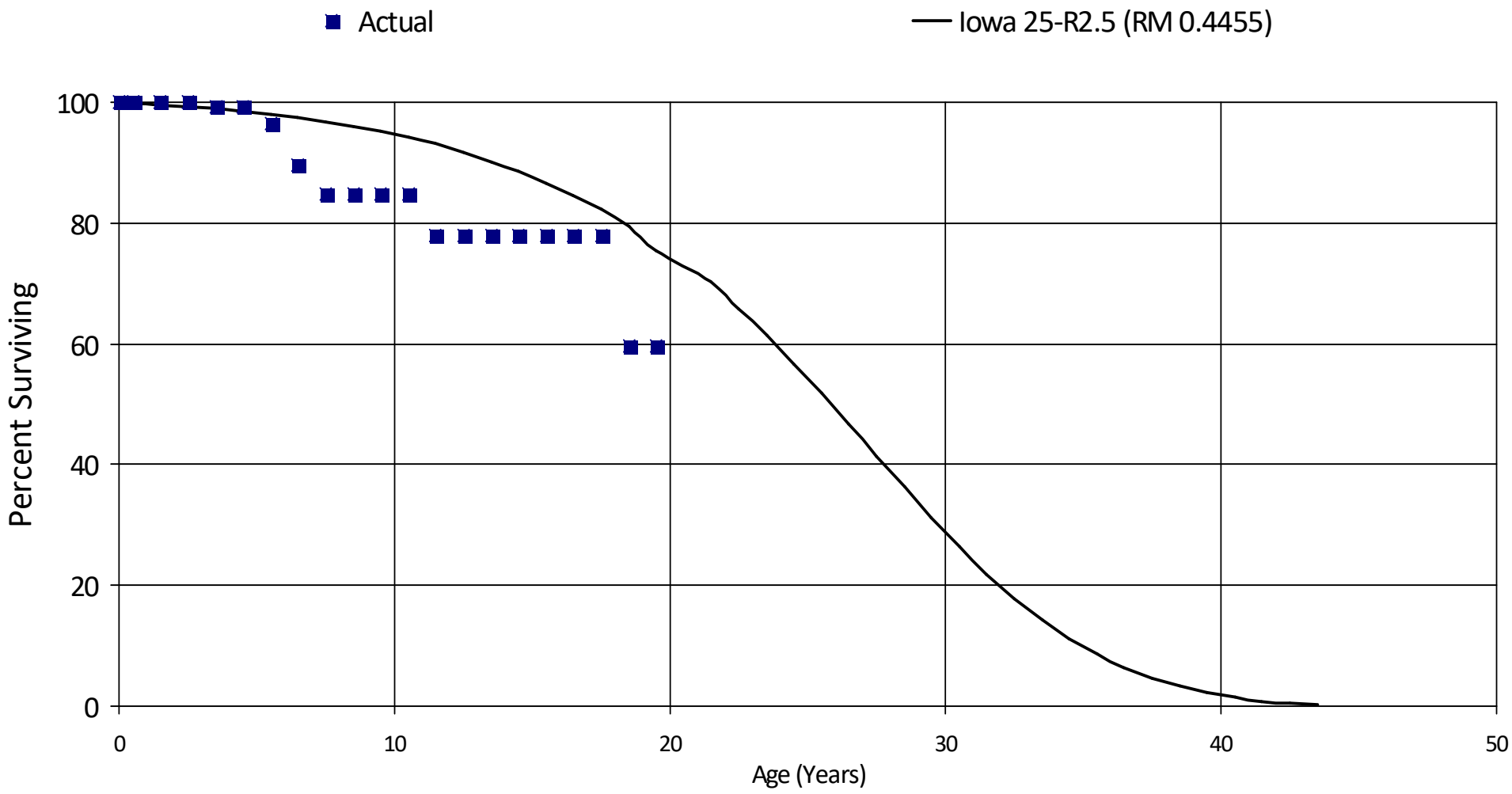
27.5	4,528	0	0.00000	1.00000	35.91
28.5	4,528	0	0.00000	1.00000	35.91
29.5	4,528	0	0.00000	1.00000	35.91
30.5	4,528	0	0.00000	1.00000	35.91
31.5	4,528	0	0.00000	1.00000	35.91
32.5	4,528	0	0.00000	1.00000	35.91
33.5	4,528	0	0.00000	1.00000	35.91
34.5	4,528	0	0.00000	1.00000	35.91
35.5	4,528	0	0.00000	1.00000	35.91
36.5	4,528	0	0.00000	1.00000	35.91
	Totals:	105,765			

New Jersey - American Water Company

Account 355.400 - Power Generation Equipment - Treatment

Placement Band - 2002 - 2022 Experience Band - 2016 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 355.400 - Power Generation Equipment - Treatment

Placement Band - 2002 - 2022 Experience Band - 2016 - 2022

RETIREMENT RATE ANALYSIS

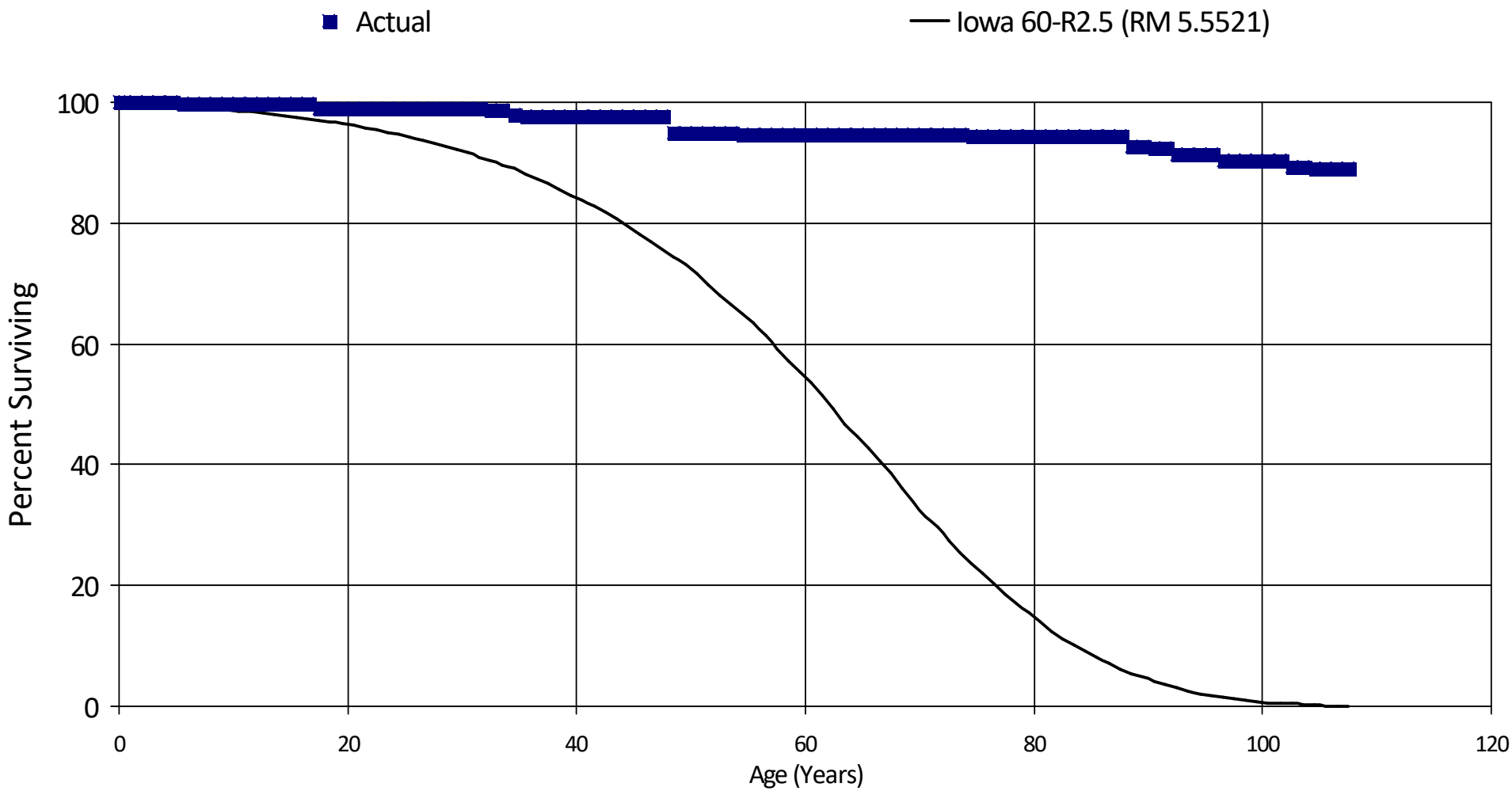
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	916,034	0	0.00000	1.00000	100.00
0.5	898,278	0	0.00000	1.00000	100.00
1.5	756,350	0	0.00000	1.00000	100.00
2.5	731,200	6,166	0.00843	0.99157	100.00
3.5	725,034	0	0.00000	1.00000	99.16
4.5	408,409	10,868	0.02661	0.97339	99.16
5.5	357,938	25,850	0.07222	0.92778	96.52
6.5	329,730	17,156	0.05203	0.94797	89.55
7.5	312,574	91	0.00029	0.99971	84.89
8.5	309,476	0	0.00000	1.00000	84.87
9.5	305,645	0	0.00000	1.00000	84.87
10.5	303,953	24,770	0.08149	0.91851	84.87
11.5	22,428	0	0.00000	1.00000	77.95
12.5	22,428	0	0.00000	1.00000	77.95
13.5	22,428	0	0.00000	1.00000	77.95
14.5	22,428	0	0.00000	1.00000	77.95
15.5	22,428	0	0.00000	1.00000	77.95
16.5	22,428	0	0.00000	1.00000	77.95
17.5	22,428	5,288	0.23577	0.76423	77.95
18.5	17,140	0	0.00000	1.00000	59.57
19.5	17,140	2	0.00012	0.99988	59.57
	Totals:	90,191			

New Jersey - American Water Company

Account 360.000 - Collection Sewers - Forced

Placement Band - 1914 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 360.000 - Collection Sewers - Forced

Placement Band - 1914 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	12,233,601	0	0.00000	1.00000	100.00
0.5	12,051,769	0	0.00000	1.00000	100.00
1.5	11,836,135	0	0.00000	1.00000	100.00
2.5	4,538,381	0	0.00000	1.00000	100.00
3.5	4,505,305	0	0.00000	1.00000	100.00
4.5	3,010,929	6,406	0.00213	0.99787	100.00
5.5	2,752,702	0	0.00000	1.00000	99.79
6.5	2,752,702	0	0.00000	1.00000	99.79
7.5	2,642,944	0	0.00000	1.00000	99.79
8.5	2,628,832	145	0.00006	0.99994	99.79
9.5	2,601,085	51	0.00002	0.99998	99.78
10.5	2,560,027	0	0.00000	1.00000	99.78
11.5	2,560,027	0	0.00000	1.00000	99.78
12.5	2,260,703	0	0.00000	1.00000	99.78
13.5	2,233,387	0	0.00000	1.00000	99.78
14.5	2,141,983	0	0.00000	1.00000	99.78
15.5	2,107,622	3,213	0.00152	0.99848	99.78
16.5	2,104,409	13,587	0.00646	0.99354	99.63
17.5	1,738,317	0	0.00000	1.00000	98.99
18.5	1,738,317	0	0.00000	1.00000	98.99
19.5	1,738,317	0	0.00000	1.00000	98.99
20.5	1,723,304	0	0.00000	1.00000	98.99
21.5	1,723,304	0	0.00000	1.00000	98.99
22.5	1,723,304	0	0.00000	1.00000	98.99
23.5	1,491,761	72	0.00005	0.99995	98.99
24.5	1,098,632	0	0.00000	1.00000	98.99
25.5	1,085,275	0	0.00000	1.00000	98.99
26.5	1,085,275	0	0.00000	1.00000	98.99

New Jersey - American Water Company

Account 360.000 - Collection Sewers - Forced

Placement Band - 1914 - 2022 Experience Band - 2009 - 2022

27.5	976,871	0	0.00000	1.00000	98.99
28.5	976,871	0	0.00000	1.00000	98.99
29.5	976,871	0	0.00000	1.00000	98.99
30.5	976,871	0	0.00000	1.00000	98.99
31.5	797,985	2,981	0.00374	0.99626	98.99
32.5	795,005	0	0.00000	1.00000	98.62
33.5	795,005	5,382	0.00677	0.99323	98.62
34.5	789,623	1,969	0.00249	0.99751	97.95
35.5	787,654	0	0.00000	1.00000	97.71
36.5	787,654	0	0.00000	1.00000	97.71
37.5	305,801	0	0.00000	1.00000	97.71
38.5	259,610	0	0.00000	1.00000	97.71
39.5	259,610	0	0.00000	1.00000	97.71
40.5	259,610	0	0.00000	1.00000	97.71
41.5	259,610	0	0.00000	1.00000	97.71
42.5	259,610	0	0.00000	1.00000	97.71
43.5	259,610	0	0.00000	1.00000	97.71
44.5	200,608	0	0.00000	1.00000	97.71
45.5	200,608	0	0.00000	1.00000	97.71
46.5	200,608	0	0.00000	1.00000	97.71
47.5	200,608	5,957	0.02969	0.97031	97.71
48.5	194,651	0	0.00000	1.00000	94.81
49.5	194,651	0	0.00000	1.00000	94.81
50.5	187,224	0	0.00000	1.00000	94.81
51.5	187,224	0	0.00000	1.00000	94.81
52.5	187,224	0	0.00000	1.00000	94.81
53.5	187,224	112	0.00060	0.99940	94.81
54.5	187,112	16	0.00009	0.99991	94.75
55.5	168,624	0	0.00000	1.00000	94.74
56.5	166,798	0	0.00000	1.00000	94.74
57.5	165,824	0	0.00000	1.00000	94.74

New Jersey - American Water Company

Account 360.000 - Collection Sewers - Forced

Placement Band - 1914 - 2022 Experience Band - 2009 - 2022

58.5	162,725	0	0.00000	1.00000	94.74
59.5	162,685	0	0.00000	1.00000	94.74
60.5	162,685	42	0.00026	0.99974	94.74
61.5	162,643	0	0.00000	1.00000	94.72
62.5	140,179	0	0.00000	1.00000	94.72
63.5	140,179	0	0.00000	1.00000	94.72
64.5	140,179	0	0.00000	1.00000	94.72
65.5	140,179	0	0.00000	1.00000	94.72
66.5	140,179	0	0.00000	1.00000	94.72
67.5	95,465	0	0.00000	1.00000	94.72
68.5	95,465	0	0.00000	1.00000	94.72
69.5	95,465	0	0.00000	1.00000	94.72
70.5	95,465	58	0.00061	0.99939	94.72
71.5	95,407	113	0.00118	0.99882	94.66
72.5	78,014	0	0.00000	1.00000	94.55
73.5	78,014	19	0.00024	0.99976	94.55
74.5	77,995	0	0.00000	1.00000	94.53
75.5	77,995	0	0.00000	1.00000	94.53
76.5	77,995	0	0.00000	1.00000	94.53
77.5	76,955	0	0.00000	1.00000	94.53
78.5	76,955	0	0.00000	1.00000	94.53
79.5	76,955	0	0.00000	1.00000	94.53
80.5	76,955	0	0.00000	1.00000	94.53
81.5	76,955	0	0.00000	1.00000	94.53
82.5	76,955	5	0.00006	0.99994	94.53
83.5	76,950	0	0.00000	1.00000	94.52
84.5	76,438	0	0.00000	1.00000	94.52
85.5	76,438	0	0.00000	1.00000	94.52
86.5	76,438	2	0.00003	0.99997	94.52
87.5	72,285	1,475	0.02041	0.97959	94.52
88.5	70,811	0	0.00000	1.00000	92.59

New Jersey - American Water Company

Account 360.000 - Collection Sewers - Forced

Placement Band - 1914 - 2022 Experience Band - 2009 - 2022

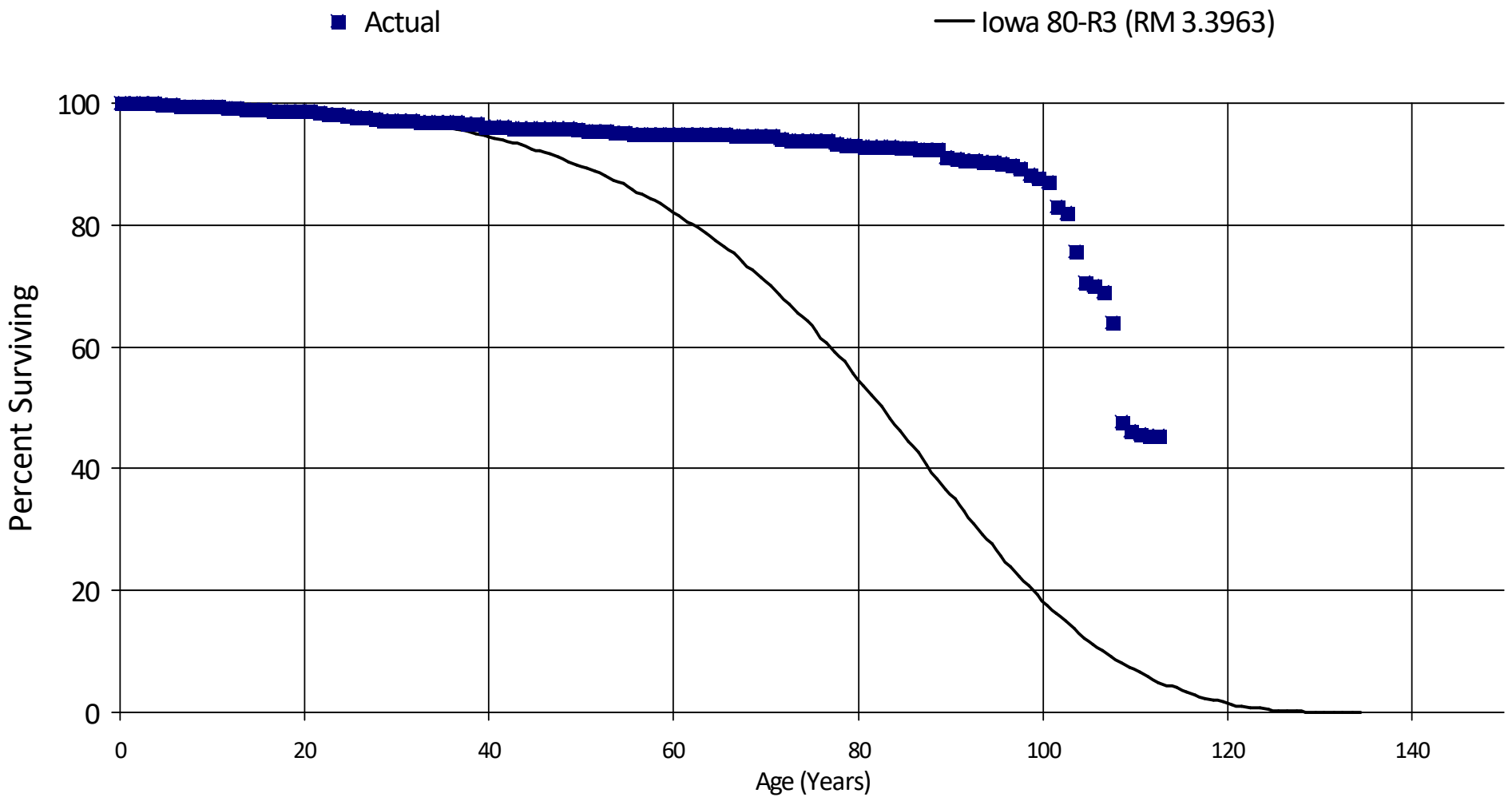
89.5	70,811	66	0.00093	0.99907	92.59
90.5	62,018	0	0.00000	1.00000	92.50
91.5	53,301	641	0.01203	0.98797	92.50
92.5	27,619	0	0.00000	1.00000	91.39
93.5	27,619	0	0.00000	1.00000	91.39
94.5	27,619	0	0.00000	1.00000	91.39
95.5	27,619	286	0.01036	0.98964	91.39
96.5	27,333	0	0.00000	1.00000	90.44
97.5	27,333	0	0.00000	1.00000	90.44
98.5	27,333	0	0.00000	1.00000	90.44
99.5	27,333	0	0.00000	1.00000	90.44
100.5	27,333	4	0.00015	0.99985	90.44
101.5	27,328	313	0.01145	0.98855	90.43
102.5	12,515	0	0.00000	1.00000	89.39
103.5	12,515	34	0.00272	0.99728	89.39
104.5	12,481	0	0.00000	1.00000	89.15
105.5	7,109	0	0.00000	1.00000	89.15
106.5	7,109	0	0.00000	1.00000	89.15
107.5	7,109	143	0.02012	0.97988	89.15
	Totals:	43,092			

New Jersey - American Water Company

Account 361.100 - Collection Sewers - Gravity Mains

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 361.100 - Collection Sewers - Gravity Mains

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	211,396,120	5,634	0.00003	0.99997	100.00
0.5	198,783,069	36,760	0.00018	0.99982	100.00
1.5	192,337,823	40,292	0.00021	0.99979	99.98
2.5	187,232,901	97,294	0.00052	0.99948	99.96
3.5	184,170,360	307,346	0.00167	0.99833	99.91
4.5	172,308,465	116,491	0.00068	0.99932	99.74
5.5	164,271,729	119,694	0.00073	0.99927	99.67
6.5	158,997,923	99,080	0.00062	0.99938	99.60
7.5	145,677,883	115,550	0.00079	0.99921	99.54
8.5	141,550,837	15,057	0.00011	0.99989	99.46
9.5	138,760,551	65,646	0.00047	0.99953	99.45
10.5	132,841,619	52,448	0.00039	0.99961	99.40
11.5	130,405,224	116,785	0.00090	0.99910	99.36
12.5	127,915,670	356,122	0.00278	0.99722	99.27
13.5	121,952,605	149,740	0.00123	0.99877	98.99
14.5	111,105,445	9,438	0.00008	0.99992	98.87
15.5	103,301,315	7,456	0.00007	0.99993	98.86
16.5	91,499,277	97,817	0.00107	0.99893	98.85
17.5	89,362,127	1,000	0.00001	0.99999	98.74
18.5	87,175,174	32,657	0.00037	0.99963	98.74
19.5	62,543,483	56	0.00000	1.00000	98.70
20.5	56,962,876	129,544	0.00227	0.99773	98.70
21.5	56,196,021	158,196	0.00282	0.99718	98.48
22.5	55,571,810	52,277	0.00094	0.99906	98.20
23.5	53,537,656	134,726	0.00252	0.99748	98.11
24.5	46,574,390	35,568	0.00076	0.99924	97.86
25.5	43,532,360	9,337	0.00021	0.99979	97.79
26.5	42,977,613	135,053	0.00314	0.99686	97.77

New Jersey - American Water Company

Account 361.100 - Collection Sewers - Gravity Mains

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

27.5	38,705,351	109,718	0.00283	0.99717	97.46
28.5	37,824,200	12,703	0.00034	0.99966	97.18
29.5	36,164,889	8,801	0.00024	0.99976	97.15
30.5	33,894,322	3,672	0.00011	0.99989	97.13
31.5	27,030,291	17,067	0.00063	0.99937	97.12
32.5	24,682,268	14,952	0.00061	0.99939	97.06
33.5	24,104,966	7,882	0.00033	0.99967	97.00
34.5	23,383,405	5,045	0.00022	0.99978	96.97
35.5	21,446,194	2,491	0.00012	0.99988	96.95
36.5	20,343,919	48,161	0.00237	0.99763	96.94
37.5	19,212,173	2,385	0.00012	0.99988	96.71
38.5	17,133,744	94,511	0.00552	0.99448	96.70
39.5	16,530,019	9,021	0.00055	0.99945	96.17
40.5	16,276,352	5,037	0.00031	0.99969	96.12
41.5	14,883,446	5,572	0.00037	0.99963	96.09
42.5	14,291,180	4,682	0.00033	0.99967	96.05
43.5	13,419,142	4,567	0.00034	0.99966	96.02
44.5	12,262,332	740	0.00006	0.99994	95.99
45.5	11,993,348	5,331	0.00044	0.99956	95.98
46.5	11,644,927	11,535	0.00099	0.99901	95.94
47.5	10,214,191	3,200	0.00031	0.99969	95.85
48.5	9,802,957	2,585	0.00026	0.99974	95.82
49.5	9,282,507	37,155	0.00400	0.99600	95.80
50.5	8,529,262	2,886	0.00034	0.99966	95.42
51.5	8,343,455	3,227	0.00039	0.99961	95.39
52.5	7,976,293	4,748	0.00060	0.99940	95.35
53.5	7,022,505	15,569	0.00222	0.99778	95.29
54.5	6,827,490	2,307	0.00034	0.99966	95.08
55.5	6,493,091	1,144	0.00018	0.99982	95.05
56.5	5,576,680	3,233	0.00058	0.99942	95.03
57.5	5,186,291	184	0.00004	0.99996	94.97

New Jersey - American Water Company

Account 361.100 - Collection Sewers - Gravity Mains

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

58.5	5,115,012	2,209	0.00043	0.99957	94.97
59.5	4,948,828	1,566	0.00032	0.99968	94.93
60.5	4,887,858	183	0.00004	0.99996	94.90
61.5	4,715,616	359	0.00008	0.99992	94.90
62.5	4,658,369	616	0.00013	0.99987	94.89
63.5	4,617,367	1,822	0.00039	0.99961	94.88
64.5	4,568,307	1,220	0.00027	0.99973	94.84
65.5	4,506,150	3,101	0.00069	0.99931	94.81
66.5	4,448,849	3,051	0.00069	0.99931	94.74
67.5	2,955,296	1,280	0.00043	0.99957	94.67
68.5	2,858,279	689	0.00024	0.99976	94.63
69.5	2,842,809	1,895	0.00067	0.99933	94.61
70.5	2,694,357	12,135	0.00450	0.99550	94.55
71.5	2,656,438	2,552	0.00096	0.99904	94.12
72.5	2,627,279	130	0.00005	0.99995	94.03
73.5	2,604,979	81	0.00003	0.99997	94.03
74.5	2,579,989	17	0.00001	0.99999	94.03
75.5	2,556,975	373	0.00015	0.99985	94.03
76.5	2,369,049	18,391	0.00776	0.99224	94.02
77.5	1,890,927	1,786	0.00094	0.99906	93.29
78.5	1,772,237	824	0.00046	0.99954	93.20
79.5	1,575,752	4,919	0.00312	0.99688	93.16
80.5	1,508,880	373	0.00025	0.99975	92.87
81.5	1,489,756	338	0.00023	0.99977	92.85
82.5	1,437,609	161	0.00011	0.99989	92.83
83.5	1,429,570	3,070	0.00215	0.99785	92.82
84.5	1,404,034	101	0.00007	0.99993	92.62
85.5	1,400,977	1,466	0.00105	0.99895	92.61
86.5	1,386,987	1,567	0.00113	0.99887	92.51
87.5	1,039,465	93	0.00009	0.99991	92.41
88.5	1,036,540	15,168	0.01463	0.98537	92.40

New Jersey - American Water Company

Account 361.100 - Collection Sewers - Gravity Mains

Placement Band - 1909 - 2022 Experience Band - 2008 - 2022

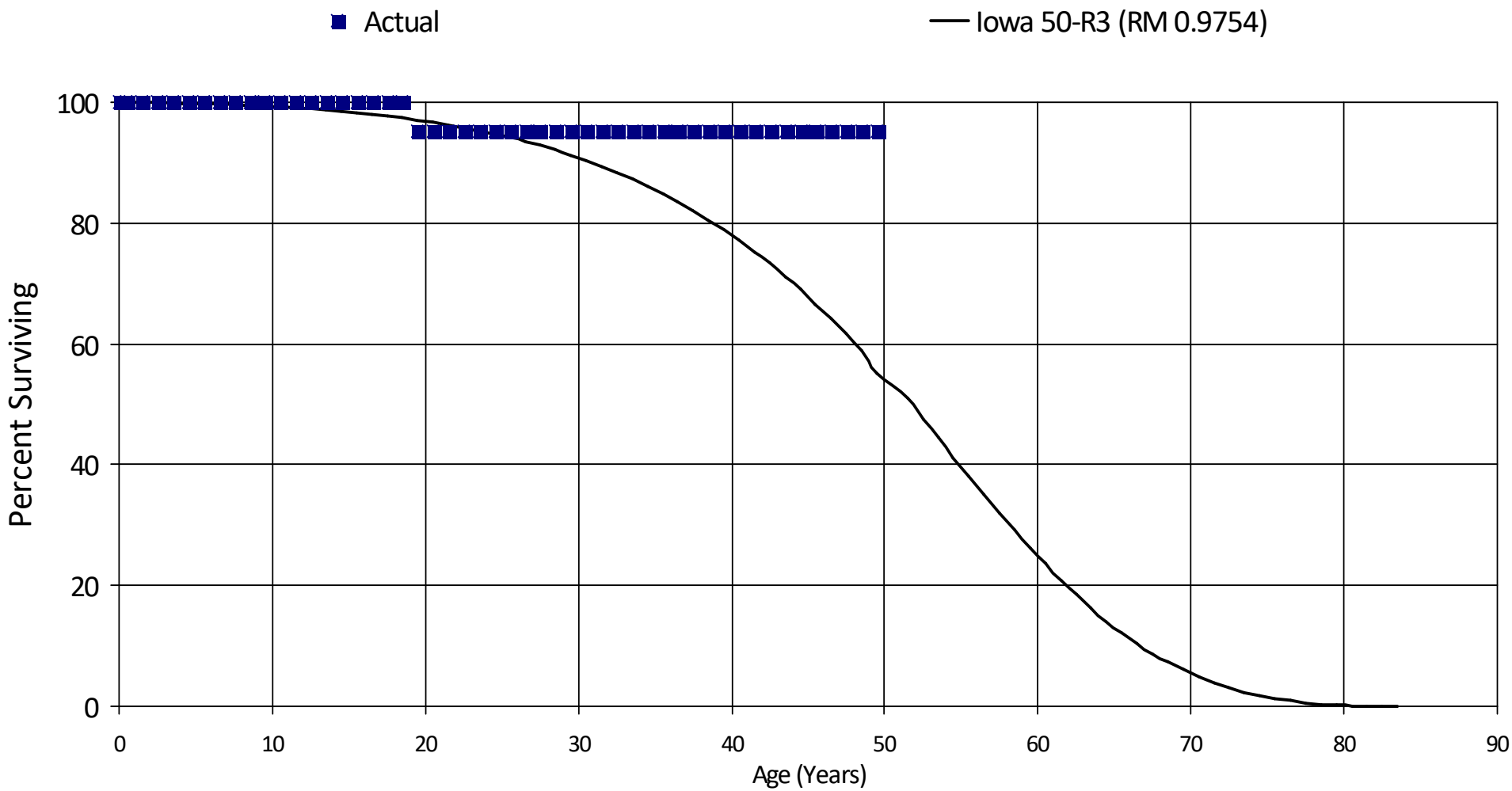
89.5	1,009,579	3,034	0.00301	0.99699	91.05
90.5	991,809	2,011	0.00203	0.99797	90.78
91.5	913,416	372	0.00041	0.99959	90.60
92.5	897,749	1,129	0.00126	0.99874	90.56
93.5	815,985	537	0.00066	0.99934	90.45
94.5	810,047	2,930	0.00362	0.99638	90.39
95.5	802,357	1,758	0.00219	0.99781	90.06
96.5	790,320	4,572	0.00578	0.99422	89.86
97.5	457,879	5,155	0.01126	0.98874	89.34
98.5	444,855	2,329	0.00524	0.99476	88.33
99.5	421,628	3,620	0.00859	0.99141	87.87
100.5	359,040	17,307	0.04820	0.95180	87.12
101.5	333,752	3,395	0.01017	0.98983	82.92
102.5	326,494	25,924	0.07940	0.92060	82.08
103.5	284,799	18,409	0.06464	0.93536	75.56
104.5	266,318	2,673	0.01004	0.98996	70.68
105.5	250,621	3,536	0.01411	0.98589	69.97
106.5	230,705	16,724	0.07249	0.92751	68.98
107.5	185,610	47,209	0.25434	0.74566	63.98
108.5	122,622	3,732	0.03043	0.96957	47.71
109.5	118,855	1,790	0.01506	0.98494	46.26
110.5	112,535	23	0.00020	0.99980	45.56
111.5	105,857	0	0.00000	1.00000	45.55
112.5	105,857	0	0.00000	1.00000	45.55
	Totals:	3,196,880			

New Jersey - American Water Company

Account 362.000 - Special Collection Structure

Placement Band - 1972 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 362.000 - Special Collection Structure

Placement Band - 1972 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	310,835	0	0.00000	1.00000	100.00
0.5	310,835	0	0.00000	1.00000	100.00
1.5	310,835	0	0.00000	1.00000	100.00
2.5	310,835	0	0.00000	1.00000	100.00
3.5	310,835	0	0.00000	1.00000	100.00
4.5	299,465	0	0.00000	1.00000	100.00
5.5	299,465	0	0.00000	1.00000	100.00
6.5	299,465	0	0.00000	1.00000	100.00
7.5	299,465	0	0.00000	1.00000	100.00
8.5	299,465	0	0.00000	1.00000	100.00
9.5	299,465	0	0.00000	1.00000	100.00
10.5	299,465	0	0.00000	1.00000	100.00
11.5	299,465	0	0.00000	1.00000	100.00
12.5	299,465	0	0.00000	1.00000	100.00
13.5	299,465	0	0.00000	1.00000	100.00
14.5	299,465	0	0.00000	1.00000	100.00
15.5	299,465	0	0.00000	1.00000	100.00
16.5	299,465	0	0.00000	1.00000	100.00
17.5	299,465	0	0.00000	1.00000	100.00
18.5	299,465	14,454	0.04827	0.95173	100.00
19.5	285,011	0	0.00000	1.00000	95.17
20.5	285,011	0	0.00000	1.00000	95.17
21.5	285,011	0	0.00000	1.00000	95.17
22.5	285,011	0	0.00000	1.00000	95.17
23.5	285,011	0	0.00000	1.00000	95.17
24.5	268,677	0	0.00000	1.00000	95.17
25.5	268,677	0	0.00000	1.00000	95.17
26.5	268,677	0	0.00000	1.00000	95.17

New Jersey - American Water Company

Account 362.000 - Special Collection Structure

Placement Band - 1972 - 2022 Experience Band - 2009 - 2022

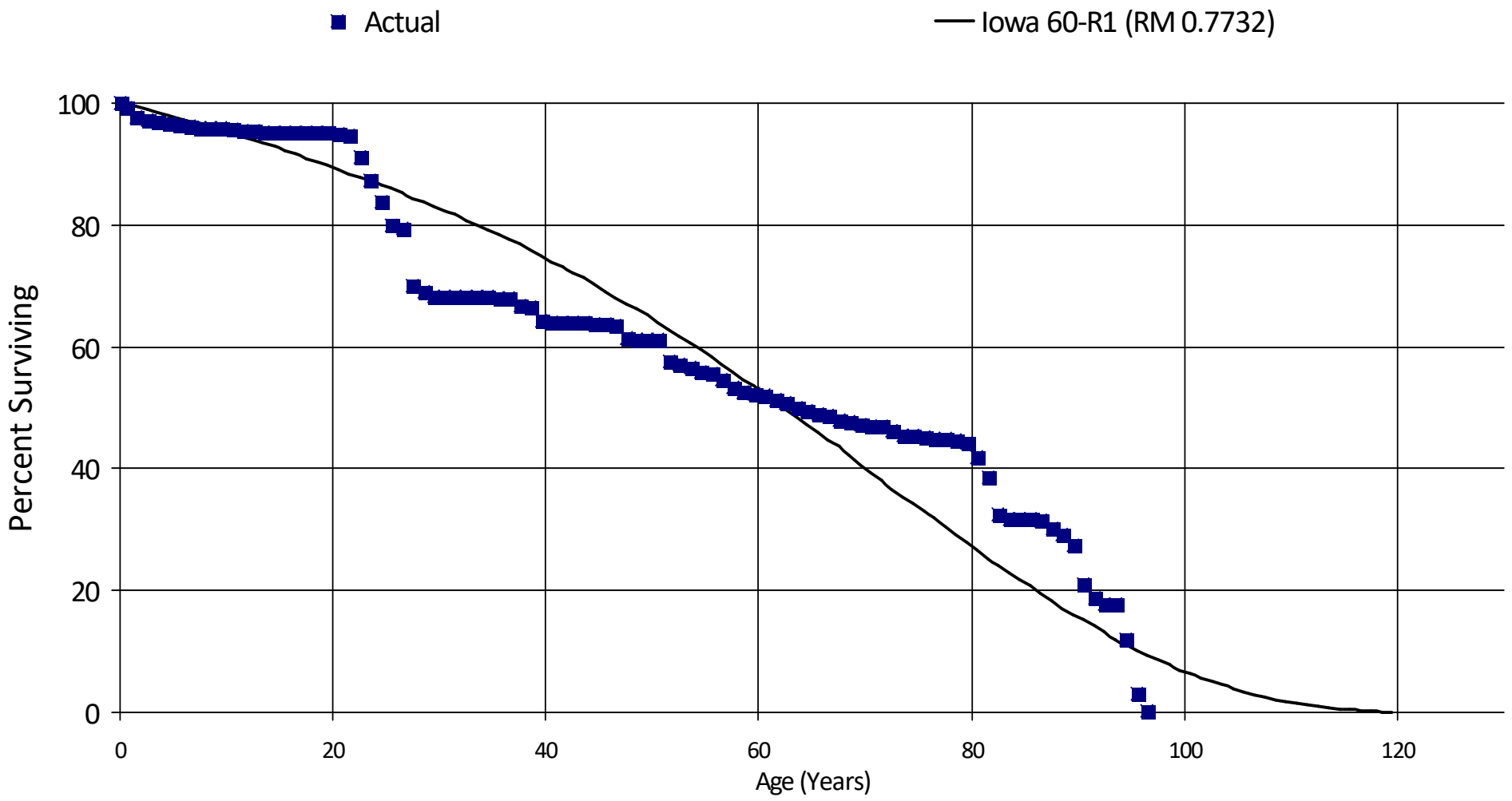
27.5	268,677	0	0.00000	1.00000	95.17
28.5	263,708	0	0.00000	1.00000	95.17
29.5	199,913	0	0.00000	1.00000	95.17
30.5	199,913	0	0.00000	1.00000	95.17
31.5	199,913	0	0.00000	1.00000	95.17
32.5	447	0	0.00000	1.00000	95.17
33.5	447	0	0.00000	1.00000	95.17
34.5	447	0	0.00000	1.00000	95.17
35.5	447	0	0.00000	1.00000	95.17
36.5	447	0	0.00000	1.00000	95.17
37.5	447	0	0.00000	1.00000	95.17
38.5	447	0	0.00000	1.00000	95.17
39.5	447	0	0.00000	1.00000	95.17
40.5	447	0	0.00000	1.00000	95.17
41.5	447	0	0.00000	1.00000	95.17
42.5	447	0	0.00000	1.00000	95.17
43.5	447	0	0.00000	1.00000	95.17
44.5	447	0	0.00000	1.00000	95.17
45.5	447	0	0.00000	1.00000	95.17
46.5	447	0	0.00000	1.00000	95.17
47.5	447	0	0.00000	1.00000	95.17
48.5	447	0	0.00000	1.00000	95.17
49.5	447	0	0.00000	1.00000	95.17
	Totals:	14,454			

New Jersey - American Water Company

Account 363.000 - Services - Sewer

Placement Band - 1902 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 363.000 - Services - Sewer

Placement Band - 1902 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	64,413,111	500,821	0.00778	0.99222	100.00
0.5	58,735,850	864,142	0.01471	0.98529	99.22
1.5	54,800,612	279,641	0.00510	0.99490	97.76
2.5	51,364,529	114,748	0.00223	0.99777	97.26
3.5	48,322,634	191,430	0.00396	0.99604	97.04
4.5	44,120,708	151,329	0.00343	0.99657	96.66
5.5	39,572,118	106,022	0.00268	0.99732	96.33
6.5	35,847,387	69,937	0.00195	0.99805	96.07
7.5	29,718,121	9,570	0.00032	0.99968	95.88
8.5	27,638,508	8,104	0.00029	0.99971	95.85
9.5	25,855,527	46,880	0.00181	0.99819	95.82
10.5	23,928,959	37,812	0.00158	0.99842	95.65
11.5	22,515,251	37,051	0.00165	0.99835	95.50
12.5	21,422,095	24,027	0.00112	0.99888	95.34
13.5	20,179,725	13,388	0.00066	0.99934	95.23
14.5	19,180,896	9,407	0.00049	0.99951	95.17
15.5	18,463,427	1,091	0.00006	0.99994	95.12
16.5	12,925,207	643	0.00005	0.99995	95.11
17.5	11,776,777	2,727	0.00023	0.99977	95.11
18.5	11,657,671	2,919	0.00025	0.99975	95.09
19.5	10,818,152	11,428	0.00106	0.99894	95.07
20.5	10,702,570	32,516	0.00304	0.99696	94.97
21.5	10,569,254	401,427	0.03798	0.96202	94.68
22.5	10,048,243	421,148	0.04191	0.95809	91.08
23.5	8,806,520	361,078	0.04100	0.95900	87.26
24.5	7,302,711	327,922	0.04490	0.95510	83.68
25.5	6,650,831	50,170	0.00754	0.99246	79.92
26.5	6,280,942	741,088	0.11799	0.88201	79.32

New Jersey - American Water Company

Account 363.000 - Services - Sewer

Placement Band - 1902 - 2022 Experience Band - 2008 - 2022

27.5	4,994,055	63,349	0.01268	0.98732	69.96
28.5	4,731,666	48,726	0.01030	0.98970	69.07
29.5	4,338,104	0	0.00000	1.00000	68.36
30.5	4,021,064	0	0.00000	1.00000	68.36
31.5	3,759,728	0	0.00000	1.00000	68.36
32.5	3,615,943	390	0.00011	0.99989	68.36
33.5	3,293,178	160	0.00005	0.99995	68.35
34.5	2,896,546	10,767	0.00372	0.99628	68.35
35.5	2,517,911	574	0.00023	0.99977	68.10
36.5	2,416,077	47,892	0.01982	0.98018	68.08
37.5	2,077,415	7,957	0.00383	0.99617	66.73
38.5	1,905,881	64,871	0.03404	0.96596	66.47
39.5	1,750,858	4,760	0.00272	0.99728	64.21
40.5	1,669,626	293	0.00018	0.99982	64.04
41.5	1,509,780	2,545	0.00169	0.99831	64.03
42.5	1,409,357	483	0.00034	0.99966	63.92
43.5	1,258,908	1,674	0.00133	0.99867	63.90
44.5	1,177,252	2,521	0.00214	0.99786	63.82
45.5	1,092,732	1,884	0.00172	0.99828	63.68
46.5	1,048,019	33,421	0.03189	0.96811	63.57
47.5	987,032	6,062	0.00614	0.99386	61.54
48.5	954,627	308	0.00032	0.99968	61.16
49.5	877,770	954	0.00109	0.99891	61.14
50.5	806,034	44,184	0.05482	0.94518	61.07
51.5	729,677	9,201	0.01261	0.98739	57.72
52.5	675,768	6,092	0.00901	0.99099	56.99
53.5	651,223	6,091	0.00935	0.99065	56.48
54.5	632,589	5,150	0.00814	0.99186	55.95
55.5	624,923	10,800	0.01728	0.98272	55.49
56.5	596,193	13,924	0.02335	0.97665	54.53
57.5	569,591	6,605	0.01160	0.98840	53.26

New Jersey - American Water Company

Account 363.000 - Services - Sewer

Placement Band - 1902 - 2022 Experience Band - 2008 - 2022

58.5	558,720	4,616	0.00826	0.99174	52.64
59.5	552,415	2,895	0.00524	0.99476	52.21
60.5	543,690	8,156	0.01500	0.98500	51.94
61.5	535,301	4,781	0.00893	0.99107	51.16
62.5	524,805	7,784	0.01483	0.98517	50.70
63.5	511,217	4,946	0.00967	0.99033	49.95
64.5	503,199	3,870	0.00769	0.99231	49.47
65.5	495,702	3,741	0.00755	0.99245	49.09
66.5	389,420	5,388	0.01384	0.98616	48.72
67.5	283,225	2,434	0.00859	0.99141	48.05
68.5	280,791	2,634	0.00938	0.99062	47.64
69.5	278,154	934	0.00336	0.99664	47.19
70.5	277,220	776	0.00280	0.99720	47.03
71.5	276,444	3,540	0.01281	0.98719	46.90
72.5	272,904	4,665	0.01709	0.98291	46.30
73.5	268,240	555	0.00207	0.99793	45.51
74.5	267,685	780	0.00291	0.99709	45.42
75.5	266,905	1,894	0.00710	0.99290	45.29
76.5	145,407	538	0.00370	0.99630	44.97
77.5	144,869	470	0.00324	0.99676	44.80
78.5	144,399	1,205	0.00834	0.99166	44.65
79.5	143,194	8,036	0.05612	0.94388	44.28
80.5	135,158	10,685	0.07906	0.92094	41.80
81.5	124,473	19,374	0.15565	0.84435	38.50
82.5	105,099	2,266	0.02156	0.97844	32.51
83.5	102,832	208	0.00202	0.99798	31.81
84.5	102,624	108	0.00105	0.99895	31.75
85.5	102,491	971	0.00947	0.99053	31.72
86.5	76,073	3,246	0.04267	0.95733	31.42
87.5	15,740	444	0.02821	0.97179	30.08
88.5	15,295	897	0.05865	0.94135	29.23

New Jersey - American Water Company

Account 363.000 - Services - Sewer

Placement Band - 1902 - 2022 Experience Band - 2008 - 2022

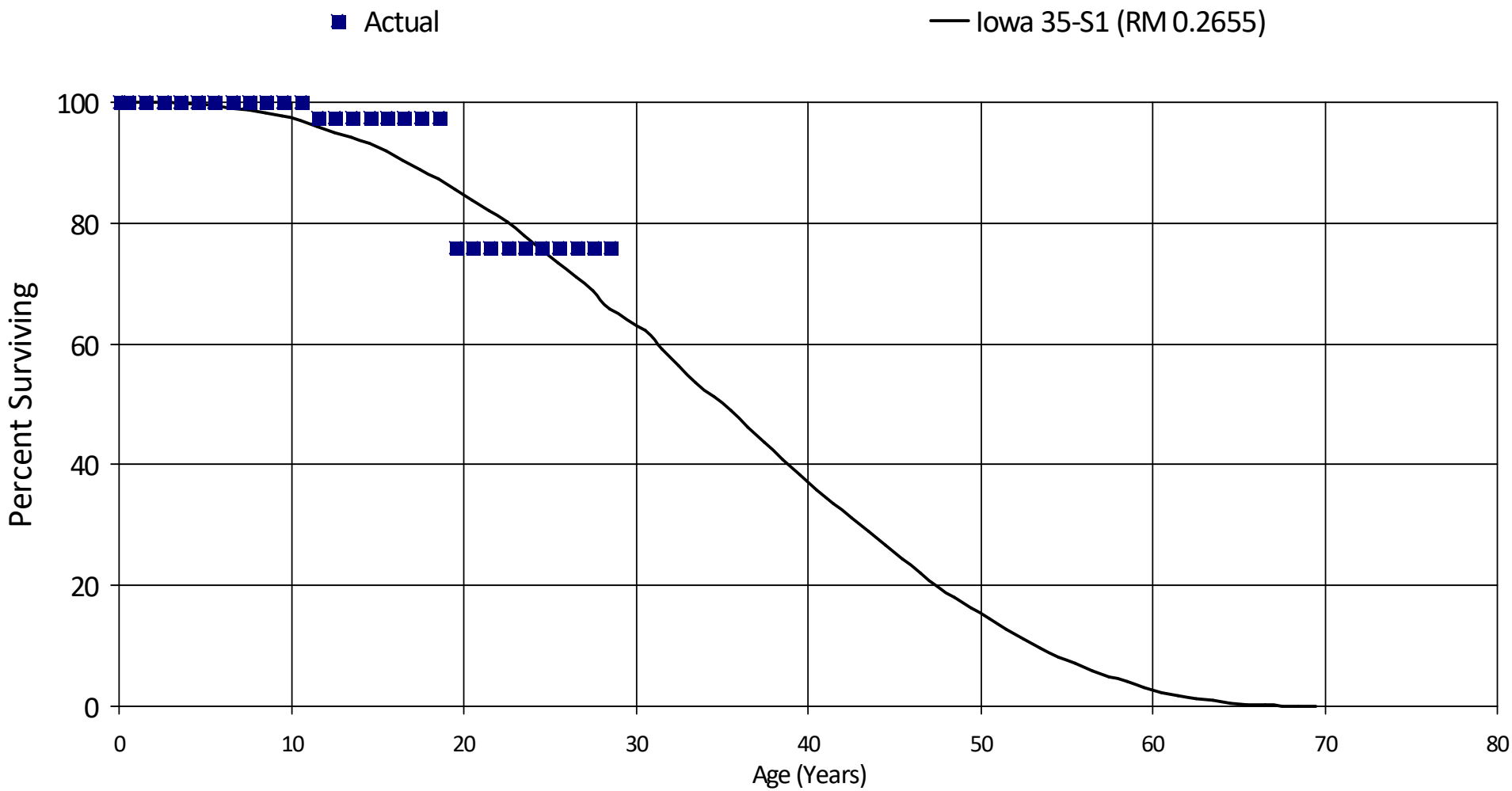
89.5	14,398	3,311	0.22996	0.77004	27.52
90.5	11,063	1,201	0.10856	0.89144	21.19
91.5	9,851	638	0.06476	0.93524	18.89
92.5	9,205	7	0.00076	0.99924	17.67
93.5	9,198	2,928	0.31832	0.68168	17.66
94.5	6,270	4,643	0.74053	0.25947	12.04
95.5	1,627	1,441	0.88564	0.11436	3.12
96.5	186	120	0.64513	0.35487	0.36
	Totals:	5,347,230			

New Jersey - American Water Company

Account 364.000 - Flow Measuring Devices

Placement Band - 1993 - 2022 Experience Band - 2012 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 364.000 - Flow Measuring Devices

Placement Band - 1993 - 2022 Experience Band - 2012 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	137,962	0	0.00000	1.00000	100.00
0.5	137,962	0	0.00000	1.00000	100.00
1.5	137,962	0	0.00000	1.00000	100.00
2.5	137,962	0	0.00000	1.00000	100.00
3.5	137,962	0	0.00000	1.00000	100.00
4.5	132,611	0	0.00000	1.00000	100.00
5.5	132,611	0	0.00000	1.00000	100.00
6.5	67,571	0	0.00000	1.00000	100.00
7.5	67,571	0	0.00000	1.00000	100.00
8.5	67,571	17	0.00025	0.99975	100.00
9.5	34,423	0	0.00000	1.00000	99.98
10.5	34,423	910	0.02644	0.97356	99.98
11.5	33,513	0	0.00000	1.00000	97.34
12.5	23,513	0	0.00000	1.00000	97.34
13.5	23,513	0	0.00000	1.00000	97.34
14.5	5,827	0	0.00000	1.00000	97.34
15.5	5,827	0	0.00000	1.00000	97.34
16.5	5,827	0	0.00000	1.00000	97.34
17.5	5,827	0	0.00000	1.00000	97.34
18.5	5,827	1,282	0.22002	0.77998	97.34
19.5	4,545	0	0.00000	1.00000	75.92
20.5	4,545	0	0.00000	1.00000	75.92
21.5	4,545	0	0.00000	1.00000	75.92
22.5	4,545	0	0.00000	1.00000	75.92
23.5	4,545	0	0.00000	1.00000	75.92
24.5	4,545	0	0.00000	1.00000	75.92
25.5	4,545	0	0.00000	1.00000	75.92
26.5	4,545	0	0.00000	1.00000	75.92

New Jersey - American Water Company

Account 364.000 - Flow Measuring Devices

Placement Band - 1993 - 2022 Experience Band - 2012 - 2022

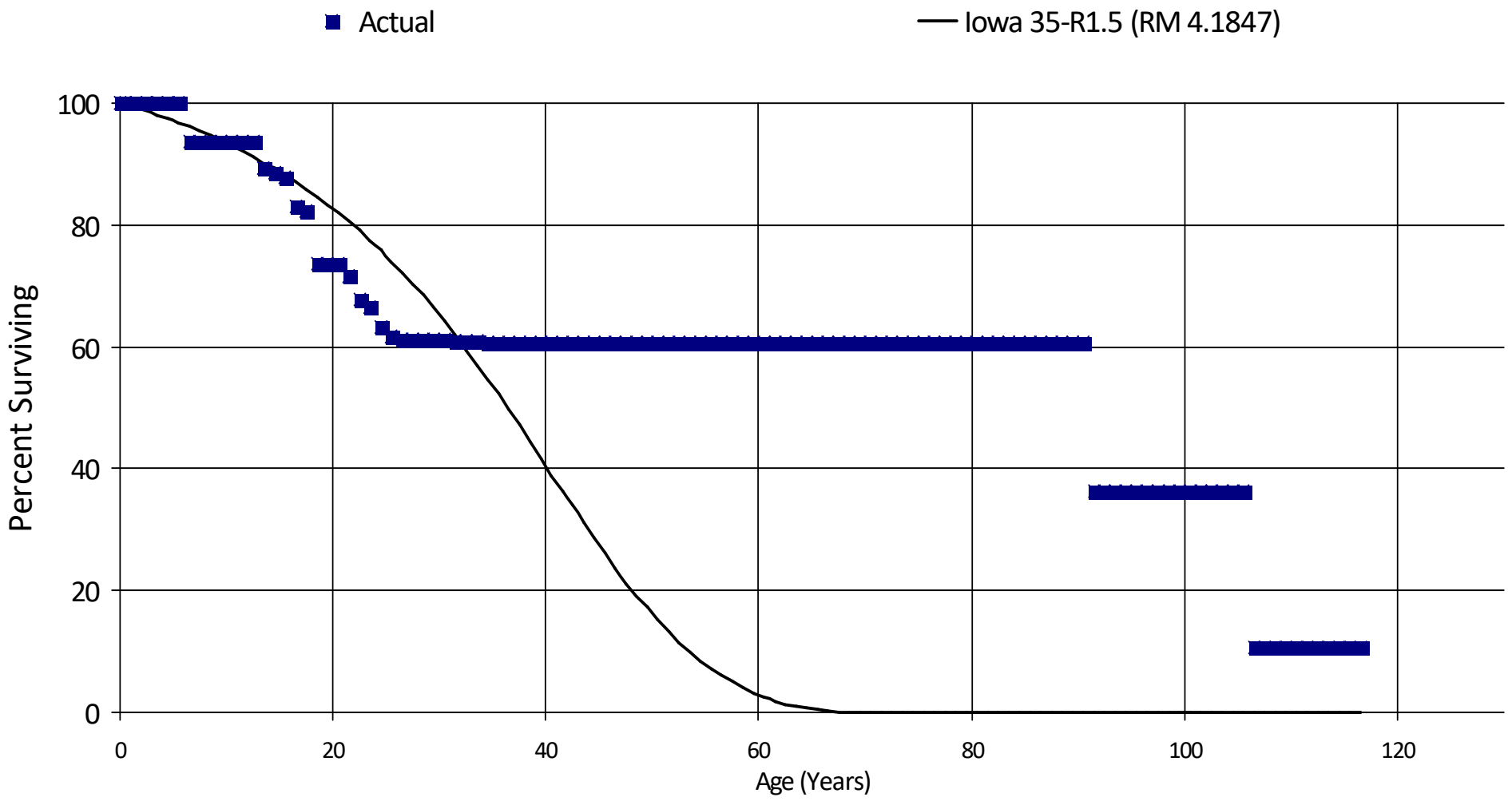
27.5	4,545	0	0.00000	1.00000	75.92
28.5	4,545	0	0.00000	1.00000	75.92
	Totals:	2,209			

New Jersey - American Water Company

Account 370.000 - Receiving Wells

Placement Band - 1905 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 370.000 - Receiving Wells

Placement Band - 1905 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	2,030,215	0	0.00000	1.00000	100.00
0.5	2,030,215	0	0.00000	1.00000	100.00
1.5	2,030,215	0	0.00000	1.00000	100.00
2.5	2,030,215	0	0.00000	1.00000	100.00
3.5	929,719	0	0.00000	1.00000	100.00
4.5	880,002	0	0.00000	1.00000	100.00
5.5	587,565	37,218	0.06334	0.93666	100.00
6.5	550,347	0	0.00000	1.00000	93.67
7.5	550,347	0	0.00000	1.00000	93.67
8.5	534,387	0	0.00000	1.00000	93.67
9.5	534,387	0	0.00000	1.00000	93.67
10.5	534,387	0	0.00000	1.00000	93.67
11.5	532,068	0	0.00000	1.00000	93.67
12.5	463,721	20,916	0.04510	0.95490	93.67
13.5	439,529	4,882	0.01111	0.98889	89.45
14.5	354,520	2,689	0.00758	0.99242	88.46
15.5	350,027	18,642	0.05326	0.94674	87.79
16.5	331,370	3,988	0.01203	0.98797	83.11
17.5	325,458	34,157	0.10495	0.89505	82.11
18.5	244,250	0	0.00000	1.00000	73.49
19.5	217,227	0	0.00000	1.00000	73.49
20.5	217,227	5,300	0.02440	0.97560	73.49
21.5	202,288	11,198	0.05536	0.94464	71.70
22.5	191,090	3,748	0.01961	0.98039	67.73
23.5	187,342	9,255	0.04940	0.95060	66.40
24.5	178,087	4,113	0.02310	0.97690	63.12
25.5	134,359	1,325	0.00986	0.99014	61.66
26.5	133,034	0	0.00000	1.00000	61.05

New Jersey - American Water Company

Account 370.000 - Receiving Wells

Placement Band - 1905 - 2022 Experience Band - 2008 - 2022

27.5	128,227	0	0.00000	1.00000	61.05
28.5	128,227	0	0.00000	1.00000	61.05
29.5	128,227	0	0.00000	1.00000	61.05
30.5	125,090	434	0.00347	0.99653	61.05
31.5	124,656	0	0.00000	1.00000	60.84
32.5	124,656	0	0.00000	1.00000	60.84
33.5	122,748	332	0.00270	0.99730	60.84
34.5	122,416	0	0.00000	1.00000	60.68
35.5	122,416	0	0.00000	1.00000	60.68
36.5	122,416	0	0.00000	1.00000	60.68
37.5	122,416	0	0.00000	1.00000	60.68
38.5	122,416	0	0.00000	1.00000	60.68
39.5	122,416	0	0.00000	1.00000	60.68
40.5	122,416	0	0.00000	1.00000	60.68
41.5	122,416	0	0.00000	1.00000	60.68
42.5	122,416	134	0.00109	0.99891	60.68
43.5	119,696	0	0.00000	1.00000	60.61
44.5	119,696	0	0.00000	1.00000	60.61
45.5	119,696	0	0.00000	1.00000	60.61
46.5	119,696	0	0.00000	1.00000	60.61
47.5	76,130	0	0.00000	1.00000	60.61
48.5	76,130	0	0.00000	1.00000	60.61
49.5	76,130	0	0.00000	1.00000	60.61
50.5	76,130	0	0.00000	1.00000	60.61
51.5	76,130	0	0.00000	1.00000	60.61
52.5	45,812	0	0.00000	1.00000	60.61
53.5	45,812	0	0.00000	1.00000	60.61
54.5	45,397	0	0.00000	1.00000	60.61
55.5	45,397	0	0.00000	1.00000	60.61
56.5	45,397	0	0.00000	1.00000	60.61
57.5	45,397	0	0.00000	1.00000	60.61

New Jersey - American Water Company

Account 370.000 - Receiving Wells

Placement Band - 1905 - 2022 Experience Band - 2008 - 2022

58.5	45,397	0	0.00000	1.00000	60.61
59.5	45,397	0	0.00000	1.00000	60.61
60.5	45,397	0	0.00000	1.00000	60.61
61.5	45,397	0	0.00000	1.00000	60.61
62.5	45,397	0	0.00000	1.00000	60.61
63.5	45,397	0	0.00000	1.00000	60.61
64.5	45,397	0	0.00000	1.00000	60.61
65.5	45,397	0	0.00000	1.00000	60.61
66.5	45,397	0	0.00000	1.00000	60.61
67.5	32,797	0	0.00000	1.00000	60.61
68.5	32,797	0	0.00000	1.00000	60.61
69.5	32,797	0	0.00000	1.00000	60.61
70.5	32,797	0	0.00000	1.00000	60.61
71.5	32,797	0	0.00000	1.00000	60.61
72.5	29,030	0	0.00000	1.00000	60.61
73.5	29,030	0	0.00000	1.00000	60.61
74.5	29,030	0	0.00000	1.00000	60.61
75.5	29,030	0	0.00000	1.00000	60.61
76.5	29,030	0	0.00000	1.00000	60.61
77.5	29,030	0	0.00000	1.00000	60.61
78.5	29,030	0	0.00000	1.00000	60.61
79.5	29,030	0	0.00000	1.00000	60.61
80.5	29,030	0	0.00000	1.00000	60.61
81.5	29,030	0	0.00000	1.00000	60.61
82.5	29,030	0	0.00000	1.00000	60.61
83.5	29,030	0	0.00000	1.00000	60.61
84.5	29,030	0	0.00000	1.00000	60.61
85.5	29,030	0	0.00000	1.00000	60.61
86.5	29,030	0	0.00000	1.00000	60.61
87.5	29,030	0	0.00000	1.00000	60.61
88.5	29,030	0	0.00000	1.00000	60.61

New Jersey - American Water Company

Account 370.000 - Receiving Wells

Placement Band - 1905 - 2022 Experience Band - 2008 - 2022

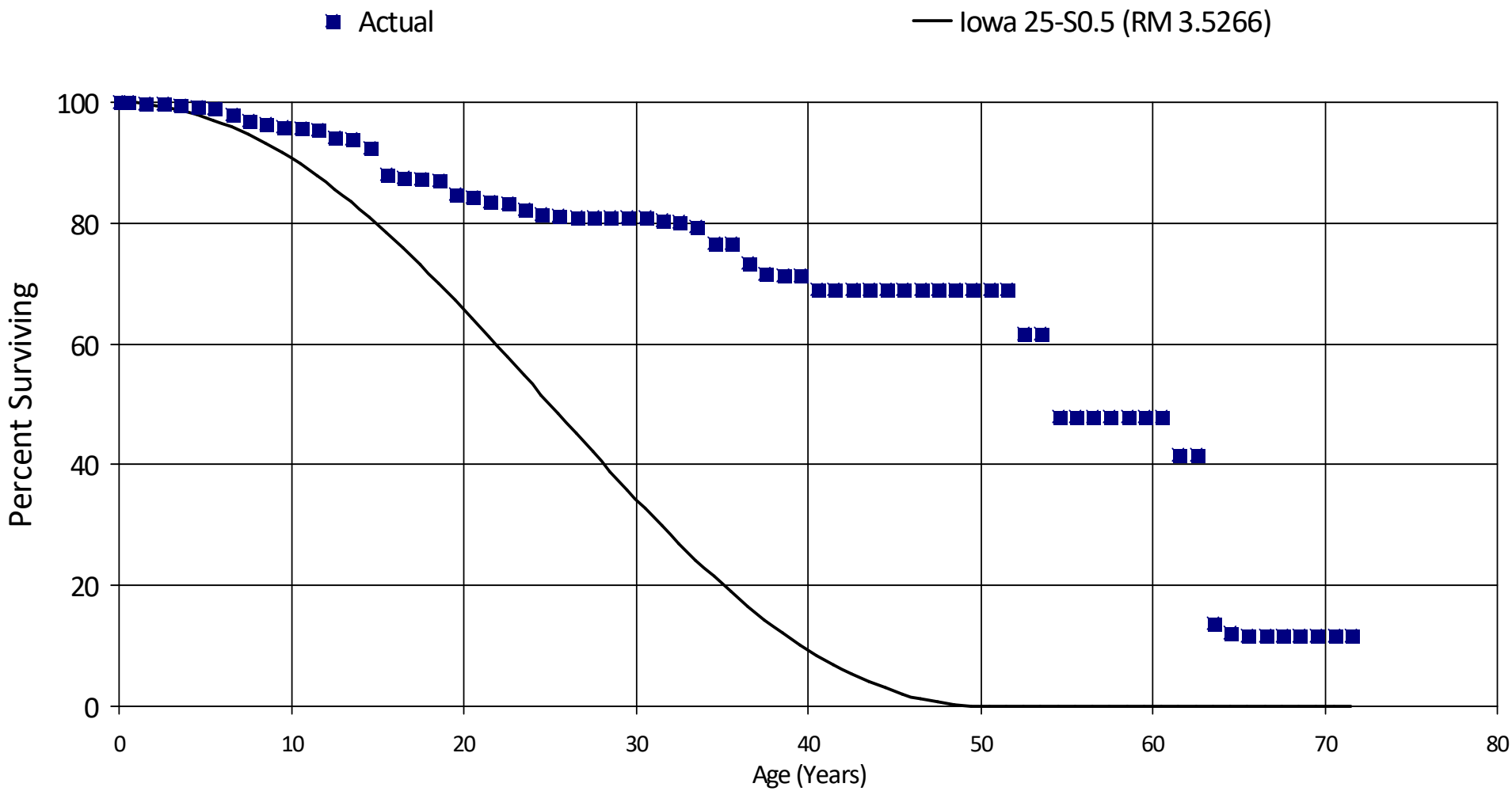
89.5	29,030	0	0.00000	1.00000	60.61
90.5	29,030	11,671	0.40203	0.59797	60.61
91.5	17,359	0	0.00000	1.00000	36.24
92.5	17,359	0	0.00000	1.00000	36.24
93.5	17,359	0	0.00000	1.00000	36.24
94.5	17,359	0	0.00000	1.00000	36.24
95.5	17,359	0	0.00000	1.00000	36.24
96.5	17,359	0	0.00000	1.00000	36.24
97.5	5,030	0	0.00000	1.00000	36.24
98.5	230	0	0.00000	1.00000	36.24
99.5	230	0	0.00000	1.00000	36.24
100.5	230	0	0.00000	1.00000	36.24
101.5	230	0	0.00000	1.00000	36.24
102.5	230	0	0.00000	1.00000	36.24
103.5	230	0	0.00000	1.00000	36.24
104.5	230	0	0.00000	1.00000	36.24
105.5	230	162	0.70435	0.29565	36.24
106.5	68	0	0.00000	1.00000	10.71
107.5	68	0	0.00000	1.00000	10.71
108.5	68	0	0.00000	1.00000	10.71
109.5	68	0	0.00000	1.00000	10.71
110.5	68	0	0.00000	1.00000	10.71
111.5	68	0	0.00000	1.00000	10.71
112.5	68	0	0.00000	1.00000	10.71
113.5	68	0	0.00000	1.00000	10.71
114.5	68	0	0.00000	1.00000	10.71
115.5	68	0	0.00000	1.00000	10.71
116.5	68	0	0.00000	1.00000	10.71
	Totals:	170,164			

New Jersey - American Water Company

Account 371.100 - Pumping Equipment - Electric

Placement Band - 1950 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 371.100 - Pumping Equipment - Electric

Placement Band - 1950 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	22,582,320	0	0.00000	1.00000	100.00
0.5	22,036,604	69,537	0.00316	0.99684	100.00
1.5	21,851,679	13,581	0.00062	0.99938	99.68
2.5	21,624,335	22,423	0.00104	0.99896	99.62
3.5	19,565,541	33,097	0.00169	0.99831	99.52
4.5	16,683,490	62,289	0.00373	0.99627	99.35
5.5	7,984,953	80,348	0.01006	0.98994	98.98
6.5	7,595,823	74,159	0.00976	0.99024	97.98
7.5	6,417,145	41,936	0.00653	0.99347	97.02
8.5	6,045,568	27,904	0.00462	0.99538	96.39
9.5	5,860,739	9,653	0.00165	0.99835	95.94
10.5	5,431,824	25,396	0.00468	0.99532	95.78
11.5	5,043,318	57,554	0.01141	0.98859	95.33
12.5	4,163,884	17,473	0.00420	0.99580	94.24
13.5	4,081,177	66,505	0.01630	0.98370	93.84
14.5	3,102,110	144,492	0.04658	0.95342	92.31
15.5	2,903,464	14,726	0.00507	0.99493	88.01
16.5	2,888,738	8,104	0.00281	0.99719	87.56
17.5	2,877,537	6,218	0.00216	0.99784	87.31
18.5	2,641,538	73,892	0.02797	0.97203	87.12
19.5	2,542,797	14,956	0.00588	0.99412	84.68
20.5	2,506,231	22,931	0.00915	0.99085	84.18
21.5	2,483,299	5,228	0.00211	0.99789	83.41
22.5	2,478,071	31,209	0.01259	0.98741	83.23
23.5	1,997,006	17,785	0.00891	0.99109	82.18
24.5	1,974,284	7,474	0.00379	0.99621	81.45
25.5	1,966,810	3,468	0.00176	0.99824	81.14
26.5	1,963,342	99	0.00005	0.99995	81.00

New Jersey - American Water Company

Account 371.100 - Pumping Equipment - Electric

Placement Band - 1950 - 2022 Experience Band - 2008 - 2022

27.5	1,428,094	786	0.00055	0.99945	81.00
28.5	1,427,308	1,287	0.00090	0.99910	80.96
29.5	1,426,021	0	0.00000	1.00000	80.89
30.5	1,426,021	5,413	0.00380	0.99620	80.89
31.5	501,029	2,923	0.00583	0.99417	80.58
32.5	498,106	3,631	0.00729	0.99271	80.11
33.5	492,026	18,366	0.03733	0.96267	79.53
34.5	473,661	0	0.00000	1.00000	76.56
35.5	473,661	20,038	0.04230	0.95770	76.56
36.5	453,623	10,234	0.02256	0.97744	73.32
37.5	432,111	1,713	0.00396	0.99604	71.67
38.5	181,994	60	0.00033	0.99967	71.39
39.5	181,934	6,126	0.03367	0.96633	71.37
40.5	175,808	0	0.00000	1.00000	68.97
41.5	170,999	0	0.00000	1.00000	68.97
42.5	161,499	0	0.00000	1.00000	68.97
43.5	151,102	0	0.00000	1.00000	68.97
44.5	151,102	0	0.00000	1.00000	68.97
45.5	151,102	0	0.00000	1.00000	68.97
46.5	150,028	0	0.00000	1.00000	68.97
47.5	147,175	0	0.00000	1.00000	68.97
48.5	147,175	0	0.00000	1.00000	68.97
49.5	147,175	0	0.00000	1.00000	68.97
50.5	147,175	0	0.00000	1.00000	68.97
51.5	147,175	15,386	0.10454	0.89546	68.97
52.5	127,852	0	0.00000	1.00000	61.76
53.5	127,852	28,755	0.22491	0.77509	61.76
54.5	99,097	0	0.00000	1.00000	47.87
55.5	99,097	0	0.00000	1.00000	47.87
56.5	99,097	0	0.00000	1.00000	47.87
57.5	10,687	0	0.00000	1.00000	47.87

New Jersey - American Water Company

Account 371.100 - Pumping Equipment - Electric

Placement Band - 1950 - 2022 Experience Band - 2008 - 2022

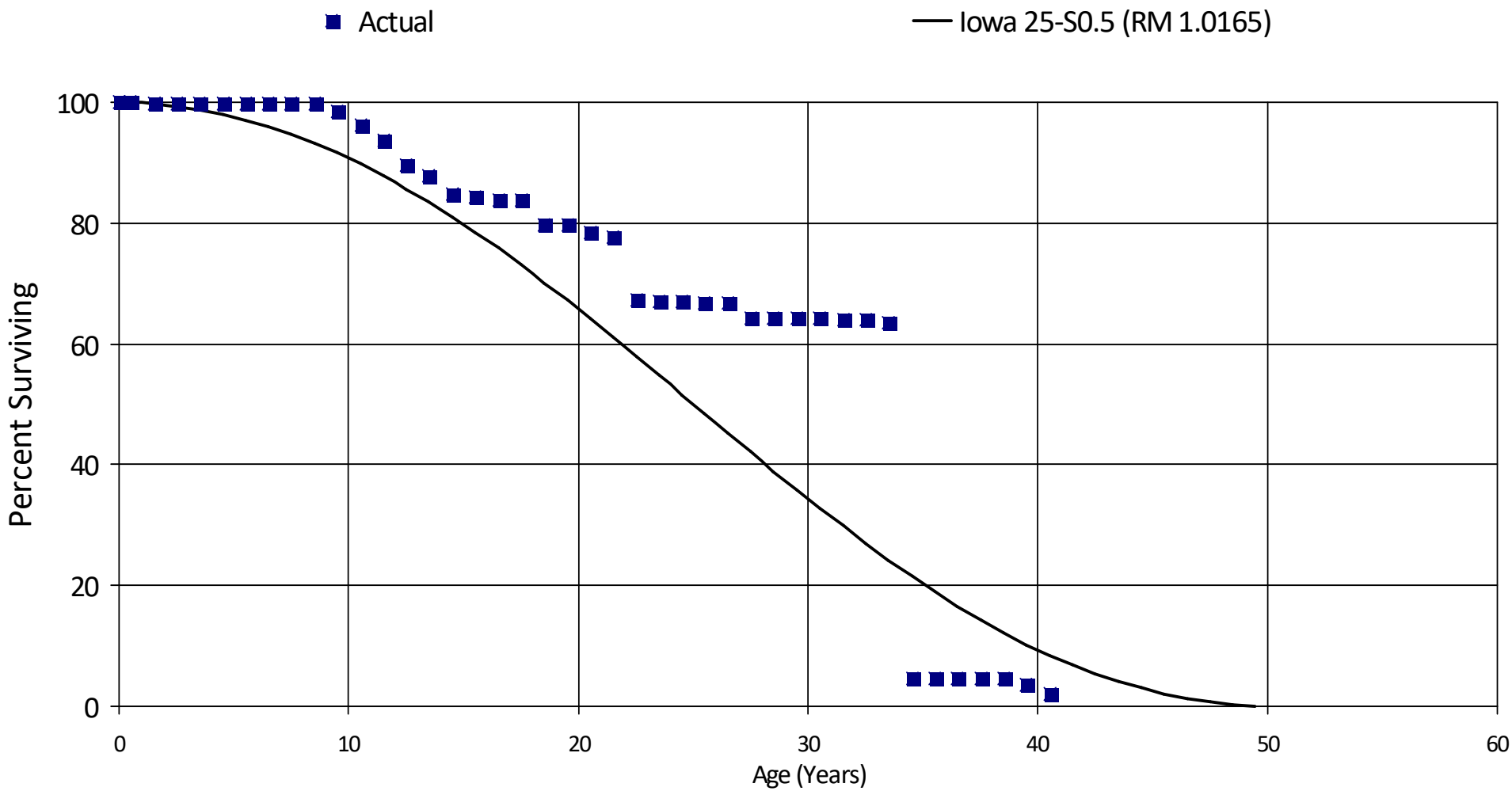
58.5	10,687	0	0.00000	1.00000	47.87
59.5	10,687	0	0.00000	1.00000	47.87
60.5	10,687	1,414	0.13231	0.86769	47.87
61.5	9,273	0	0.00000	1.00000	41.54
62.5	9,273	6,232	0.67207	0.32793	41.54
63.5	3,041	332	0.10916	0.89084	13.62
64.5	2,709	128	0.04725	0.95275	12.13
65.5	2,581	0	0.00000	1.00000	11.56
66.5	2,581	0	0.00000	1.00000	11.56
67.5	1,087	0	0.00000	1.00000	11.56
68.5	1,087	0	0.00000	1.00000	11.56
69.5	1,087	0	0.00000	1.00000	11.56
70.5	1,087	0	0.00000	1.00000	11.56
71.5	1,087	0	0.00000	1.00000	11.56
	Totals:	1,075,261			

New Jersey - American Water Company

Account 371.200 - Pumping Equipment - Other Power

Placement Band - 1972 - 2022 Experience Band - 2011 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 371.200 - Pumping Equipment - Other Power

Placement Band - 1972 - 2022 Experience Band - 2011 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	1,572,369	0	0.00000	1.00000	100.00
0.5	1,572,369	3,040	0.00193	0.99807	100.00
1.5	1,569,330	0	0.00000	1.00000	99.81
2.5	1,569,330	1,500	0.00096	0.99904	99.81
3.5	1,567,830	0	0.00000	1.00000	99.71
4.5	1,562,228	0	0.00000	1.00000	99.71
5.5	1,543,256	1,242	0.00080	0.99920	99.71
6.5	1,536,700	0	0.00000	1.00000	99.63
7.5	1,046,906	0	0.00000	1.00000	99.63
8.5	1,045,342	10,768	0.01030	0.98970	99.63
9.5	979,101	25,118	0.02565	0.97435	98.60
10.5	953,983	24,250	0.02542	0.97458	96.07
11.5	886,052	37,577	0.04241	0.95759	93.63
12.5	842,265	16,391	0.01946	0.98054	89.66
13.5	825,875	28,840	0.03492	0.96508	87.92
14.5	774,493	6,130	0.00791	0.99209	84.85
15.5	649,696	4,017	0.00618	0.99382	84.18
16.5	645,680	0	0.00000	1.00000	83.66
17.5	645,680	30,201	0.04677	0.95323	83.66
18.5	615,479	0	0.00000	1.00000	79.75
19.5	615,133	9,816	0.01596	0.98404	79.75
20.5	297,941	2,644	0.00887	0.99113	78.48
21.5	288,749	38,959	0.13492	0.86508	77.78
22.5	249,790	1,500	0.00601	0.99399	67.29
23.5	241,996	0	0.00000	1.00000	66.89
24.5	209,512	266	0.00127	0.99873	66.89
25.5	209,246	0	0.00000	1.00000	66.81
26.5	209,246	8,038	0.03841	0.96159	66.81

New Jersey - American Water Company

Account 371.200 - Pumping Equipment - Other Power

Placement Band - 1972 - 2022 Experience Band - 2011 - 2022

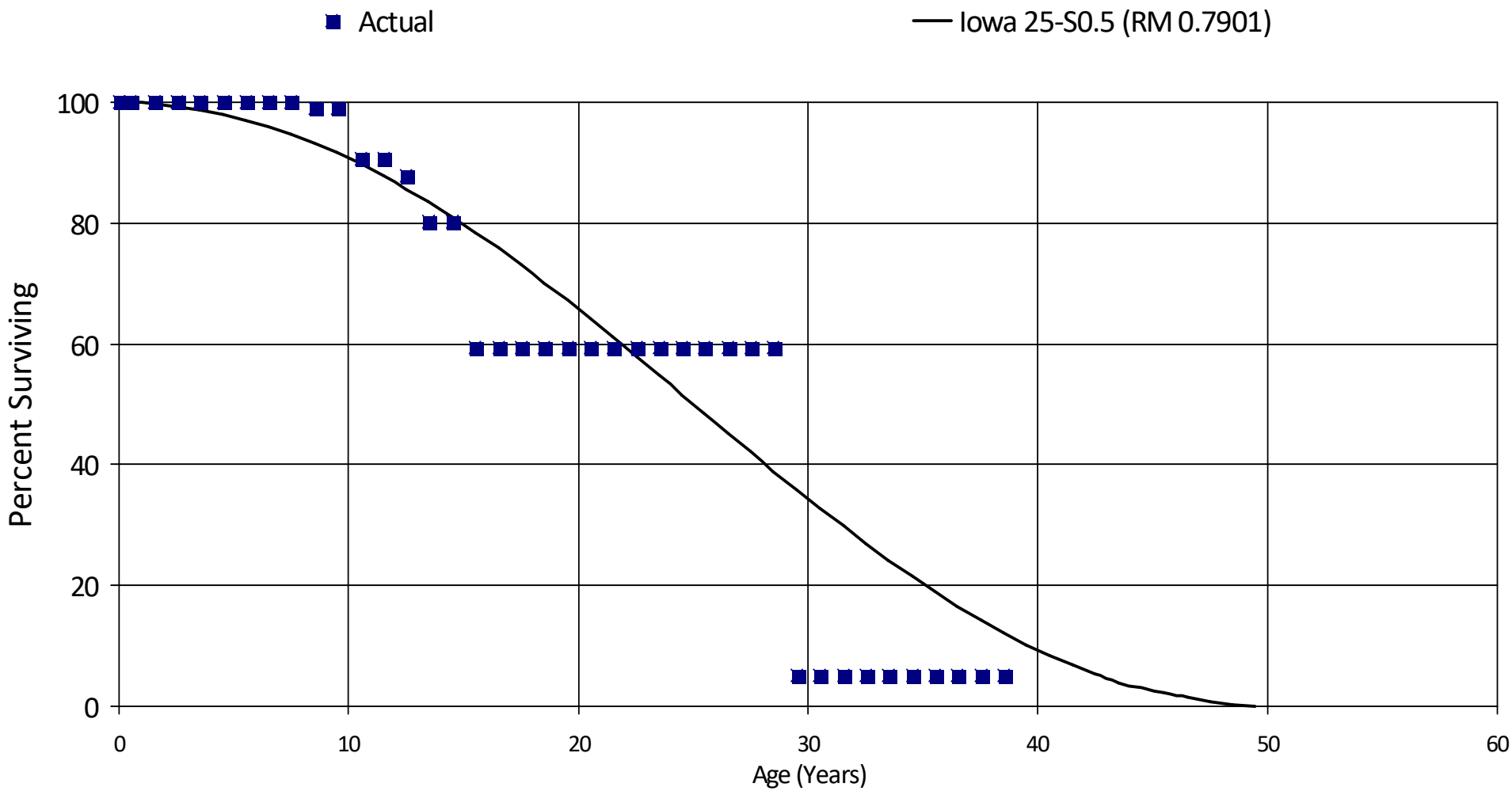
27.5	178,289	264	0.00148	0.99852	64.24
28.5	178,025	0	0.00000	1.00000	64.14
29.5	178,025	0	0.00000	1.00000	64.14
30.5	178,025	843	0.00474	0.99526	64.14
31.5	138,829	0	0.00000	1.00000	63.84
32.5	138,829	1,094	0.00788	0.99212	63.84
33.5	137,735	127,831	0.92809	0.07191	63.34
34.5	9,904	0	0.00000	1.00000	4.55
35.5	9,904	0	0.00000	1.00000	4.55
36.5	9,904	0	0.00000	1.00000	4.55
37.5	9,904	0	0.00000	1.00000	4.55
38.5	6,178	1,500	0.24278	0.75722	4.55
39.5	4,678	1,884	0.40270	0.59730	3.45
40.5	2,500	2,500	1.00000		2.06
	Totals:	386,213			

New Jersey - American Water Company

Account 371.300 - Pumping Equipment - Miscellaneous

Placement Band - 1978 - 2022 Experience Band - 2007 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 371.300 - Pumping Equipment - Miscellaneous

Placement Band - 1978 - 2022 Experience Band - 2007 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	310,017	0	0.00000	1.00000	100.00
0.5	298,911	0	0.00000	1.00000	100.00
1.5	298,911	0	0.00000	1.00000	100.00
2.5	298,911	0	0.00000	1.00000	100.00
3.5	298,911	0	0.00000	1.00000	100.00
4.5	298,911	0	0.00000	1.00000	100.00
5.5	298,911	0	0.00000	1.00000	100.00
6.5	298,911	134	0.00045	0.99955	100.00
7.5	248,169	2,154	0.00868	0.99132	99.96
8.5	244,015	0	0.00000	1.00000	99.09
9.5	197,820	16,746	0.08465	0.91535	99.09
10.5	143,829	0	0.00000	1.00000	90.70
11.5	143,829	4,403	0.03061	0.96939	90.70
12.5	130,716	11,403	0.08724	0.91276	87.92
13.5	110,860	0	0.00000	1.00000	80.25
14.5	103,930	26,995	0.25974	0.74026	80.25
15.5	76,935	0	0.00000	1.00000	59.41
16.5	76,935	0	0.00000	1.00000	59.41
17.5	67,000	0	0.00000	1.00000	59.41
18.5	67,000	0	0.00000	1.00000	59.41
19.5	58,025	0	0.00000	1.00000	59.41
20.5	56,701	0	0.00000	1.00000	59.41
21.5	56,701	0	0.00000	1.00000	59.41
22.5	56,701	0	0.00000	1.00000	59.41
23.5	56,701	0	0.00000	1.00000	59.41
24.5	18,396	0	0.00000	1.00000	59.41
25.5	18,396	0	0.00000	1.00000	59.41
26.5	18,396	0	0.00000	1.00000	59.41

New Jersey - American Water Company

Account 371.300 - Pumping Equipment - Miscellaneous

Placement Band - 1978 - 2022 Experience Band - 2007 - 2022

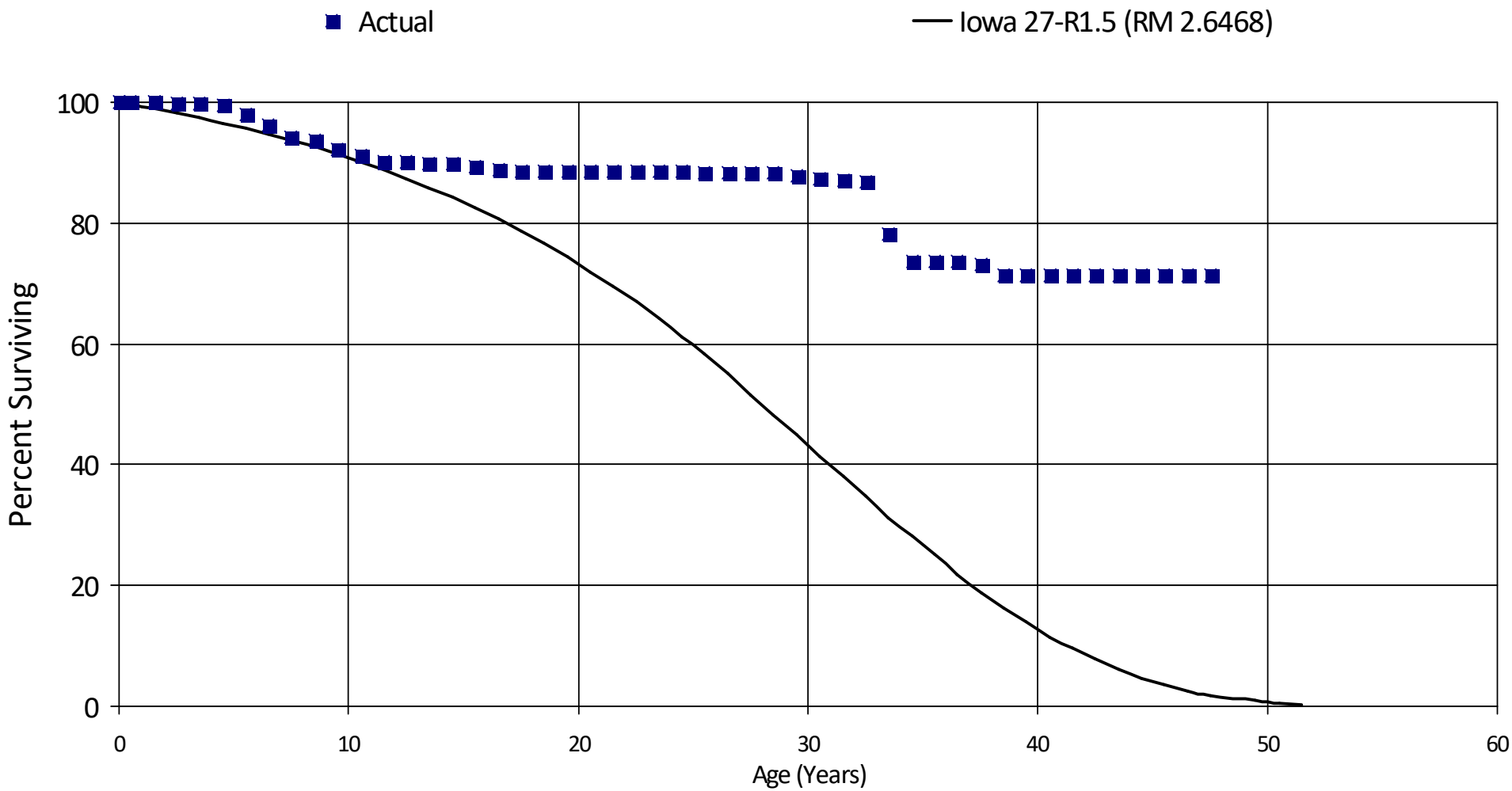
27.5	17,703	0	0.00000	1.00000	59.41
28.5	17,703	16,199	0.91504	0.08496	59.41
29.5	1,504	0	0.00000	1.00000	5.05
30.5	1,504	0	0.00000	1.00000	5.05
31.5	361	0	0.00000	1.00000	5.05
32.5	361	0	0.00000	1.00000	5.05
33.5	361	0	0.00000	1.00000	5.05
34.5	361	0	0.00000	1.00000	5.05
35.5	361	0	0.00000	1.00000	5.05
36.5	361	0	0.00000	1.00000	5.05
37.5	361	0	0.00000	1.00000	5.05
38.5	0	0	0.00000	0.00000	5.05
	Totals:	78,034			

New Jersey - American Water Company

Account 380.000 - TD Equipment

Placement Band - 1974 - 2022 Experience Band - 2012 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 380.000 - TD Equipment

Placement Band - 1974 - 2022 Experience Band - 2012 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	30,808,687	0	0.00000	1.00000	100.00
0.5	28,592,645	33,965	0.00119	0.99881	100.00
1.5	27,377,553	16,652	0.00061	0.99939	99.88
2.5	19,747,956	28,020	0.00142	0.99858	99.82
3.5	19,163,020	21,133	0.00110	0.99890	99.68
4.5	16,424,407	251,853	0.01533	0.98467	99.57
5.5	15,081,418	302,806	0.02008	0.97992	98.04
6.5	14,432,687	300,250	0.02080	0.97920	96.07
7.5	13,410,993	70,645	0.00527	0.99473	94.07
8.5	12,587,976	207,592	0.01649	0.98351	93.57
9.5	11,134,750	123,121	0.01106	0.98894	92.03
10.5	10,413,523	113,504	0.01090	0.98910	91.01
11.5	8,779,393	0	0.00000	1.00000	90.02
12.5	8,779,393	6,403	0.00073	0.99927	90.02
13.5	8,767,842	0	0.00000	1.00000	89.95
14.5	8,767,842	69,555	0.00793	0.99207	89.95
15.5	8,684,603	47,508	0.00547	0.99453	89.24
16.5	8,637,096	10,900	0.00126	0.99874	88.75
17.5	8,626,196	1,853	0.00021	0.99979	88.64
18.5	8,624,343	299	0.00003	0.99997	88.62
19.5	8,607,326	0	0.00000	1.00000	88.62
20.5	8,607,326	0	0.00000	1.00000	88.62
21.5	8,607,326	0	0.00000	1.00000	88.62
22.5	8,607,326	0	0.00000	1.00000	88.62
23.5	8,607,326	0	0.00000	1.00000	88.62
24.5	8,607,326	18,575	0.00216	0.99784	88.62
25.5	8,588,751	3,500	0.00041	0.99959	88.43
26.5	8,585,251	18,560	0.00216	0.99784	88.39

New Jersey - American Water Company

Account 380.000 - TD Equipment

Placement Band - 1974 - 2022 Experience Band - 2012 - 2022

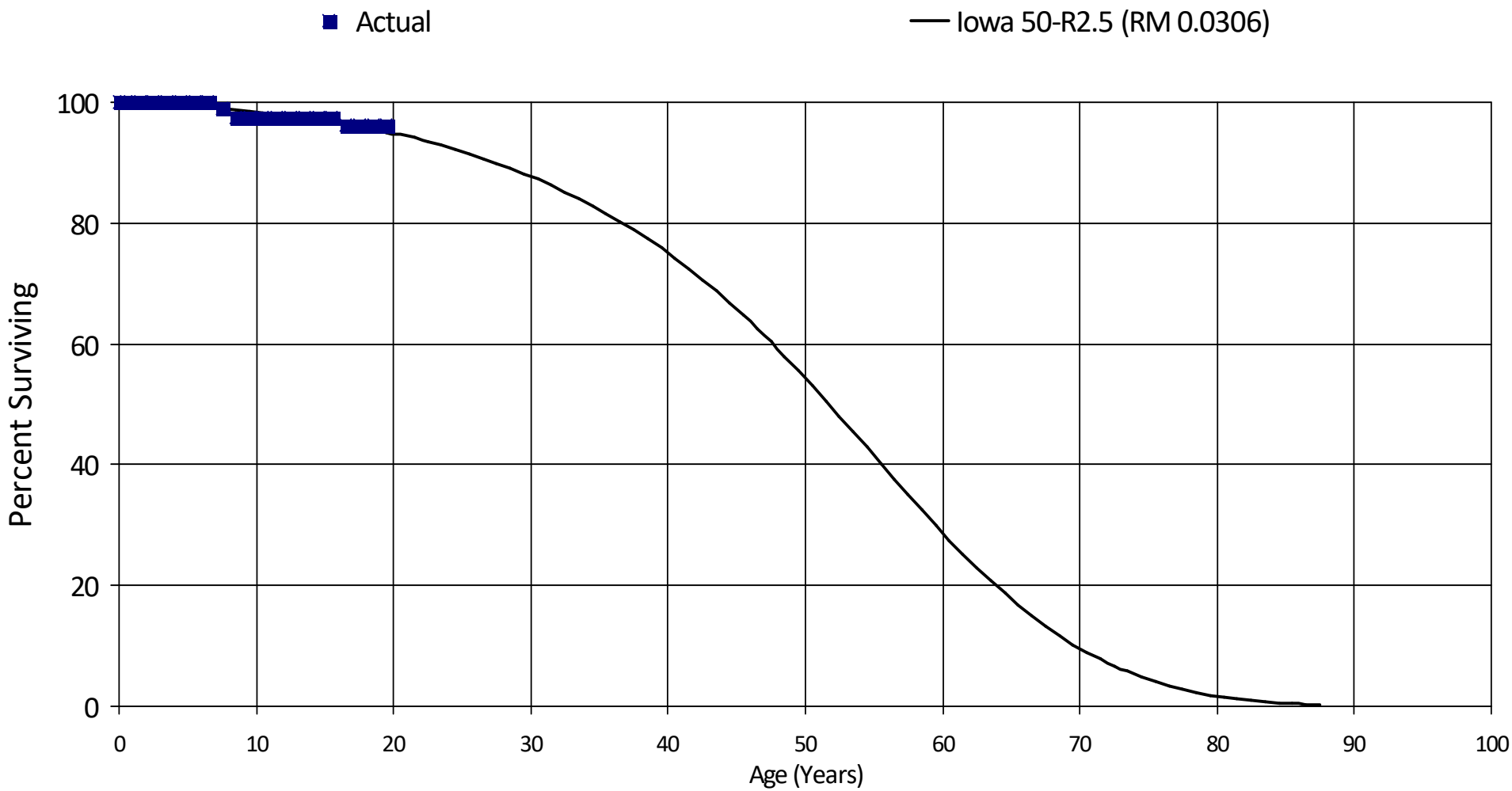
27.5	6,093,920	0	0.00000	1.00000	88.20
28.5	6,093,920	29,023	0.00476	0.99524	88.20
29.5	6,064,898	31,432	0.00518	0.99482	87.78
30.5	6,033,466	12,077	0.00200	0.99800	87.33
31.5	1,583,287	5,240	0.00331	0.99669	87.16
32.5	1,578,047	157,903	0.10006	0.89994	86.87
33.5	1,420,144	84,962	0.05983	0.94017	78.18
34.5	1,335,182	24	0.00002	0.99998	73.50
35.5	1,335,159	0	0.00000	1.00000	73.50
36.5	1,335,159	7,576	0.00567	0.99433	73.50
37.5	1,327,583	30,104	0.02268	0.97732	73.08
38.5	277,576	0	0.00000	1.00000	71.42
39.5	277,576	0	0.00000	1.00000	71.42
40.5	277,576	0	0.00000	1.00000	71.42
41.5	277,576	0	0.00000	1.00000	71.42
42.5	277,576	0	0.00000	1.00000	71.42
43.5	277,576	0	0.00000	1.00000	71.42
44.5	277,576	0	0.00000	1.00000	71.42
45.5	277,576	0	0.00000	1.00000	71.42
46.5	277,576	0	0.00000	1.00000	71.42
47.5	277,576	6,793	0.02447	0.97553	71.42
	Totals:	2,011,828			

New Jersey - American Water Company

Account 381.000 - Plant Sewers

Placement Band - 2002 - 2022 Experience Band - 2016 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 381.000 - Plant Sewers

Placement Band - 2002 - 2022 Experience Band - 2016 - 2022

RETIREMENT RATE ANALYSIS

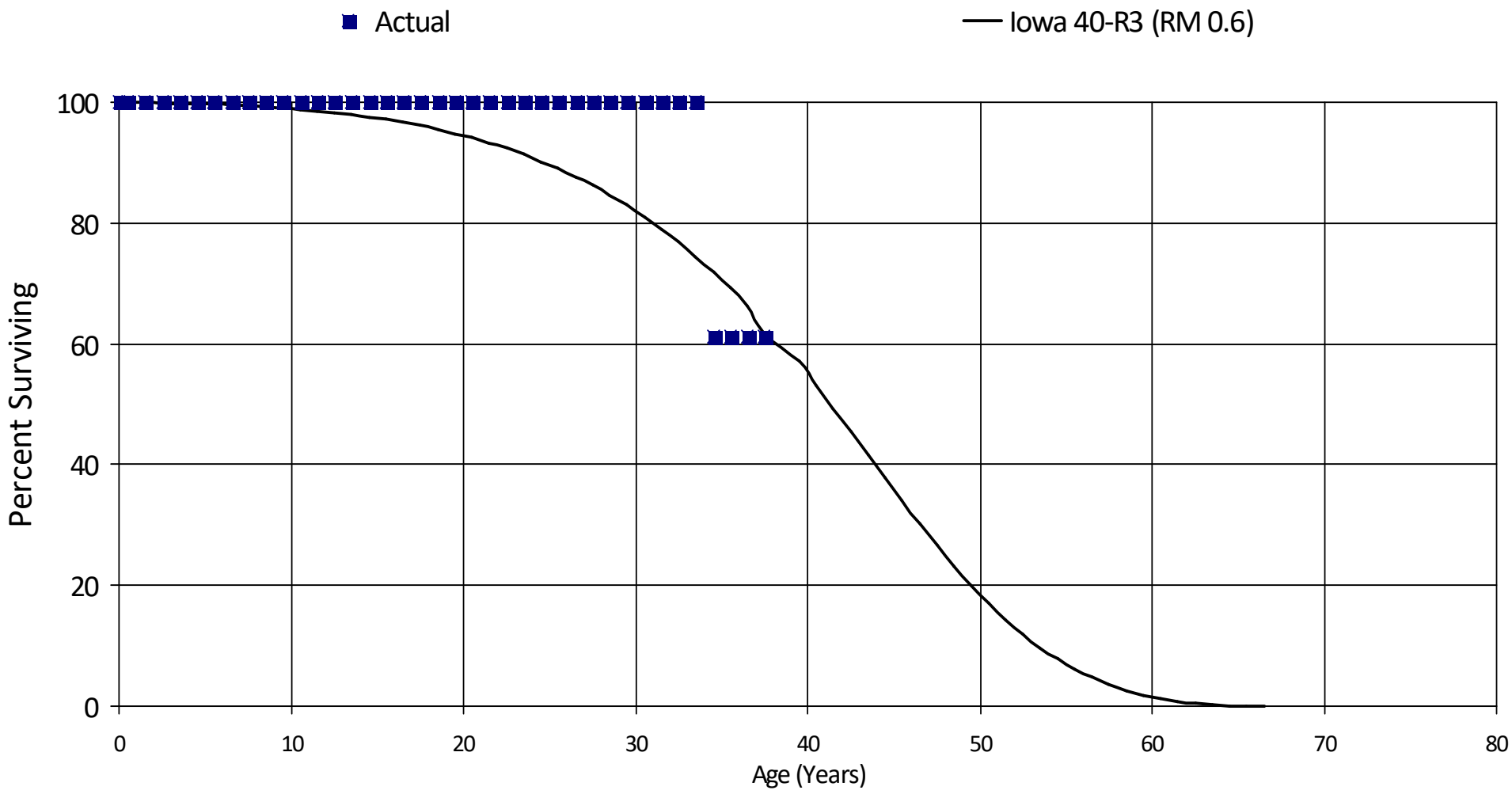
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	907,676	0	0.00000	1.00000	100.00
0.5	907,676	0	0.00000	1.00000	100.00
1.5	907,676	0	0.00000	1.00000	100.00
2.5	907,676	0	0.00000	1.00000	100.00
3.5	907,676	0	0.00000	1.00000	100.00
4.5	907,676	0	0.00000	1.00000	100.00
5.5	898,585	604	0.00067	0.99933	100.00
6.5	884,955	7,620	0.00861	0.99139	99.93
7.5	312,421	5,254	0.01682	0.98318	99.07
8.5	188,701	0	0.00000	1.00000	97.40
9.5	171,261	0	0.00000	1.00000	97.40
10.5	171,261	0	0.00000	1.00000	97.40
11.5	162,808	0	0.00000	1.00000	97.40
12.5	162,808	0	0.00000	1.00000	97.40
13.5	162,808	0	0.00000	1.00000	97.40
14.5	157,258	0	0.00000	1.00000	97.40
15.5	154,387	1,769	0.01146	0.98854	97.40
16.5	152,619	0	0.00000	1.00000	96.28
17.5	152,619	0	0.00000	1.00000	96.28
18.5	152,619	0	0.00000	1.00000	96.28
19.5	152,619	0	0.00000	1.00000	96.28
	Totals:	15,247			

New Jersey - American Water Company

Account 382.000 - Outfall Sewer Lines

Placement Band - 1984 - 2022 Experience Band - 2018 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 382.000 - Outfall Sewer Lines

Placement Band - 1984 - 2022 Experience Band - 2018 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	257,256	0	0.00000	1.00000	100.00
0.5	257,256	0	0.00000	1.00000	100.00
1.5	257,256	0	0.00000	1.00000	100.00
2.5	257,256	0	0.00000	1.00000	100.00
3.5	257,256	0	0.00000	1.00000	100.00
4.5	257,256	0	0.00000	1.00000	100.00
5.5	257,256	0	0.00000	1.00000	100.00
6.5	257,256	0	0.00000	1.00000	100.00
7.5	255,306	0	0.00000	1.00000	100.00
8.5	255,306	0	0.00000	1.00000	100.00
9.5	255,306	0	0.00000	1.00000	100.00
10.5	255,306	0	0.00000	1.00000	100.00
11.5	255,306	0	0.00000	1.00000	100.00
12.5	255,306	0	0.00000	1.00000	100.00
13.5	255,306	0	0.00000	1.00000	100.00
14.5	255,306	0	0.00000	1.00000	100.00
15.5	255,306	0	0.00000	1.00000	100.00
16.5	255,306	0	0.00000	1.00000	100.00
17.5	255,306	0	0.00000	1.00000	100.00
18.5	255,306	0	0.00000	1.00000	100.00
19.5	255,306	0	0.00000	1.00000	100.00
20.5	255,306	0	0.00000	1.00000	100.00
21.5	193,343	0	0.00000	1.00000	100.00
22.5	193,343	0	0.00000	1.00000	100.00
23.5	193,343	0	0.00000	1.00000	100.00
24.5	193,343	0	0.00000	1.00000	100.00
25.5	193,343	0	0.00000	1.00000	100.00
26.5	193,343	0	0.00000	1.00000	100.00

New Jersey - American Water Company

Account 382.000 - Outfall Sewer Lines

Placement Band - 1984 - 2022 Experience Band - 2018 - 2022

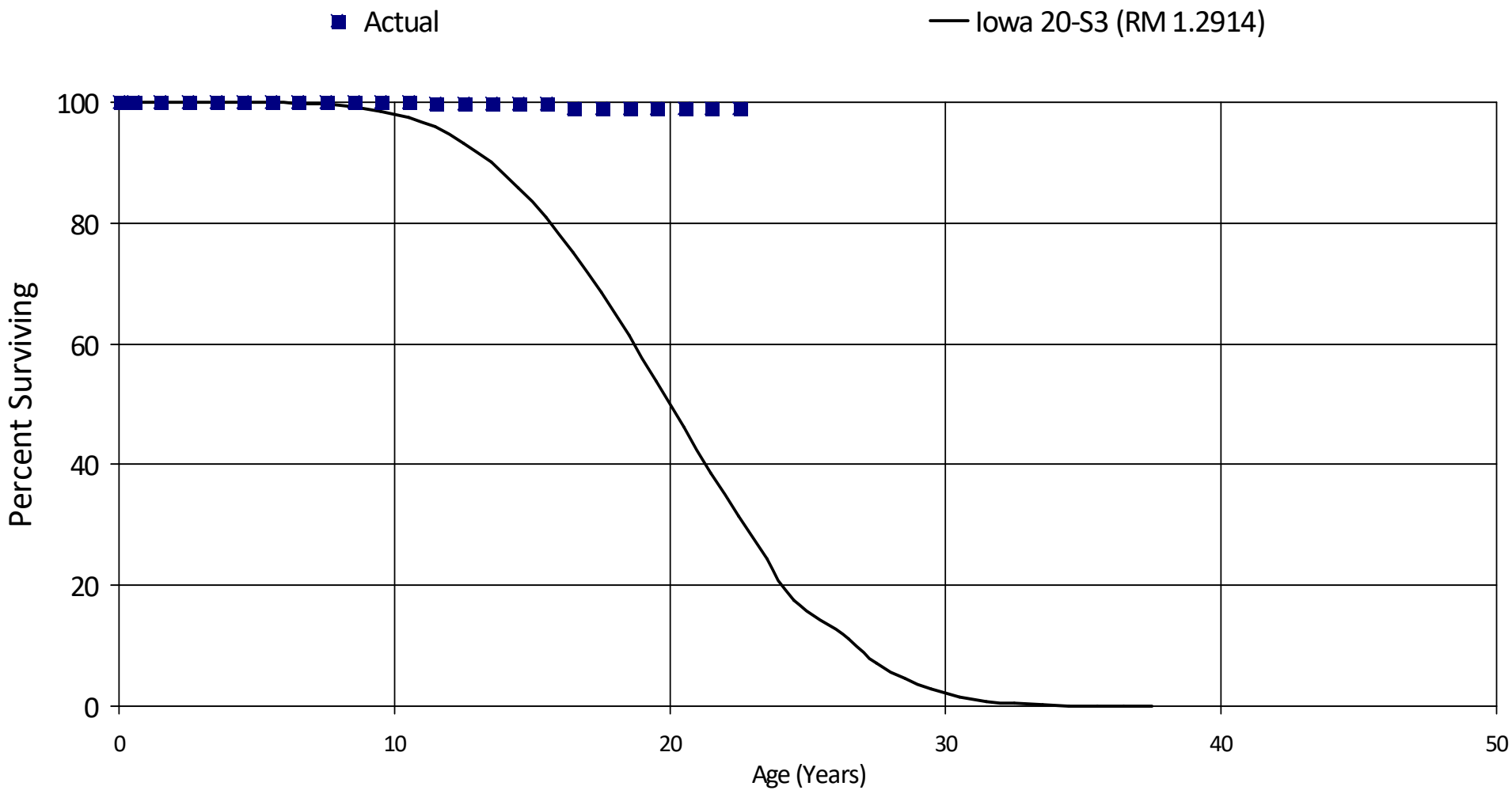
27.5	132,382	0	0.00000	1.00000	100.00
28.5	132,382	0	0.00000	1.00000	100.00
29.5	132,382	0	0.00000	1.00000	100.00
30.5	132,382	0	0.00000	1.00000	100.00
31.5	31,786	0	0.00000	1.00000	100.00
32.5	31,786	0	0.00000	1.00000	100.00
33.5	31,786	12,312	0.38735	0.61265	100.00
34.5	19,473	0	0.00000	1.00000	61.26
35.5	19,473	0	0.00000	1.00000	61.26
36.5	19,473	0	0.00000	1.00000	61.26
37.5	19,473	0	0.00000	1.00000	61.26
	Totals:	12,312			

New Jersey - American Water Company

Account 389.100 - Other Plant & Miscellaneous Equipment Intangible

Placement Band - 1997 - 2022 Experience Band - 2013 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 389.100 - Other Plant & Miscellaneous Equipment Intangible

Placement Band - 1997 - 2022 Experience Band - 2013 - 2022

RETIREMENT RATE ANALYSIS

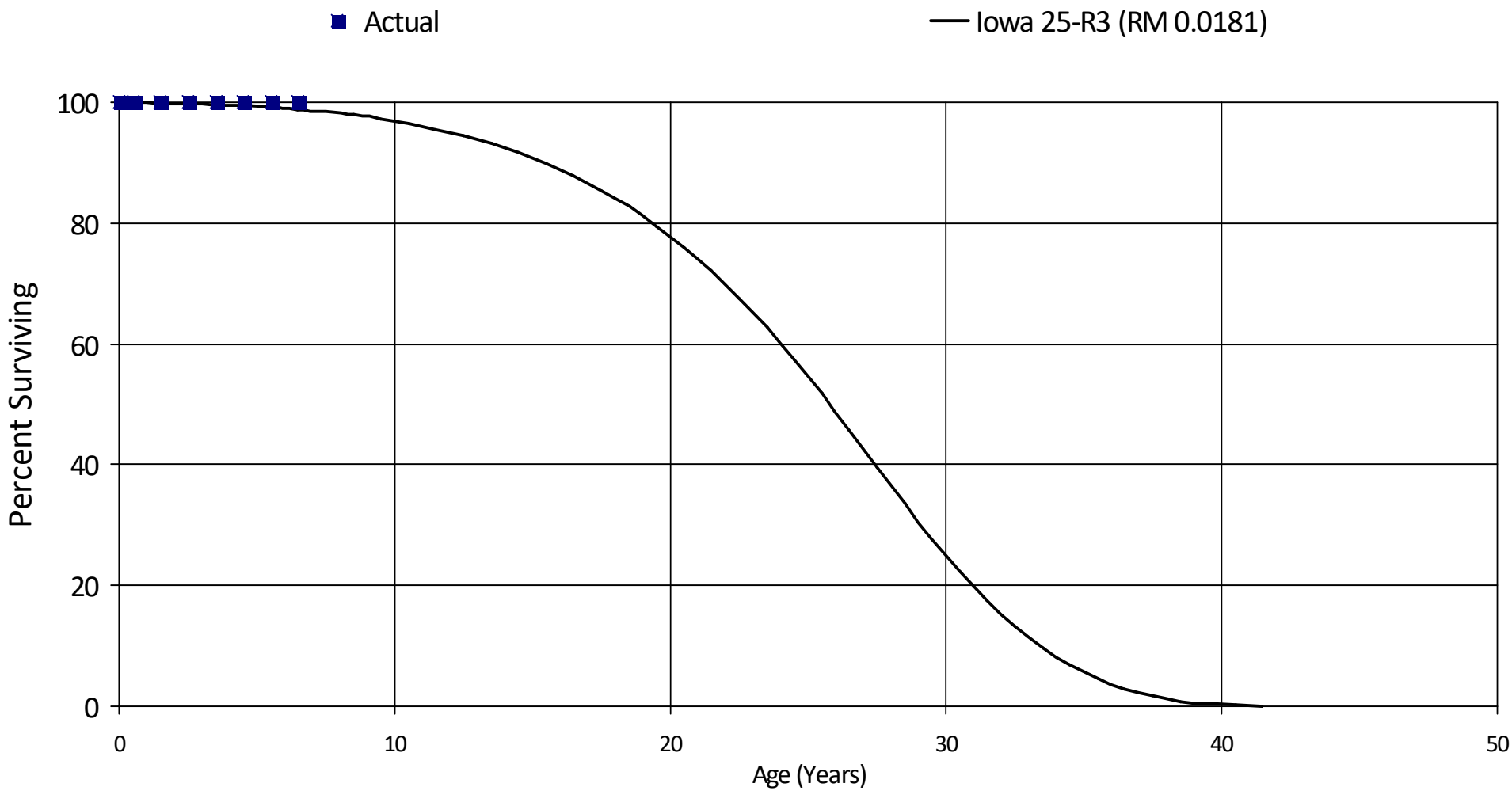
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	3,583,143	0	0.00000	1.00000	100.00
0.5	3,583,143	0	0.00000	1.00000	100.00
1.5	3,583,143	0	0.00000	1.00000	100.00
2.5	3,583,143	0	0.00000	1.00000	100.00
3.5	3,583,143	0	0.00000	1.00000	100.00
4.5	3,583,143	0	0.00000	1.00000	100.00
5.5	3,583,143	0	0.00000	1.00000	100.00
6.5	3,583,143	0	0.00000	1.00000	100.00
7.5	3,583,143	0	0.00000	1.00000	100.00
8.5	3,583,143	0	0.00000	1.00000	100.00
9.5	3,583,143	0	0.00000	1.00000	100.00
10.5	3,583,143	6,968	0.00194	0.99806	100.00
11.5	3,576,176	0	0.00000	1.00000	99.81
12.5	3,576,176	0	0.00000	1.00000	99.81
13.5	3,576,176	0	0.00000	1.00000	99.81
14.5	3,576,176	0	0.00000	1.00000	99.81
15.5	3,482,345	29,380	0.00844	0.99156	99.81
16.5	2,667,360	0	0.00000	1.00000	98.97
17.5	2,667,360	0	0.00000	1.00000	98.97
18.5	2,040,351	0	0.00000	1.00000	98.97
19.5	1,236,655	0	0.00000	1.00000	98.97
20.5	685	0	0.00000	1.00000	98.97
21.5	685	0	0.00000	1.00000	98.97
22.5	0	0	0.00000	0.00000	98.97
	Totals:	36,348			

New Jersey - American Water Company

Account 389.200 - Other Plant & Miscellaneous Equipment Collection

Placement Band - 2015 - 2022 Experience Band - 2022 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 389.200 - Other Plant & Miscellaneous Equipment Collection

Placement Band - 2015 - 2022 Experience Band - 2022 - 2022

RETIREMENT RATE ANALYSIS

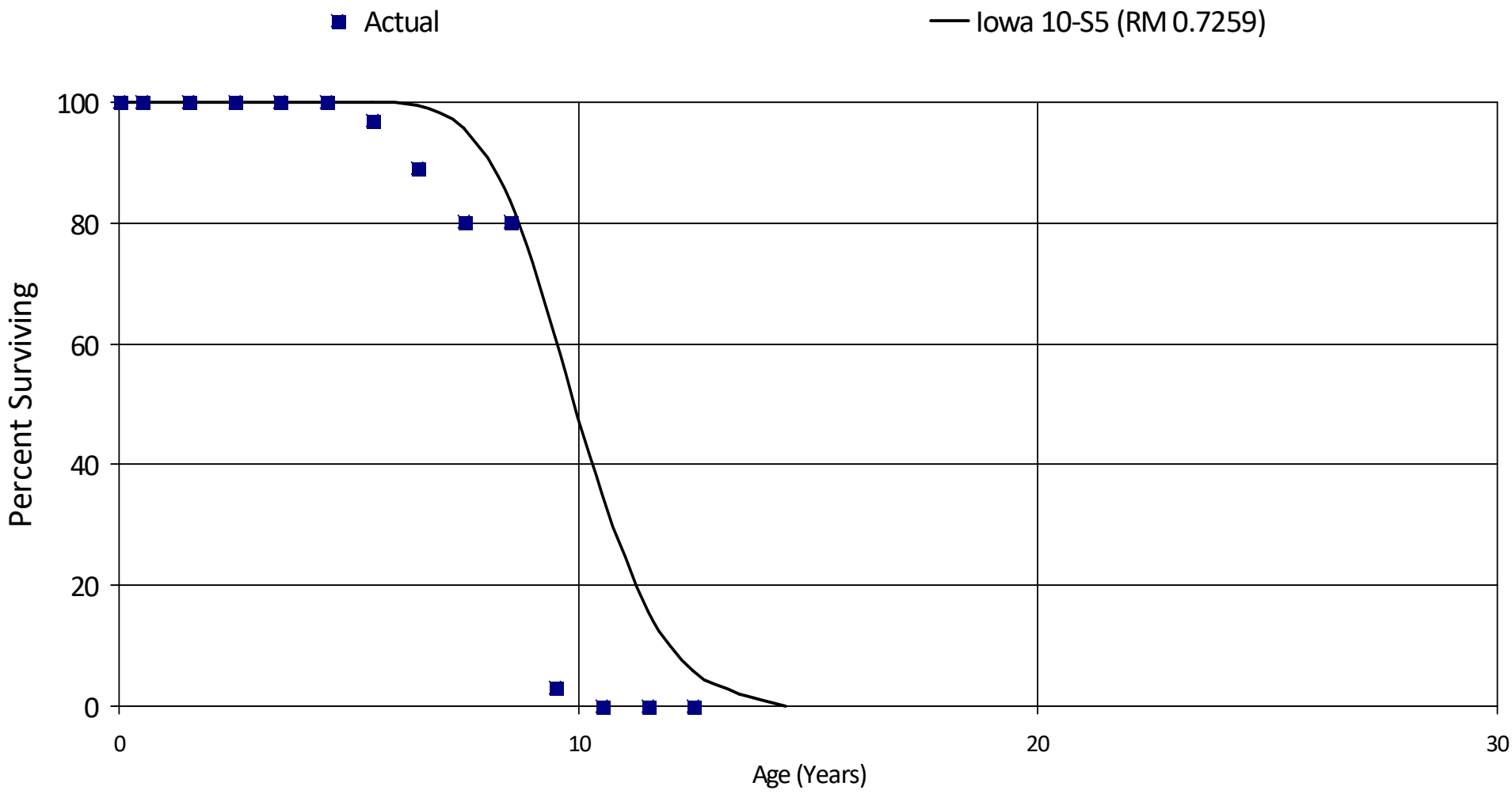
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	9,090	0	0.00000	1.00000	100.00
0.5	9,090	0	0.00000	1.00000	100.00
1.5	9,090	0	0.00000	1.00000	100.00
2.5	9,090	0	0.00000	1.00000	100.00
3.5	9,090	0	0.00000	1.00000	100.00
4.5	9,090	0	0.00000	1.00000	100.00
5.5	9,090	0	0.00000	1.00000	100.00
6.5	9,090	0	0.00000	1.00000	100.00
	Totals:	0			

New Jersey - American Water Company

Account 389.600 - Other P/E - CPS

Placement Band - 2000 - 2022 Experience Band - 2013 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 389.600 - Other P/E - CPS

Placement Band - 2000 - 2022 Experience Band - 2013 - 2022

RETIREMENT RATE ANALYSIS

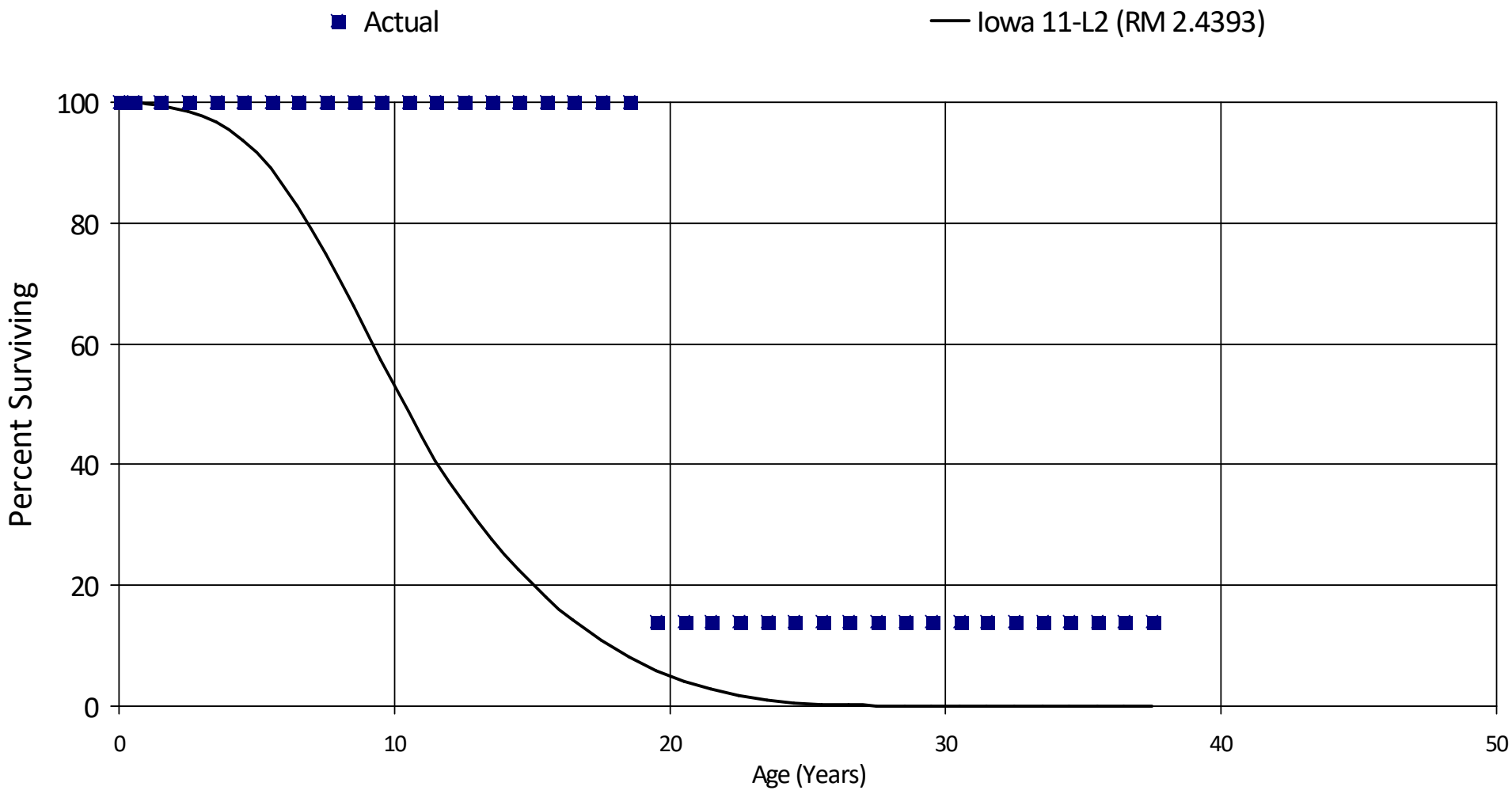
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	179,918	0	0.00000	1.00000	100.00
0.5	179,918	0	0.00000	1.00000	100.00
1.5	179,918	0	0.00000	1.00000	100.00
2.5	179,918	0	0.00000	1.00000	100.00
3.5	179,918	0	0.00000	1.00000	100.00
4.5	179,918	5,365	0.02982	0.97018	100.00
5.5	174,552	14,313	0.08200	0.91800	97.02
6.5	140,400	14,047	0.10005	0.89995	89.06
7.5	126,353	0	0.00000	1.00000	80.15
8.5	126,353	121,427	0.96101	0.03899	80.15
9.5	4,926	4,846	0.98371	0.01629	3.13
10.5	80	0	0.00000	1.00000	0.05
11.5	80	0	0.00000	1.00000	0.05
12.5	80	80	1.00000		0.05
	Totals:	160,078			

New Jersey - American Water Company

Account 391.000 - Transportation Equipment

Placement Band - 1984 - 2022 Experience Band - 2009 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 391.000 - Transportation Equipment

Placement Band - 1984 - 2022 Experience Band - 2009 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	833,578	0	0.00000	1.00000	100.00
0.5	833,578	0	0.00000	1.00000	100.00
1.5	770,454	0	0.00000	1.00000	100.00
2.5	770,454	0	0.00000	1.00000	100.00
3.5	770,454	0	0.00000	1.00000	100.00
4.5	770,454	0	0.00000	1.00000	100.00
5.5	770,454	0	0.00000	1.00000	100.00
6.5	765,540	0	0.00000	1.00000	100.00
7.5	122,695	0	0.00000	1.00000	100.00
8.5	122,695	0	0.00000	1.00000	100.00
9.5	122,695	0	0.00000	1.00000	100.00
10.5	122,695	0	0.00000	1.00000	100.00
11.5	122,695	0	0.00000	1.00000	100.00
12.5	122,695	0	0.00000	1.00000	100.00
13.5	122,695	0	0.00000	1.00000	100.00
14.5	122,695	0	0.00000	1.00000	100.00
15.5	122,695	0	0.00000	1.00000	100.00
16.5	122,695	0	0.00000	1.00000	100.00
17.5	122,695	0	0.00000	1.00000	100.00
18.5	122,695	105,715	0.86161	0.13839	100.00
19.5	16,980	0	0.00000	1.00000	13.84
20.5	16,980	0	0.00000	1.00000	13.84
21.5	16,980	0	0.00000	1.00000	13.84
22.5	16,980	0	0.00000	1.00000	13.84
23.5	16,980	0	0.00000	1.00000	13.84
24.5	16,980	0	0.00000	1.00000	13.84
25.5	16,980	0	0.00000	1.00000	13.84
26.5	16,980	0	0.00000	1.00000	13.84

New Jersey - American Water Company

Account 391.000 - Transportation Equipment

Placement Band - 1984 - 2022 Experience Band - 2009 - 2022

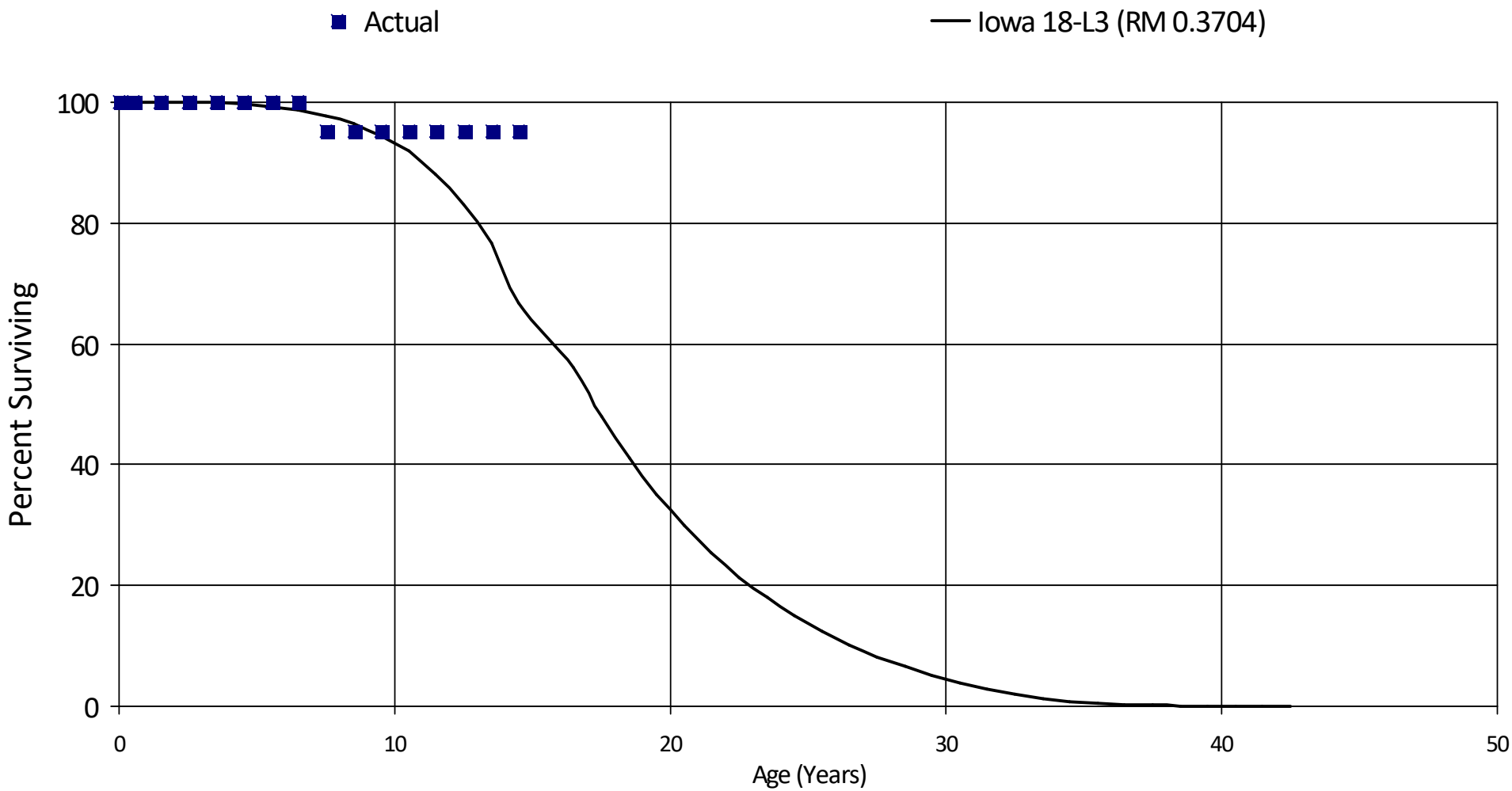
27.5	11,626	0	0.00000	1.00000	13.84
28.5	11,626	0	0.00000	1.00000	13.84
29.5	11,626	0	0.00000	1.00000	13.84
30.5	11,626	0	0.00000	1.00000	13.84
31.5	2,792	0	0.00000	1.00000	13.84
32.5	2,792	0	0.00000	1.00000	13.84
33.5	2,792	0	0.00000	1.00000	13.84
34.5	2,792	0	0.00000	1.00000	13.84
35.5	2,792	0	0.00000	1.00000	13.84
36.5	2,792	0	0.00000	1.00000	13.84
37.5	2,792	0	0.00000	1.00000	13.84
	Totals:	105,715			

New Jersey - American Water Company

Account 391.200 - Transporation Equipment - Heavy Duty Trucks

Placement Band - 2007 - 2022 Experience Band - 2014 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 391.200 - Transporation Equipment - Heavy Duty Trucks

Placement Band - 2007 - 2022 Experience Band - 2014 - 2022

RETIREMENT RATE ANALYSIS

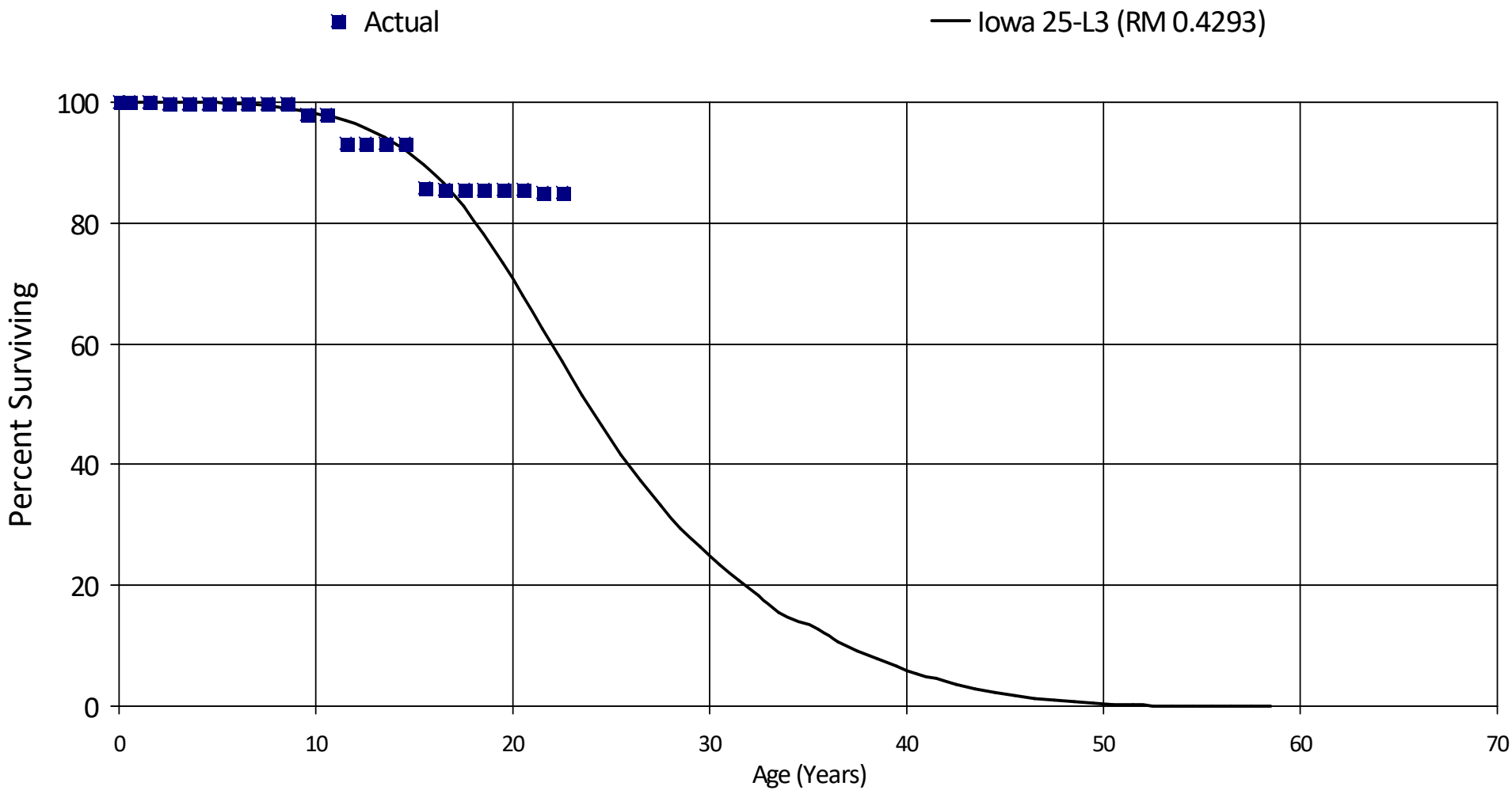
Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	367,816	0	0.00000	1.00000	100.00
0.5	367,816	0	0.00000	1.00000	100.00
1.5	367,816	0	0.00000	1.00000	100.00
2.5	367,816	0	0.00000	1.00000	100.00
3.5	367,816	0	0.00000	1.00000	100.00
4.5	367,816	0	0.00000	1.00000	100.00
5.5	367,816	0	0.00000	1.00000	100.00
6.5	367,816	17,553	0.04772	0.95228	100.00
7.5	350,263	0	0.00000	1.00000	95.23
8.5	330,265	0	0.00000	1.00000	95.23
9.5	330,265	0	0.00000	1.00000	95.23
10.5	330,265	0	0.00000	1.00000	95.23
11.5	330,265	0	0.00000	1.00000	95.23
12.5	330,265	0	0.00000	1.00000	95.23
13.5	330,265	0	0.00000	1.00000	95.23
14.5	330,265	0	0.00000	1.00000	95.23
	Totals:	17,553			

New Jersey - American Water Company

Account 395.000 - Power Operated Equipment

Placement Band - 1988 - 2022 Experience Band - 2008 - 2022

Actual and Smooth Survivor Curves



New Jersey - American Water Company

Account 395.000 - Power Operated Equipment

Placement Band - 1988 - 2022 Experience Band - 2008 - 2022

RETIREMENT RATE ANALYSIS

Age at Begin of Interval	Exposures at Beginning of Age Interval	Retirements During Age Interval	Retmt Ratio	Survivor Ratio	% Surviving
0	560,099	0	0.00000	1.00000	100.00
0.5	560,099	0	0.00000	1.00000	100.00
1.5	560,099	1,917	0.00342	0.99658	100.00
2.5	556,371	0	0.00000	1.00000	99.66
3.5	556,371	0	0.00000	1.00000	99.66
4.5	556,371	0	0.00000	1.00000	99.66
5.5	556,371	0	0.00000	1.00000	99.66
6.5	556,371	0	0.00000	1.00000	99.66
7.5	541,326	0	0.00000	1.00000	99.66
8.5	541,326	9,379	0.01733	0.98267	99.66
9.5	531,947	0	0.00000	1.00000	97.93
10.5	531,947	25,739	0.04839	0.95161	97.93
11.5	506,208	0	0.00000	1.00000	93.19
12.5	426,066	0	0.00000	1.00000	93.19
13.5	426,066	0	0.00000	1.00000	93.19
14.5	298,674	23,469	0.07858	0.92142	93.19
15.5	272,340	1,030	0.00378	0.99622	85.87
16.5	271,310	0	0.00000	1.00000	85.55
17.5	271,310	0	0.00000	1.00000	85.55
18.5	271,310	0	0.00000	1.00000	85.55
19.5	271,310	0	0.00000	1.00000	85.55
20.5	271,310	1,636	0.00603	0.99397	85.55
21.5	17,615	0	0.00000	1.00000	85.03
22.5	0	0	0.00000	0.00000	85.03
	Totals:	63,170			

SECTION 7

7 NET SALVAGE STUDY

New Jersey - American Water Company
ACCOUNTS 354.2 - 354.51 - Structures and Improvements
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	77,613	-	0		0	0	0						0
2016	100,630	-	0		0	0	0						0
2017	108,903	42,341	39		0	(42,341)	-39	-14,114	-15			-42,341	-15
2018	260,714	60,472	23		0	(60,472)	-23	-34,271	-22			-51,407	-19
2019	10,613	89,841	847		0	(89,841)	-847	-64,218	-51	-38,531	-34	-64,218	-34
2020	170,422	35,425	21		0	(35,425)	-21	-61,913	-42	-45,616	-35	-57,020	-31
2021	59,532	68,576	115		0	(68,576)	-115	-64,614	-81	-59,331	-49	-59,331	-38
2022	347,028	27,866	8		0	(27,866)	-8	-43,956	-23	-56,436	-33	-54,087	-29
TOTAL	**1,135,454**	**324,521**	**28.58**	**0**	**0.00**	**-324,521**	**(28.58)**						
				5-Year Average:		-56,436	**Adjustment Factor**		1.25	**Normalized Net Salvage**			-70,545

New Jersey - American Water Company
ACCOUNT 355.2-355.4 - Power Generation Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2014	3,298	-	0		0	0	0						
2015	6,792	-	0		0	0	0						0
2016	7,569	-	0		0	0	0	0	0				0
2017	50,568	3,002	6		0	(3,002)	-6	-1,001	-5			-3,002	-4
2018	53,367	2,822	5		0	(2,822)	-5	-1,941	-5	-1,165	-5	-2,912	-5
2019	91	12,499	13,732		0	(12,499)	-13,732	-6,108	-18	-3,665	-15	-6,108	-15
2020	5,288	4,331	82		0	(4,331)	-82	-6,551	-33	-4,531	-19	-5,664	-18
2021		5,519	0		0	(5,519)		-7,450	-415	-5,635	-26	-5,635	-22
2022	24,772	277	1		0	(277)	-1	-3,376	-34	-5,090	-30	-4,742	-19
TOTAL	**151,745**	**28,451**	**18.75**	**0**	**0.00**	**-28,451**	**(18.75)**						
				5-Year Average:		(5,090)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(6,362)

New Jersey - American Water Company
ACCOUNT 360 - Collection Sewers Force Mains
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2013	0	-	0		0	0	0						0
2014	0	-											0
2015	13,587	-	0		0	0	0	0	0				0
2016	3,023	-	0		0	0	0	0	0				0
2017	2	4,403	181,177		0	(4,403)	-181,177	-1,468	-27	-881	-27	-2,201	-27
2018	10,074	3,055	30		0	(3,055)	-30	-2,486	-57	-1,491	-28	-2,486	-28
2019	1,969	10,246	520		0	(10,246)	-520	-5,901	-147	-3,541	-62	-4,426	-62
2020	7	559	7,656		0	(559)	-7,656	-4,620	-115	-3,653	-121	-3,653	-64
2021	646	11,549	1,787		0	(11,549)	-1,787	-7,451	-852	-5,962	-235	-4,969	-102
2022	252	14,890	5,917		0	(14,890)	-5,917	-8,999	-2,982	-8,060	-311	-6,386	-151
TOTAL	**29,560**	**44,701**	**151.22**	**0**	**0.00**	**-44,701**	**(151.22)**						
				5-Year Average:		(8,060)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(10,075)

New Jersey - American Water Company
ACCOUNT 361.1 - Collection Sewers Gravity Mains
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2013	32,021	-	0		0	0	0						0
2014	0	-	0		0	0	0						0
2015	34,017	-	0		0	0	0	0	0				0
2016	86,818	-	0		0	0	0	0	0				0
2017	160,228	648,249	405		0	(648,249)	-405	-216,083	-231	-129,650	-207	-648,249	-207
2018	152,632	632,693	415		0	(632,693)	-415	-426,981	-320	-256,188	-295	-640,471	-275
2019	62,406	329,517	528		0	(329,517)	-528	-536,820	-429	-322,092	-325	-536,820	-305
2020	1,139,813	794,742	70		0	(794,742)	-70	-585,651	-130	-481,040	-150	-601,300	-144
2021	186,038	461,410	248		0	(461,410)	-248	-528,556	-114	-573,322	-169	-573,322	-155
2022	338,793	349,900	103		0	(349,900)	-103	-535,351	-96	-513,652	-137	-536,085	-147
TOTAL	**2,192,765**	**3,216,511**	**146.69**	**0**	**0.00**	**-3,216,511**	**(146.69)**						
				5-Year Average:		(513,652)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(642,066)

New Jersey - American Water Company
ACCOUNT 363 - Services - Sewers
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2014	0	0	0		0	0	0						
2015	1,708	0	0		0	0	0						
2016	61,316	0	0		0	0	0	0	0				
2017	242,527	202,368	83		0	(202,368)	-83	-67,456	-66			-202,368	-66
2018	130,437	179,371	138		0	(179,371)	-138	-127,246	-88	-76,348	-88	-190,870	-88
2019	166,643	180,751	108		0	(180,751)	-108	-187,497	-104	-112,498	-93	-187,497	-93
2020	632,419	203,303	32		0	(203,303)	-32	-187,808	-61	-153,159	-62	-191,448	-62
2021	2,241,647	250,128	11		0	(250,128)	-11	-211,394	-21	-203,184	-30	-203,184	-29
2022	1,267,246	282,720	22		0	(282,720)	-22	-245,384	-18	-219,255	-25	-216,440	-27
TOTAL	**4,743,943**	**1,298,642**	**27.37**	**0**	**0.00**	**-1,298,642**	**(27.37)**						
				5-Year Average:		(219,255)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(274,068)

New Jersey - American Water Company
ACCOUNT 364 - Flow Measuring Devices
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018	0	2,445			0	(2,445)	0					-2,445	
2019	927				0	0	0					-2,445	-264
2020					0	0	0	-815	-264			-2,445	-264
2021					0	0	0	0	0			-2,445	-264
2022					0	0	0	0	0	-489	-264	-2,445	-264
TOTAL	**927**	**2,445**	**263.63**	**0**	**0.00**	**-2,445**	**(263.63)**						
				5-Year Average:		(489)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(611)

New Jersey - American Water Company
ACCOUNT 370 - Receiving Wells
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	52,431	0	0		0	0	0						0
2016	936	0	0		0	0	0						0
2017	0	244	0		0	(244)	0	-81	0			-244	0
2018	0	5,218	0		0	(5,218)	0	-1,821	-584			-2,731	-10
2019	0	0	0		0	0	0	-1,821	0	-1,092	-10	-2,731	-10
2020	0	0	0		0	0	0	-1,739	0	-1,092	-584	-2,731	-10
2021	0	0	0		0	0	0	0	0	-1,092	0	-2,731	-10
2022	0	0	0		0	0	0	-1,821	-584	-1,044	0	-2,731	-10
TOTAL	**53,367**	**5,462**	**10.23**	**0**	**0.00**	**-5,462**	**(10.23)**						
				5-Year Average:		(1,044)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(1,304)

New Jersey - American Water Company
ACCOUNTS 371.1-371.3 - Pumping Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2015	67,878	0	0		0	0	0						
2016	90,179	0	0		0	0	0						
2017	162,104	42,869	26		0	(42,869)	-26	-14,290	-13			-42,869	
2018	250,249	51,868	21		0	(51,868)	-21	-31,579	-19			-47,368	-17
2019	42,452	85,283	201		0	(85,283)	-201	-60,007	-40	-36,004	-29	-60,007	-29
2020	27,841	29,899	107		0	(29,899)	-107	-69,973	-65	-41,984	-37	-52,480	-33
2021	4,113	1,603	39			(1,603)		-38,928	-157	-42,304	-43	-42,304	-33
2022	107,969	230,967	214		0	(230,967)	-214	-87,490	-188	-79,924	-92	-73,748	-59
TOTAL	**752,785**	**442,489**	**58.78**	**0**	**0.00**	**-442,489**	**(58.78)**						
				5-Year Average:		(79,924)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(99,905)

New Jersey - American Water Company
ACCOUNTS 380-380.6 - Treatment and Disposal Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2014	0	0	0		0	0	0						0
2015	255,379	0	0		0	0	0						0
2016	61,673	0	0		0	0	0	0	0				0
2017	333,015	63,869	19		0	(63,869)	-19	-21,290	-10			-63,869	-10
2018	475,747	136,934	29		0	(136,934)	-29	-66,934	-23	-40,161	-18	-100,402	-18
2019	36,811	337,314	916		0	(337,314)	-916	-179,372	-64	-107,623	-46	-179,372	-46
2020	303,641	116,647	38		0	(116,647)	-38	-196,965	-72	-130,953	-54	-163,691	-45
2021	96,022	76,794	80		0	(76,794)	-80	-176,918	-122	-146,312	-59	-146,312	-47
2022	394,636	196,387	50		0	(196,387)	-50	-129,943	-49	-172,815	-66	-154,658	-47
TOTAL	**1,956,923**	**927,945**	**47.42**	**0**	**0.00**	**-927,945**	**(47.42)**						
				5-Year Average:		(172,815)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(216,019)

New Jersey - American Water Company
ACCOUNT 381 - Plant Sewers
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2016	0	0	0		0	0	0						0
2017	604	0	0		0	0	0						0
2018	9,389	1,184	13		0	(1,184)	-13	-395	-12			-1,184	-12
2019	5,254	0	0		0	0	0	-395	-8			-1,184	-8
2020	0		0		0	0	0	-395	-8	-237	-8	-1,184	-8
2021	0		0		0	0	0	-395	-8	-237	-8	-1,184	-8
2022	0	0	0		0	0	0	-395	-8	-237	-8	-1,184	-8
TOTAL	**15,246**	**1,184**	**7.77**	**0**	**0.00**	**-1,184**	**(7.77)**						
				5-Year Average:		(237)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(296)

New Jersey - American Water Company
ACCOUNT 382 - Outfall Sewer Lines
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018	12,312	6,312	51		0	(6,312)	-51					-6,312	-51
2019												-3,156	-51
2020								-2,104	-51			-2,104	-51
2021								0	0			-1,578	-51
2022								0	0	-1,262	-51	-1,262	-51
TOTAL	**12,312**	**6,312**	**51.26**	**0**	**0.00**	**-6,312**	**(51.26)**						
				5-Year Average:		(1,262)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(1,578)

New Jersey - American Water Company
ACCOUNT 390 - Office Furniture and Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018	11,718	6,754	58		0	(6,754)	-58					-6,754	-58
2019												-3,377	-58
2020	15,331	260	2				0	-2,251	-25			-2,251	-25
2021								0	0			-1,689	-25
2022	6,271	216	3				0	0	0	-1,351	-20	-1,351	-20
TOTAL	**33,320**	**7,230**	**21.70**	**0**	**0.00**	**-6,754**	**(20.27)**						
				5-Year Average:		(1,351)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(1,689)

New Jersey - American Water Company
ACCOUNT 393 - Tools, Shop, and Garage Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018						0							0
2019						0							0
2020	58,496	3,190	5			(3,190)	-5	-1,063	-5			-3,190	-5
2021		10,460				(10,460)		-4,550	-23			-6,825	-23
2022		21				(21)		-4,557	-23	-2,734	-23	-4,557	-23
TOTAL	**58,496**	**13,671**	**23.37**	**0**	**0.00**	**-13,671**	**(23.37)**						
				5-Year Average:		(2,734)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(3,418)

New Jersey - American Water Company
ACCOUNT 394 - Laboratory Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2018						0							0
2019	3,599	1,345	37			(1,345)						-1,345	-37
2020	42,654		0			0	0	-448	-3			-1,345	-3
2021	(40,917)					0		-448	-25			-1,345	-25
2022	4,534					0		0	0	-269	-14	-1,345	-14
TOTAL	**9,870**	**1,345**	**13.63**	**0**	**0.00**	**-1,345**	**(13.63)**						
				5-Year Average:		(269)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(336)

New Jersey - American Water Company
ACCOUNT 396 - Communication Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	12,203	2,031	17		0	(2,031)	-17					-2,031	-17
2018	31283.12	12,369	40		0	(12,369)	-40					-7,200	-33
2019	4,489	822	18		0	(822)	-18	-5,074	-32			-5,074	-32
2020	148,339	14	0		0	(14)	0	-4,401	-7			-3,809	-8
2021						0		-279	-1	-3,047	-8	-3,809	-8
2022	25,134	672	3		0	(672)	-3	-229	0	-2,775	-7	-3,181	-7
TOTAL	**221,447**	**15,907**	**7.18**	**0**	**0.00**	**-15,907**	**(7.18)**						
				5-Year Average:		(2,775)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(3,469)

New Jersey - American Water Company
ACCOUNT 397 - Miscellaneous Equipment
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017	42,941	13,738	32		0	(13,738)	-32					-13,738	-32
2018	722.81	1	0		0	(1)	0					-6,869	-31
2019		3,614				(3,614)		-5,784	-40			-5,784	-40
2020	184,681	599	0		0	(599)	0	-1,405	-2			-4,488	-8
2021	7148.32	525	7		0	(525)	-7	-1,579	-2	-3,695	-8	-3,695	-8
2022	59536.04	1,290	2		0	(1,290)	-2	-805	-1	-1,206	-2	-3,294	-7
TOTAL	**295,029**	**19,767**	**6.70**	**0**	**0.00**	**-19,767**	**(6.70)**						
				5-Year Average:		(1,206)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(1,507)

New Jersey - American Water Company
ACCOUNT 398 - Other Tangible Property
SUMMARY OF BOOK SALVAGE

Year	Regular Retirements	Cost of Removal Amount	Cost of Removal Percent	Gross Salvage Amount	Gross Salvage Percent	Net Salvage Amount	Net Salvage Percent	3-Year Amount	3-Year Percent	5-Year Amount	5-Year Percent	Historical Amount	Historical Percent
2017		486				(486)						-486	
2018	5483		0		0	0	0					-486	-9
2019						0		-162	-9			-486	-9
2020	15,522		0		0	0	0	0	0			-486	-2
2021						0		0	0	-97	-2	-486	-2
2022		1,632				(1,632)		-544	-11	-326	-8	-1,059	-10
TOTAL	**21,006**	**2,118**	**10.08**	**0**	**0.00**	**-2,118**	**(10.08)**						
				5-Year Average:		(326)	**Adjustment Factor**		1.25	**Normalized Net Salvage**			(408)

SECTION 8

8 DETAILED DEPRECIATION CALCULATIONS

New Jersey - American Water Company

Account #: 354.200 - Structures and Improvements - Collection

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1930	10,748.36	10,748	10,246	0.9533	502	1.00	502	92.5
1984	116,410.15	86,509	82,465	0.7084	33,945	10.27	3,304	38.5
1989	966.17	652	622	0.6436	344	12.99	27	33.5
1991	845,309.95	544,921	519,449	0.6145	325,861	14.21	22,925	31.5
1993	1,103,231.18	675,577	643,997	0.5837	459,234	15.51	29,617	29.5
1995	208,051.54	120,360	114,734	0.5515	93,318	16.86	5,535	27.5
1997	7,773.94	4,223	4,025	0.5178	3,748	18.27	205	25.5
2000	15,977.16	7,793	7,429	0.4650	8,548	20.49	417	22.5
2001	2,266.44	1,062	1,013	0.4467	1,254	21.25	59	21.5
2002	138,280.69	62,123	59,219	0.4283	79,061	22.03	3,589	20.5
2003	232,041.88	99,676	95,017	0.4095	137,025	22.82	6,005	19.5
2004	792,004.32	324,396	309,232	0.3904	482,772	23.62	20,442	18.5
2005	915,539.96	356,458	339,796	0.3711	575,744	24.43	23,571	17.5
2006	2,316,801.47	854,509	814,565	0.3516	1,502,236	25.25	59,502	16.5
2007	935,418.79	325,585	310,366	0.3318	625,053	26.08	23,969	15.5
2008	1,203,596.98	393,633	375,233	0.3118	828,364	26.92	30,773	14.5
2009	337,884.13	103,322	98,492	0.2915	239,392	27.77	8,621	13.5
2010	773,244.40	219,836	209,560	0.2710	563,685	28.63	19,690	12.5
2012	33,966.84	8,175	7,793	0.2294	26,174	30.37	862	10.5
2014	712,677.65	139,845	133,308	0.1871	579,369	32.15	18,020	8.5
2015	842,171.47	146,303	139,464	0.1656	702,707	33.05	21,261	7.5
2016	36,246.91	5,475	5,219	0.1440	31,028	33.96	914	6.5
2017	738,101.94	94,623	90,200	0.1222	647,902	34.87	18,579	5.5
2018	1,316,202.66	138,461	131,989	0.1003	1,184,214	35.79	33,086	4.5
2019	2,254,134.36	184,952	176,307	0.0782	2,077,828	36.72	56,589	3.5
2020	369,439.59	21,710	20,695	0.0560	348,744	37.65	9,263	2.5
2021	161,189.75	5,698	5,432	0.0337	155,758	38.59	4,037	1.5
2022	289,199.18	3,417	3,257	0.0113	285,942	39.53	7,234	0.5

New Jersey - American Water Company

Account #: 354.200 - Structures and Improvements - Collection

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	16,708,877.86	4,940,041	4,709,123		11,999,755		428,598	

COMPOSITE ANNUAL ACCRUAL RATE	2.57%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.28
COMPOSITE AVERAGE AGE (YEARS)	13.50
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	28.17

New Jersey - American Water Company

Account #: 354.300 - Structures and Improvements - Pumping

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1924	11,709.91	11,710	11,710	1.0000	0	1.00	0	98.5
1925	9,841.56	9,842	9,842	1.0000	0	1.00	0	97.5
1935	30,830.81	30,831	30,831	1.0000	0	1.00	0	87.5
1950	7,721.66	7,722	7,722	1.0000	0	1.00	0	72.5
1955	79,425.14	76,086	77,078	0.9705	2,347	1.68	1,395	67.5
1970	44,031.67	38,161	38,659	0.8780	5,373	5.33	1,007	52.5
1972	26,062.62	22,250	22,541	0.8649	3,522	5.85	602	50.5
1973	8,866.70	7,509	7,607	0.8579	1,260	6.13	206	49.5
1974	64,989.56	54,572	55,284	0.8507	9,706	6.41	1,514	48.5
1977	11,273.13	9,198	9,318	0.8265	1,955	7.36	266	45.5
1979	1,009.45	805	816	0.8082	194	8.09	24	43.5
1981	49,549.00	38,526	39,028	0.7877	10,521	8.90	1,182	41.5
1982	3,342.53	2,562	2,596	0.7766	747	9.34	80	40.5
1984	343,116.72	254,982	258,309	0.7528	84,808	10.27	8,254	38.5
1985	149,658.55	109,338	110,764	0.7401	38,894	10.78	3,609	37.5
1986	35,253.28	25,294	25,624	0.7269	9,629	11.30	852	36.5
1988	1,858.56	1,282	1,299	0.6988	560	12.41	45	34.5
1989	66,233.34	44,721	45,304	0.6840	20,929	12.99	1,611	33.5
1991	742,741.82	478,801	485,047	0.6530	257,694	14.21	18,129	31.5
1992	67,318.72	42,324	42,876	0.6369	24,443	14.85	1,646	30.5
1993	68,347.53	41,853	42,399	0.6203	25,948	15.51	1,673	29.5
1994	43,271.52	25,774	26,110	0.6034	17,162	16.18	1,061	28.5
1995	448,579.52	259,508	262,893	0.5861	185,687	16.86	11,014	27.5
1997	152,775.04	82,989	84,071	0.5503	68,704	18.27	3,760	25.5
1998	267,049.32	140,214	142,043	0.5319	125,006	19.00	6,580	24.5
1999	82,947.68	42,018	42,566	0.5132	40,381	19.74	2,046	23.5
2000	215,498.73	105,112	106,483	0.4941	109,015	20.49	5,321	22.5
2001	4,348.10	2,038	2,064	0.4748	2,284	21.25	107	21.5

New Jersey - American Water Company

Account #: 354.300 - Structures and Improvements - Pumping

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2002	17,393.17	7,814	7,916	0.4551	9,477	22.03	430	20.5
2003	1,658.00	712	722	0.4352	937	22.82	41	19.5
2004	6,954.95	2,849	2,886	0.4149	4,069	23.62	172	18.5
2006	64,430.00	23,764	24,074	0.3736	40,356	25.25	1,598	16.5
2007	7,635.28	2,658	2,692	0.3526	4,943	26.08	190	15.5
2008	200,994.83	65,735	66,592	0.3313	134,403	26.92	4,993	14.5
2010	40,906.71	11,630	11,782	0.2880	29,125	28.63	1,017	12.5
2011	72,656.09	19,079	19,328	0.2660	53,328	29.50	1,808	11.5
2012	879,266.24	211,614	214,374	0.2438	664,892	30.37	21,891	10.5
2013	7,500.00	1,639	1,660	0.2214	5,840	31.26	187	9.5
2014	306,484.81	60,140	60,925	0.1988	245,560	32.15	7,638	8.5
2015	1,309,465.67	227,482	230,449	0.1760	1,079,017	33.05	32,647	7.5
2016	1,160,063.56	175,218	177,504	0.1530	982,560	33.96	28,934	6.5
2018	7,478.77	787	797	0.1066	6,682	35.79	187	4.5
2020	155,526.93	9,140	9,259	0.0595	146,268	37.65	3,885	2.5
TOTAL	7,276,067.18	2,786,281	2,821,843		4,454,224		177,602	

COMPOSITE ANNUAL ACCRUAL RATE	2.44%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.39
COMPOSITE AVERAGE AGE (YEARS)	18.84
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	24.69

New Jersey - American Water Company

Account #: 354.400 - Structures and Improvements - Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	1,693,263.29	1,258,325	1,627,879	0.9614	65,384	10.27	6,364	38.5
1991	5,703,755.06	3,676,872	4,756,721	0.8340	947,034	14.21	66,625	31.5
1995	3,287,186.83	1,901,670	2,460,166	0.7484	827,021	16.86	49,053	27.5
2001	2,646.32	1,240	1,604	0.6063	1,042	21.25	49	21.5
2002	177,293.72	79,650	103,042	0.5812	74,252	22.03	3,371	20.5
2005	17,500.00	6,813	8,815	0.5037	8,685	24.43	356	17.5
2006	29,211.37	10,774	13,938	0.4772	15,273	25.25	605	16.5
2007	22,750.00	7,918	10,244	0.4503	12,506	26.08	480	15.5
2008	82,250.00	26,900	34,800	0.4231	47,450	26.92	1,763	14.5
2009	5,788.63	1,770	2,290	0.3956	3,499	27.77	126	13.5
2011	1,484,828.34	389,906	504,416	0.3397	980,412	29.50	33,239	11.5
2012	102,018.25	24,553	31,764	0.3114	70,255	30.37	2,313	10.5
2013	39,589.63	8,652	11,193	0.2827	28,397	31.26	908	9.5
2014	134,328.93	26,359	34,100	0.2539	100,229	32.15	3,117	8.5
2015	1,222,476.60	212,370	274,740	0.2247	947,737	33.05	28,675	7.5
2016	181,838.48	27,465	35,531	0.1954	146,307	33.96	4,308	6.5
2017	725,762.64	93,041	120,366	0.1658	605,397	34.87	17,360	5.5
2018	399,711.00	42,049	54,398	0.1361	345,313	35.79	9,648	4.5
2019	712,042.81	58,423	75,581	0.1061	636,461	36.72	17,334	3.5
2020	109,105.16	6,412	8,295	0.0760	100,811	37.65	2,678	2.5
2022	157,349.27	1,859	2,405	0.0153	154,944	39.53	3,920	0.5

New Jersey - American Water Company

Account #: 354.400 - Structures and Improvements - Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	16,290,696.33	7,863,021	10,172,288		6,118,408		252,292	

COMPOSITE ANNUAL ACCRUAL RATE	1.55%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.62
COMPOSITE AVERAGE AGE (YEARS)	23.33
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	20.69

New Jersey - American Water Company

Account #: 354.500 - Structures and Improvements - General

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 35
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	25,274.30	19,406	21,968	0.8692	3,306	8.13	407	38.5
2000	223.09	115	130	0.5848	93	16.92	5	22.5
2002	114,781.87	54,782	62,013	0.5403	52,769	18.30	2,884	20.5
2003	335,951.30	153,539	173,805	0.5174	162,147	19.00	8,532	19.5
2004	407,078.38	177,657	201,105	0.4940	205,973	19.73	10,442	18.5
2005	34,508.93	14,337	16,229	0.4703	18,280	20.46	893	17.5
2006	236,443.26	93,190	105,490	0.4462	130,953	21.21	6,175	16.5
2007	2,297,137.50	855,627	968,560	0.4216	1,328,578	21.96	60,491	15.5
2008	306,958.40	107,586	121,786	0.3968	185,172	22.73	8,146	14.5
2009	38,698.93	12,700	14,377	0.3715	24,322	23.51	1,034	13.5
2010	67,001.28	20,474	23,176	0.3459	43,825	24.31	1,803	12.5
2011	54,547.76	15,418	17,453	0.3200	37,095	25.11	1,477	11.5
2013	311.66	74	83	0.2671	228	26.74	9	9.5
2014	226,897.67	48,139	54,493	0.2402	172,405	27.57	6,252	8.5
2015	278,444.16	52,379	59,292	0.2129	219,152	28.42	7,712	7.5
2016	43,247.30	7,084	8,019	0.1854	35,228	29.27	1,204	6.5
2017	25,615.61	3,567	4,038	0.1576	21,578	30.13	716	5.5
2018	135,224.58	15,475	17,517	0.1295	117,708	30.99	3,798	4.5
2019	2,897.49	259	293	0.1012	2,604	31.87	82	3.5
2020	66,916.00	4,290	4,857	0.0726	62,059	32.76	1,895	2.5
2021	97,755.66	3,776	4,274	0.0437	93,482	33.65	2,778	1.5
2022	105,008.96	1,357	1,536	0.0146	103,473	34.55	2,995	0.5

New Jersey - American Water Company

Account #: 354.500 - Structures and Improvements - General

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 35
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	4,900,924.09	1,661,230	1,880,493		3,020,431		129,730	

COMPOSITE ANNUAL ACCRUAL RATE	2.65%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.38
COMPOSITE AVERAGE AGE (YEARS)	14.16
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	23.14

New Jersey - American Water Company

Account #: 354.510 - Structures and Improvements - General Lease

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2
ASL: 35
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	122,361.72	93,952	114,320	0.9343	8,041	8.13	990	38.5
1991	467,082.16	314,220	382,343	0.8186	84,739	11.45	7,398	31.5
1995	283,050.17	172,040	209,339	0.7396	73,711	13.73	5,370	27.5
2013	4,235.00	999	1,216	0.2871	3,019	26.74	113	9.5
2014	4,082.00	866	1,054	0.2582	3,028	27.57	110	8.5
2015	1,933.49	364	443	0.2289	1,491	28.42	52	7.5
2016	5,787.51	948	1,154	0.1993	4,634	29.27	158	6.5
TOTAL	888,532.05	583,389	709,868		178,664		14,191	

COMPOSITE ANNUAL ACCRUAL RATE	1.60%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.80
COMPOSITE AVERAGE AGE (YEARS)	30.76
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	12.02

New Jersey - American Water Company

Account #: 355.200 - Power Generation Equipment - Collection

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1985	4,528.03	4,118	3,870	0.8546	658	2.26	291	37.5
2004	603.03	370	348	0.5770	255	9.65	26	18.5
2007	109,992.21	58,350	54,834	0.4985	55,158	11.74	4,699	15.5
2008	62,268.83	31,192	29,312	0.4707	32,956	12.48	2,641	14.5
2010	135,645.94	59,606	56,014	0.4129	79,632	14.01	5,682	12.5
2011	22,491.71	9,167	8,614	0.3830	13,877	14.81	937	11.5
2014	155,558.24	47,899	45,012	0.2894	110,546	17.30	6,389	8.5
2015	98,674.84	26,984	25,358	0.2570	73,317	18.16	4,037	7.5
2016	2,623.37	626	588	0.2241	2,036	19.04	107	6.5
2017	4,590.44	932	875	0.1907	3,715	19.93	186	5.5
2021	89,536.15	5,052	4,748	0.0530	84,789	23.59	3,594	1.5
2022	6,022.62	114	107	0.0177	5,916	24.53	241	0.5
TOTAL	692,535.41	244,408	229,680		462,855		28,830	

COMPOSITE ANNUAL ACCRUAL RATE	4.16%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.33
COMPOSITE AVERAGE AGE (YEARS)	10.09
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	16.18

New Jersey - American Water Company

Account #: 355.400 - Power Generation Equipment - Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2002	17,138.17	11,391	4,868	0.2841	12,270	8.38	1,463	20.5
2011	256,754.86	104,642	44,724	0.1742	212,030	14.81	14,316	11.5
2012	1,692.27	635	271	0.1603	1,421	15.63	91	10.5
2013	3,830.89	1,309	560	0.1461	3,271	16.46	199	9.5
2014	3,007.09	926	396	0.1316	2,611	17.30	151	8.5
2016	2,358.38	562	240	0.1019	2,118	19.04	111	6.5
2017	39,603.37	8,037	3,435	0.0867	36,168	19.93	1,815	5.5
2018	316,624.54	52,854	22,590	0.0713	294,035	20.83	14,118	4.5
2020	25,149.33	2,355	1,006	0.0400	24,143	22.66	1,065	2.5
2021	141,928.00	8,008	3,423	0.0241	138,505	23.59	5,872	1.5
2022	17,756.25	335	143	0.0081	17,613	24.53	718	0.5
TOTAL	825,843.15	191,053	81,657		744,186		39,919	

COMPOSITE ANNUAL ACCRUAL RATE	4.83%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.10
COMPOSITE AVERAGE AGE (YEARS)	6.45
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	19.22

New Jersey - American Water Company

Account #: 360.000 - Collection Sewers - Force Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1914	6,966.18	6,966	6,966	1.0000	0	1.00	0	109.5
1917	5,371.97	5,327	5,372	1.0000	0	1.00	0	105.5
1920	14,500.47	14,047	14,500	1.0000	0	1.88	0	102.5
1930	25,040.43	23,026	25,040	1.0000	0	4.83	0	92.5
1931	8,717.44	7,984	8,717	1.0000	0	5.05	0	91.5
1932	8,726.40	7,960	8,726	1.0000	0	5.27	0	90.5
1935	4,150.37	3,740	4,110	0.9902	41	5.93	7	87.5
1938	512.19	456	501	0.9777	11	6.61	2	84.5
1945	1,039.98	896	985	0.9467	55	8.31	7	77.5
1950	17,280.00	14,491	15,923	0.9215	1,357	9.68	140	72.5
1955	44,713.67	36,292	39,877	0.8918	4,836	11.30	428	67.5
1960	22,464.00	17,508	19,238	0.8564	3,226	13.24	244	62.5
1963	40.06	30	33	0.8320	7	14.57	0	59.5
1964	3,098.45	2,322	2,551	0.8233	548	15.04	36	58.5
1965	974.07	722	793	0.8144	181	15.53	12	57.5
1966	1,826.15	1,338	1,470	0.8052	356	16.03	22	56.5
1967	18,472.43	13,377	14,699	0.7957	3,774	16.55	228	55.5
1972	7,427.14	5,033	5,531	0.7447	1,896	19.34	98	50.5
1978	59,001.88	36,295	39,880	0.6759	19,122	23.09	828	44.5
1984	46,191.55	25,231	27,724	0.6002	18,468	27.23	678	38.5
1985	481,852.79	257,399	282,829	0.5870	199,024	27.95	7,121	37.5
1991	178,885.38	82,109	90,221	0.5044	88,664	32.46	2,732	31.5
1995	108,403.93	44,039	48,389	0.4464	60,015	35.63	1,685	27.5
1997	13,357.80	5,064	5,565	0.4166	7,793	37.25	209	25.5
1998	393,056.00	143,622	157,811	0.4015	235,245	38.08	6,178	24.5
1999	231,543.41	81,399	89,442	0.3863	142,102	38.91	3,652	23.5
2002	15,013.38	4,645	5,103	0.3399	9,910	41.44	239	20.5
2005	352,504.24	93,848	103,120	0.2925	249,384	44.03	5,664	17.5

New Jersey - American Water Company

Account #: 360.000 - Collection Sewers - Force Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	34,360.84	8,144	8,948	0.2604	25,413	45.78	555	15.5
2008	91,403.89	20,315	22,322	0.2442	69,082	46.66	1,480	14.5
2009	27,315.92	5,666	6,225	0.2279	21,091	47.56	443	13.5
2010	299,324.68	57,618	63,310	0.2115	236,015	48.45	4,871	12.5
2012	41,006.92	6,660	7,318	0.1785	33,689	50.26	670	10.5
2013	27,602.35	4,064	4,466	0.1618	23,136	51.16	452	9.5
2014	14,112.00	1,863	2,047	0.1451	12,065	52.08	232	8.5
2015	109,758.47	12,811	14,077	0.1283	95,682	53.00	1,805	7.5
2017	251,820.35	21,637	23,774	0.0944	228,046	54.84	4,158	5.5
2018	1,494,376.34	105,243	115,641	0.0774	1,378,735	55.77	24,720	4.5
2019	33,075.42	1,815	1,994	0.0603	31,081	56.71	548	3.5
2020	7,297,754.38	286,543	314,853	0.0431	6,982,901	57.64	121,138	2.5
2021	215,634.53	5,089	5,592	0.0259	210,043	58.58	3,585	1.5
2022	181,831.80	1,434	1,575	0.0087	180,257	59.53	3,028	0.5
TOTAL	12,190,509.65	1,474,067	1,617,260		10,573,250		197,895	

COMPOSITE ANNUAL ACCRUAL RATE	1.62%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.13
COMPOSITE AVERAGE AGE (YEARS)	8.37
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	52.75

New Jersey - American Water Company

Account #: 361.100 - Collection Sewers - Gravity Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 80
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1909	105,856.75	98,783	95,977	0.9067	9,879	5.35	1,848	113.5
1911	6,654.83	6,168	5,992	0.9005	662	5.86	113	111.5
1912	4,530.27	4,184	4,065	0.8973	465	6.12	76	110.5
1913	34.74	32	31	0.8941	4	6.37	1	109.5
1914	15,779.23	14,472	14,061	0.8911	1,719	6.63	259	108.5
1915	28,370.28	25,928	25,191	0.8880	3,179	6.89	462	107.5
1916	16,379.87	14,916	14,493	0.8848	1,887	7.15	264	106.5
1917	13,024.06	11,818	11,482	0.8816	1,542	7.41	208	105.5
1918	72.06	65	63	0.8784	9	7.67	1	104.5
1919	15,771.66	14,208	13,804	0.8753	1,967	7.93	248	103.5
1920	3,862.07	3,466	3,368	0.8720	494	8.20	60	102.5
1921	7,981.34	7,136	6,933	0.8687	1,048	8.47	124	101.5
1922	58,968.70	52,522	51,030	0.8654	7,938	8.75	908	100.5
1923	20,898.43	18,541	18,014	0.8620	2,884	9.03	320	99.5
1924	7,868.71	6,953	6,755	0.8585	1,113	9.31	120	98.5
1925	327,868.61	288,517	280,322	0.8550	47,546	9.60	4,952	97.5
1926	10,279.54	9,008	8,752	0.8514	1,528	9.90	154	96.5
1927	4,760.18	4,153	4,035	0.8477	725	10.20	71	95.5
1928	5,400.76	4,691	4,558	0.8439	843	10.52	80	94.5
1929	80,634.54	69,714	67,734	0.8400	12,901	10.84	1,191	93.5
1930	15,295.29	13,161	12,787	0.8360	2,508	11.16	225	92.5
1931	76,381.89	65,401	63,544	0.8319	12,838	11.50	1,116	91.5
1932	14,736.20	12,554	12,197	0.8277	2,539	11.85	214	90.5
1933	11,792.88	9,994	9,710	0.8234	2,083	12.21	171	89.5
1934	2,832.65	2,387	2,320	0.8189	513	12.57	41	88.5
1935	345,955.43	289,953	281,717	0.8143	64,238	12.95	4,960	87.5
1936	12,523.75	10,436	10,139	0.8096	2,385	13.34	179	86.5
1937	2,955.85	2,448	2,379	0.8047	577	13.74	42	85.5

New Jersey - American Water Company

Account #: 361.100 - Collection Sewers - Gravity Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 80
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1938	22,466.06	18,492	17,967	0.7997	4,499	14.15	318	84.5
1939	7,877.17	6,442	6,259	0.7946	1,618	14.57	111	83.5
1940	51,809.00	42,091	40,895	0.7893	10,914	15.01	727	82.5
1941	18,751.67	15,130	14,700	0.7839	4,052	15.45	262	81.5
1942	61,953.53	49,633	48,223	0.7784	13,731	15.91	863	80.5
1943	195,660.61	155,600	151,180	0.7727	44,480	16.38	2,716	79.5
1944	116,904.07	92,265	89,645	0.7668	27,259	16.86	1,617	78.5
1945	459,730.53	360,002	349,776	0.7608	109,954	17.35	6,336	77.5
1946	187,553.56	145,682	141,544	0.7547	46,010	17.86	2,576	76.5
1947	22,996.82	17,714	17,211	0.7484	5,786	18.38	315	75.5
1948	24,909.36	19,023	18,482	0.7420	6,427	18.91	340	74.5
1949	22,168.99	16,780	16,303	0.7354	5,866	19.45	302	73.5
1950	26,607.27	19,956	19,389	0.7287	7,218	20.00	361	72.5
1951	25,784.93	19,157	18,613	0.7219	7,172	20.56	349	71.5
1952	146,556.50	107,833	104,771	0.7149	41,786	21.14	1,977	70.5
1953	14,780.18	10,767	10,461	0.7078	4,319	21.72	199	69.5
1954	95,737.11	69,025	67,065	0.7005	28,672	22.32	1,285	68.5
1955	1,490,503.08	1,063,316	1,033,115	0.6931	457,388	22.93	19,948	67.5
1956	54,199.78	38,248	37,161	0.6856	17,039	23.55	724	66.5
1957	60,936.65	42,523	41,315	0.6780	19,621	24.17	812	65.5
1958	47,238.43	32,587	31,661	0.6702	15,577	24.81	628	64.5
1959	40,386.29	27,533	26,751	0.6624	13,635	25.46	536	63.5
1960	56,887.52	38,315	37,227	0.6544	19,660	26.12	753	62.5
1961	172,059.41	114,453	111,202	0.6463	60,858	26.78	2,272	61.5
1962	59,403.93	39,013	37,905	0.6381	21,499	27.46	783	60.5
1963	163,974.77	106,284	103,265	0.6298	60,709	28.15	2,157	59.5
1964	71,094.95	45,466	44,175	0.6213	26,920	28.84	933	58.5
1965	387,156.11	244,193	237,257	0.6128	149,899	29.54	5,074	57.5

New Jersey - American Water Company

Account #: 361.100 - Collection Sewers - Gravity Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 80
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1966	915,267.58	569,159	552,993	0.6042	362,274	30.25	11,975	56.5
1967	332,091.36	203,529	197,748	0.5955	134,344	30.97	4,338	55.5
1968	179,446.73	108,349	105,272	0.5866	74,175	31.70	2,340	54.5
1969	949,039.65	564,317	548,289	0.5777	400,751	32.43	12,357	53.5
1970	363,935.82	213,027	206,976	0.5687	156,960	33.17	4,732	52.5
1971	182,920.93	105,358	102,366	0.5596	80,555	33.92	2,375	51.5
1972	716,090.54	405,684	394,161	0.5504	321,930	34.68	9,283	50.5
1973	517,865.09	288,440	280,248	0.5412	237,617	35.44	6,704	49.5
1974	408,034.59	223,334	216,990	0.5318	191,044	36.21	5,276	48.5
1975	1,419,200.87	762,989	741,317	0.5223	677,883	36.99	18,326	47.5
1976	343,089.77	181,089	175,945	0.5128	167,145	37.77	4,425	46.5
1977	268,244.67	138,931	134,985	0.5032	133,260	38.57	3,455	45.5
1978	1,152,242.52	585,278	568,654	0.4935	583,588	39.36	14,825	44.5
1979	867,356.36	431,849	419,583	0.4837	447,773	40.17	11,147	43.5
1980	586,694.63	286,166	278,038	0.4739	308,657	40.98	7,532	42.5
1981	1,387,869.16	662,767	643,942	0.4640	743,927	41.80	17,799	41.5
1982	244,646.28	114,309	111,063	0.4540	133,584	42.62	3,134	40.5
1983	509,213.65	232,645	226,037	0.4439	283,176	43.45	6,517	39.5
1984	2,076,043.91	926,802	900,479	0.4337	1,175,565	44.29	26,545	38.5
1985	1,083,585.77	472,338	458,923	0.4235	624,663	45.13	13,842	37.5
1986	1,099,783.37	467,739	454,454	0.4132	645,330	45.98	14,036	36.5
1987	1,932,166.23	801,133	778,379	0.4029	1,153,788	46.83	24,638	35.5
1988	713,678.16	288,248	280,060	0.3924	433,618	47.69	9,093	34.5
1989	562,350.89	221,047	214,768	0.3819	347,583	48.55	7,159	33.5
1990	2,330,956.02	890,864	865,561	0.3713	1,465,395	49.42	29,649	32.5
1991	6,860,359.69	2,546,813	2,474,476	0.3607	4,385,884	50.30	87,193	31.5
1992	2,261,765.64	814,734	791,593	0.3500	1,470,172	51.18	28,724	30.5
1993	1,646,608.98	574,889	558,561	0.3392	1,088,048	52.07	20,896	29.5

New Jersey - American Water Company

Account #: 361.100 - Collection Sewers - Gravity Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 80
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1994	771,432.86	260,731	253,325	0.3284	518,108	52.96	9,783	28.5
1995	4,137,209.42	1,351,916	1,313,518	0.3175	2,823,692	53.86	52,428	27.5
1996	545,409.49	172,076	167,189	0.3065	378,221	54.76	6,907	26.5
1997	3,006,462.22	914,461	888,488	0.2955	2,117,974	55.67	38,047	25.5
1998	6,828,539.97	1,999,191	1,942,408	0.2845	4,886,132	56.58	86,360	24.5
1999	1,981,878.00	557,543	541,707	0.2733	1,440,171	57.49	25,049	23.5
2000	466,015.01	125,740	122,168	0.2622	343,847	58.41	5,886	22.5
2001	637,311.19	164,592	159,917	0.2509	477,394	59.34	8,045	21.5
2002	5,580,550.20	1,376,431	1,337,336	0.2396	4,243,214	60.27	70,406	20.5
2003	24,599,033.41	5,780,466	5,616,284	0.2283	18,982,749	61.20	310,171	19.5
2004	2,185,952.92	488,081	474,219	0.2169	1,711,734	62.14	27,548	18.5
2005	2,039,334.12	431,370	419,118	0.2055	1,620,216	63.08	25,686	17.5
2006	11,794,581.59	2,355,636	2,288,729	0.1940	9,505,852	64.02	148,477	16.5
2007	7,794,691.59	1,464,448	1,422,853	0.1825	6,371,838	64.97	98,074	15.5
2008	10,697,420.17	1,882,678	1,829,204	0.1710	8,868,216	65.92	134,529	14.5
2009	5,606,943.61	919,918	893,790	0.1594	4,713,154	66.87	70,478	13.5
2010	2,372,768.10	360,902	350,652	0.1478	2,022,116	67.83	29,811	12.5
2011	2,383,947.46	333,994	324,508	0.1361	2,059,440	68.79	29,937	11.5
2012	5,853,286.06	749,616	728,324	0.1244	5,124,962	69.75	73,471	10.5
2013	2,775,229.01	321,924	312,780	0.1127	2,462,449	70.72	34,820	9.5
2014	4,011,495.50	416,785	404,947	0.1009	3,606,548	71.69	50,309	8.5
2015	13,220,959.79	1,213,261	1,178,801	0.0892	12,042,159	72.66	165,736	7.5
2016	5,154,112.09	410,325	398,671	0.0774	4,755,441	73.63	64,585	6.5
2017	7,920,244.80	534,035	518,867	0.0655	7,401,378	74.61	99,206	5.5
2018	11,554,548.88	637,990	619,870	0.0536	10,934,679	75.58	144,672	4.5
2019	2,965,247.49	127,452	123,832	0.0418	2,841,415	76.56	37,113	3.5
2020	5,064,629.64	155,622	151,202	0.0299	4,913,428	77.54	63,365	2.5
2021	6,408,486.16	118,239	114,881	0.0179	6,293,605	78.52	80,149	1.5

New Jersey - American Water Company

Account #: 361.100 - Collection Sewers - Gravity Mains

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 80
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2022	12,607,416.69	77,578	75,374	0.0060	12,532,043	79.51	157,620	0.5
TOTAL	208,199,245.15	43,803,957	42,559,796		165,639,449		2,630,665	

COMPOSITE ANNUAL ACCRUAL RATE	1.26%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.20
COMPOSITE AVERAGE AGE (YEARS)	18.00
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	63.17

New Jersey - American Water Company

Account #: 362.000 - Special Collection Structures

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1972	446.88	359	390	0.8718	57	9.86	6	50.5
1990	199,465.92	115,825	125,779	0.6306	73,687	20.97	3,515	32.5
1993	63,795.03	34,111	37,042	0.5806	26,753	23.27	1,150	29.5
1994	4,968.88	2,578	2,800	0.5635	2,169	24.05	90	28.5
1998	16,334.00	7,412	8,049	0.4927	8,286	27.31	303	24.5
2018	11,370.50	1,002	1,088	0.0957	10,282	45.59	226	4.5
TOTAL	296,381.21	161,286	175,147		121,234		5,290	

COMPOSITE ANNUAL ACCRUAL RATE	1.78%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.59
COMPOSITE AVERAGE AGE (YEARS)	30.30
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	22.79

New Jersey - American Water Company

Account #: 363.000 - Service Laterals

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1930	7.65	7	6	0.8405	1	8.91	0	92.5
1931	11.00	9	9	0.8355	2	9.24	0	91.5
1932	24.01	20	20	0.8297	4	9.58	0	90.5
1935	57,087.76	46,985	46,396	0.8127	10,692	10.62	1,007	87.5
1936	25,447.48	20,794	20,533	0.8069	4,914	10.97	448	86.5
1937	25.72	21	21	0.8009	5	11.33	0	85.5
1946	119,603.55	90,206	89,075	0.7448	30,529	14.75	2,070	76.5
1953	2.75	2	2	0.6982	1	17.67	0	69.5
1955	100,806.79	69,645	68,771	0.6822	32,036	18.55	1,727	67.5
1956	102,540.41	70,077	69,198	0.6748	33,342	19.00	1,755	66.5
1957	3,626.85	2,451	2,421	0.6674	1,206	19.45	62	65.5
1958	3,072.62	2,053	2,027	0.6598	1,045	19.91	53	64.5
1959	5,804.24	3,834	3,786	0.6522	2,019	20.37	99	63.5
1960	5,713.99	3,729	3,683	0.6445	2,031	20.84	97	62.5
1961	233.20	150	148	0.6367	85	21.31	4	61.5
1962	5,830.46	3,713	3,666	0.6288	2,164	21.80	99	60.5
1963	1,688.60	1,062	1,048	0.6208	640	22.28	29	59.5
1964	4,266.76	2,647	2,614	0.6127	1,653	22.77	73	58.5
1965	12,677.57	7,761	7,663	0.6045	5,014	23.27	215	57.5
1966	17,930.02	10,826	10,690	0.5962	7,240	23.77	305	56.5
1967	2,515.98	1,498	1,479	0.5878	1,037	24.28	43	55.5
1968	12,542.71	7,359	7,267	0.5794	5,276	24.80	213	54.5
1969	18,452.80	10,667	10,533	0.5708	7,920	25.32	313	53.5
1970	44,708.16	25,451	25,132	0.5621	19,576	25.84	757	52.5
1971	32,173.06	18,030	17,804	0.5534	14,369	26.38	545	51.5
1972	70,781.08	39,032	38,542	0.5445	32,239	26.91	1,198	50.5
1973	76,549.06	41,518	40,998	0.5356	35,551	27.46	1,295	49.5
1974	26,342.98	14,047	13,870	0.5265	12,473	28.01	445	48.5

New Jersey - American Water Company

Account #: 363.000 - Service Laterals

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1975	27,566.80	14,444	14,263	0.5174	13,304	28.56	466	47.5
1976	42,828.97	22,040	21,764	0.5082	21,065	29.12	723	46.5
1977	81,999.51	41,423	40,903	0.4988	41,096	29.69	1,384	45.5
1978	79,981.95	39,640	39,143	0.4894	40,839	30.26	1,349	44.5
1979	149,965.20	72,879	71,965	0.4799	78,000	30.84	2,529	43.5
1980	97,878.52	46,614	46,030	0.4703	51,849	31.43	1,650	42.5
1981	159,553.43	74,419	73,486	0.4606	86,068	32.01	2,688	41.5
1982	76,471.80	34,909	34,472	0.4508	42,000	32.61	1,288	40.5
1983	90,152.89	40,253	39,748	0.4409	50,405	33.21	1,518	39.5
1984	163,576.58	71,385	70,490	0.4309	93,086	33.82	2,753	38.5
1985	290,770.83	123,932	122,378	0.4209	168,393	34.43	4,891	37.5
1986	101,260.12	42,120	41,592	0.4107	59,669	35.04	1,703	36.5
1987	367,867.26	149,209	147,338	0.4005	220,529	35.66	6,184	35.5
1988	396,471.70	156,675	154,710	0.3902	241,761	36.29	6,662	34.5
1989	322,375.58	124,007	122,452	0.3798	199,924	36.92	5,415	33.5
1990	143,785.06	53,787	53,113	0.3694	90,672	37.56	2,414	32.5
1991	261,336.21	94,974	93,783	0.3589	167,553	38.19	4,387	31.5
1992	317,039.32	111,816	110,414	0.3483	206,625	38.84	5,320	30.5
1993	344,835.54	117,896	116,417	0.3376	228,418	39.49	5,785	29.5
1994	199,040.75	65,887	65,061	0.3269	133,980	40.14	3,338	28.5
1995	545,798.67	174,707	172,516	0.3161	373,282	40.79	9,150	27.5
1996	319,719.26	98,827	97,587	0.3052	222,132	41.45	5,359	26.5
1997	323,958.14	96,557	95,347	0.2943	228,612	42.12	5,428	25.5
1998	1,142,730.52	327,912	323,800	0.2834	818,930	42.78	19,142	24.5
1999	820,575.24	226,315	223,477	0.2723	597,098	43.45	13,742	23.5
2000	119,584.00	31,641	31,245	0.2613	88,339	44.12	2,002	22.5
2001	100,800.00	25,537	25,217	0.2502	75,583	44.80	1,687	21.5
2002	104,154.00	25,210	24,894	0.2390	79,260	45.48	1,743	20.5

New Jersey - American Water Company

Account #: 363.000 - Service Laterals

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1
ASL: 60
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2003	836,600.14	193,010	190,590	0.2278	646,011	46.16	13,996	19.5
2004	116,378.48	25,525	25,205	0.2166	91,174	46.84	1,946	18.5
2005	1,147,786.78	238,630	235,638	0.2053	912,149	47.53	19,193	17.5
2006	5,537,129.70	1,087,706	1,074,066	0.1940	4,463,064	48.21	92,568	16.5
2007	708,061.71	130,944	129,302	0.1826	578,759	48.90	11,835	15.5
2008	985,440.09	170,859	168,716	0.1712	816,724	49.60	16,467	14.5
2009	1,218,342.81	197,109	194,638	0.1598	1,023,705	50.29	20,355	13.5
2010	1,056,105.25	158,567	156,578	0.1483	899,527	50.99	17,641	12.5
2011	1,375,896.43	190,493	188,104	0.1367	1,187,792	51.69	22,978	11.5
2012	1,879,687.27	238,166	235,179	0.1251	1,644,508	52.40	31,385	10.5
2013	1,774,877.64	203,953	201,396	0.1135	1,573,482	53.11	29,629	9.5
2014	2,070,043.52	213,343	210,668	0.1018	1,859,376	53.82	34,550	8.5
2015	6,059,329.05	552,342	545,416	0.0900	5,513,913	54.53	101,116	7.5
2016	3,618,708.90	286,589	282,995	0.0782	3,335,714	55.25	60,377	6.5
2017	4,397,260.45	295,396	291,691	0.0663	4,105,569	55.97	73,354	5.5
2018	4,010,495.71	220,965	218,194	0.0544	3,792,302	56.69	66,890	4.5
2019	2,927,146.97	125,747	124,171	0.0424	2,802,976	57.42	48,813	3.5
2020	3,156,442.13	97,084	95,867	0.0304	3,060,575	58.15	52,628	2.5
2021	3,071,097.02	56,786	56,074	0.0183	3,015,023	58.89	51,197	1.5
2022	5,176,440.04	31,902	31,502	0.0061	5,144,939	59.63	86,281	0.5
TOTAL	59,065,815.20	7,713,725	7,616,996		51,448,819		986,751	

COMPOSITE ANNUAL ACCRUAL RATE	1.67%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.13
COMPOSITE AVERAGE AGE (YEARS)	11.12
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	52.16

New Jersey - American Water Company

Account #: 364.000 - Flow Measuring Devices

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S1
ASL: 35
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1993	4,544.92	2,769	3,871	0.8518	674	13.68	49	29.5
2008	17,685.93	6,396	8,942	0.5056	8,744	22.34	391	14.5
2010	10,000.27	3,198	4,471	0.4471	5,529	23.81	232	12.5
2013	33,130.73	8,351	11,675	0.3524	21,455	26.18	820	9.5
2016	65,040.43	11,592	16,206	0.2492	48,834	28.76	1,698	6.5
2018	5,350.83	673	940	0.1757	4,411	30.60	144	4.5
TOTAL	135,753.11	32,979	46,106		89,647		3,334	

COMPOSITE ANNUAL ACCRUAL RATE	2.46%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.34
COMPOSITE AVERAGE AGE (YEARS)	9.41
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	26.50

New Jersey - American Water Company

Account #: 370.000 - Receiving Wells

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 35
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1905	67.99	68	68	1.0000	0	1.00	0	117.5
1924	4,800.00	4,800	4,800	1.0000	0	1.00	0	98.5
1925	12,329.44	12,329	12,329	1.0000	0	1.00	0	97.5
1950	3,766.71	3,767	3,767	1.0000	0	1.00	0	72.5
1955	12,600.00	12,420	12,600	1.0000	0	1.00	0	67.5
1968	414.80	363	379	0.9138	36	4.39	8	54.5
1970	30,318.00	26,028	27,199	0.8971	3,119	4.95	630	52.5
1975	43,566.29	35,543	37,141	0.8525	6,425	6.45	997	47.5
1979	2,586.00	2,011	2,102	0.8128	484	7.78	62	43.5
1989	1,908.00	1,255	1,312	0.6876	596	11.97	50	33.5
1992	3,137.26	1,926	2,013	0.6415	1,125	13.51	83	30.5
1995	4,806.40	2,721	2,843	0.5915	1,963	15.19	129	27.5
1997	39,615.00	21,083	22,031	0.5561	17,584	16.37	1,074	25.5
2001	9,638.61	4,435	4,634	0.4808	5,005	18.90	265	21.5
2003	27,023.05	11,404	11,917	0.4410	15,106	20.23	747	19.5
2004	47,051.71	18,940	19,792	0.4206	27,260	20.91	1,304	18.5
2005	1,924.00	736	770	0.4000	1,154	21.60	53	17.5
2006	15.63	6	6	0.3788	10	22.31	0	16.5
2007	1,803.41	617	645	0.3578	1,158	23.02	50	15.5
2008	80,127.44	25,783	26,943	0.3362	53,185	23.74	2,241	14.5
2009	3,275.00	986	1,030	0.3145	2,245	24.47	92	13.5
2010	68,347.30	19,132	19,992	0.2925	48,355	25.20	1,919	12.5
2011	2,319.27	600	627	0.2703	1,692	25.95	65	11.5
2014	15,959.46	3,091	3,230	0.2024	12,730	28.22	451	8.5
2017	292,437.06	37,112	38,781	0.1326	253,656	30.56	8,301	5.5
2018	49,717.67	5,184	5,417	0.1090	44,300	31.35	1,413	4.5
2019	1,100,495.35	89,632	93,663	0.0851	1,006,832	32.15	31,317	3.5

New Jersey - American Water Company

Account #: 370.000 - Receiving Wells

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 35
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
TOTAL	1,860,050.85	341,972	356,030		1,504,021		51,251	

COMPOSITE ANNUAL ACCRUAL RATE	2.76%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.19
COMPOSITE AVERAGE AGE (YEARS)	9.40
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	28.58

New Jersey - American Water Company

Account #: 371.100 - Pumping Equipment - Electric

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1950	1,086.62	1,087	1,087	1.0000	0	1.00	0	73.5
1955	1,494.64	1,495	1,495	1.0000	0	1.00	0	68.5
1965	88,410.06	88,410	88,410	1.0000	0	1.00	0	58.5
1970	3,937.45	3,937	3,937	1.0000	0	1.00	0	53.5
1975	2,853.27	2,745	2,853	1.0000	0	1.00	0	47.5
1976	1,074.06	1,019	1,074	1.0000	0	1.27	0	46.5
1979	10,397.06	9,455	10,397	1.0000	0	2.26	0	43.5
1980	9,499.80	8,513	9,500	1.0000	0	2.60	0	42.5
1981	4,809.19	4,246	4,809	1.0000	0	2.93	0	41.5
1984	248,403.83	209,290	248,404	1.0000	0	3.94	0	38.5
1985	11,278.04	9,348	11,278	1.0000	0	4.28	0	37.5
1989	2,447.61	1,891	2,448	1.0000	0	5.68	0	33.5
1991	919,579.03	683,631	919,579	1.0000	0	6.41	0	31.5
1995	535,148.60	364,800	492,220	0.9198	42,929	7.96	5,394	27.5
1998	4,937.23	3,120	4,210	0.8527	727	9.20	79	24.5
1999	449,855.50	276,484	373,057	0.8293	76,798	9.63	7,971	23.5
2002	21,610.89	12,099	16,325	0.7554	5,286	11.00	480	20.5
2003	24,848.65	13,434	18,126	0.7295	6,723	11.48	585	19.5
2004	229,781.06	119,675	161,476	0.7027	68,305	11.98	5,702	18.5
2005	3,096.87	1,550	2,091	0.6752	1,006	12.49	81	17.5
2007	54,154.42	24,789	33,448	0.6176	20,707	13.56	1,527	15.5
2008	912,561.78	397,303	536,077	0.5874	376,485	14.12	26,671	14.5
2009	65,233.48	26,892	36,285	0.5562	28,948	14.69	1,970	13.5
2010	821,880.09	319,150	430,625	0.5240	391,255	15.29	25,585	12.5
2011	363,110.60	132,008	178,117	0.4905	184,993	15.91	11,627	11.5
2012	419,261.91	141,662	191,143	0.4559	228,119	16.55	13,781	10.5
2013	156,924.31	48,847	65,908	0.4200	91,016	17.22	5,286	9.5
2014	329,640.93	93,507	126,169	0.3827	203,472	17.91	11,362	8.5

New Jersey - American Water Company

Account #: 371.100 - Pumping Equipment - Electric

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2015	1,104,519.91	281,649	380,026	0.3441	724,494	18.63	38,899	7.5
2016	308,782.49	69,543	93,833	0.3039	214,949	19.37	11,097	6.5
2017	8,636,247.80	1,677,696	2,263,696	0.2621	6,372,551	20.14	316,359	5.5
2018	2,848,954.03	461,751	623,035	0.2187	2,225,919	20.95	106,259	4.5
2019	2,036,369.94	261,877	353,348	0.1735	1,683,022	21.79	77,256	3.5
2020	213,763.39	20,043	27,044	0.1265	186,719	22.66	8,242	2.5
2021	115,387.85	6,633	8,950	0.0776	106,437	23.56	4,517	1.5
2022	545,716.59	10,716	14,459	0.0265	531,257	24.51	21,676	0.5
TOTAL	21,507,058.98	5,790,297	7,734,942		13,772,117		702,406	

COMPOSITE ANNUAL ACCRUAL RATE	3.27%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.36
COMPOSITE AVERAGE AGE (YEARS)	8.99
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	18.27

New Jersey - American Water Company

Account #: 371.200 - Pumping Equipment - Other

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1982	294.64	256	295	1.0000	0	3.26	0	40.5
1984	3,725.46	3,139	3,725	1.0000	0	3.94	0	38.5
1991	38,352.04	28,512	38,352	1.0000	0	6.41	0	31.5
1995	22,918.52	15,623	22,919	1.0000	0	7.96	0	27.5
1998	32,484.00	20,528	32,484	1.0000	0	9.20	0	24.5
1999	6,294.23	3,868	6,294	1.0000	0	9.63	0	23.5
2001	6,547.59	3,788	6,371	0.9730	177	10.54	17	21.5
2002	307,376.00	172,089	289,406	0.9415	17,970	11.00	1,633	20.5
2003	346.12	187	315	0.9092	31	11.48	3	19.5
2007	118,666.03	54,320	91,350	0.7698	27,316	13.56	2,015	15.5
2008	22,542.00	9,814	16,505	0.7322	6,037	14.12	428	14.5
2010	6,210.02	2,411	4,055	0.6530	2,155	15.29	141	12.5
2011	43,680.00	15,880	26,705	0.6114	16,975	15.91	1,067	11.5
2013	55,473.00	17,267	29,039	0.5235	26,434	17.22	1,535	9.5
2014	1,564.00	444	746	0.4770	818	17.91	46	8.5
2015	489,793.32	124,896	210,040	0.4288	279,753	18.63	15,020	7.5
2016	5,314.15	1,197	2,013	0.3788	3,301	19.37	170	6.5
2017	18,971.93	3,686	6,198	0.3267	12,774	20.14	634	5.5
2018	5,602.56	908	1,527	0.2726	4,075	20.95	195	4.5
TOTAL	1,186,155.61	478,813	788,339		397,816		22,904	

COMPOSITE ANNUAL ACCRUAL RATE	1.93%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.66
COMPOSITE AVERAGE AGE (YEARS)	13.92
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	14.91

New Jersey - American Water Company

Account #: 371.300 - Pumping Equipment - Miscellaneous

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S0.5
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	361.19	304	256	0.7079	106	3.94	27	38.5
1991	1,143.10	850	714	0.6246	429	6.41	67	31.5
1995	692.71	472	397	0.5727	296	7.96	37	27.5
1998	38,304.79	24,207	20,337	0.5309	17,967	9.20	1,953	24.5
2002	1,324.86	742	623	0.4704	702	11.00	64	20.5
2003	8,975.09	4,852	4,076	0.4542	4,899	11.48	427	19.5
2005	9,934.10	4,971	4,177	0.4204	5,757	12.49	461	17.5
2008	6,929.79	3,017	2,535	0.3658	4,395	14.12	311	14.5
2009	8,453.46	3,485	2,928	0.3463	5,526	14.69	376	13.5
2010	8,710.06	3,382	2,842	0.3262	5,868	15.29	384	12.5
2012	37,246.00	12,585	10,573	0.2839	26,673	16.55	1,611	10.5
2013	46,195.00	14,379	12,081	0.2615	34,114	17.22	1,981	9.5
2014	2,000.00	567	477	0.2383	1,523	17.91	85	8.5
2015	50,607.39	12,905	10,842	0.2142	39,766	18.63	2,135	7.5
2022	11,106.25	218	183	0.0165	10,923	24.51	446	0.5
TOTAL	231,983.79	86,937	73,040		158,944		10,365	

COMPOSITE ANNUAL ACCRUAL RATE	4.47%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.31
COMPOSITE AVERAGE AGE (YEARS)	12.67
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	15.63

New Jersey - American Water Company

Account #: 380.000 - Treatment and Disposal Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1974	270,783.27	253,692	137,216	0.5067	133,568	1.70	78,377	48.5
1984	1,619.03	1,355	733	0.4525	886	4.41	201	38.5
1991	423,672.86	317,577	171,770	0.4054	251,903	6.76	37,257	31.5
2003	16,717.76	8,832	4,777	0.2857	11,941	12.74	938	19.5
2007	13,683.60	5,930	3,208	0.2344	10,476	15.30	685	15.5
2009	5,147.55	1,970	1,066	0.2070	4,082	16.67	245	13.5
2011	871,723.53	287,811	155,670	0.1786	716,054	18.09	39,592	11.5
2012	336,281.98	101,981	55,159	0.1640	281,123	18.81	14,944	10.5
2013	816,402.33	225,304	121,861	0.1493	694,541	19.55	35,529	9.5
2014	618,545.90	153,597	83,077	0.1343	535,469	20.30	26,384	8.5
2015	532,933.51	117,422	63,511	0.1192	469,423	21.05	22,299	7.5
2016	145,873.15	28,009	15,150	0.1039	130,724	21.82	5,992	6.5
2017	849,824.47	138,828	75,089	0.0884	774,736	22.59	34,297	5.5
2018	2,717,479.98	365,198	197,526	0.0727	2,519,954	23.37	107,822	4.5
2019	546,483.30	57,433	31,064	0.0568	515,419	24.16	21,331	3.5
2020	7,612,944.69	574,603	310,788	0.0408	7,302,156	24.96	292,530	2.5
2021	1,181,126.82	53,791	29,094	0.0246	1,152,033	25.77	44,704	1.5
2022	2,216,041.72	33,892	18,331	0.0083	2,197,711	26.59	82,661	0.5
TOTAL	19,177,285.45	2,727,226	1,475,088		17,702,197		845,788	

COMPOSITE ANNUAL ACCRUAL RATE	4.41%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.08
COMPOSITE AVERAGE AGE (YEARS)	5.18
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	23.16

New Jersey - American Water Company

Account #: 380.050 - Treatment and Disposal Equipment - Grit Removal

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	6,065.37	5,075	5,644	0.9305	421	4.41	96	38.5
1991	19,195.95	14,389	16,003	0.8337	3,193	6.76	472	31.5
1995	11,632.68	7,993	8,889	0.7642	2,743	8.45	325	27.5
TOTAL	36,894.00	27,456	30,536		6,358		893	

COMPOSITE ANNUAL ACCRUAL RATE	2.42%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.83
COMPOSITE AVERAGE AGE (YEARS)	31.39
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	6.91

New Jersey - American Water Company

Account #: 380.100 - Treatment and Disposal Equipment - Sedimentation Tanks & Access.

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	444,426.05	371,838	408,419	0.9190	36,007	4.41	8,165	38.5
1991	1,567,302.09	1,174,821	1,290,397	0.8233	276,905	6.76	40,954	31.5
1995	949,779.77	652,594	716,795	0.7547	232,985	8.45	27,578	27.5
2011	450.00	149	163	0.3626	287	18.09	16	11.5
2012	139,218.00	42,219	46,373	0.3331	92,845	18.81	4,935	10.5
2013	14,699.00	4,057	4,456	0.3031	10,243	19.55	524	9.5
2014	25,855.00	6,420	7,052	0.2727	18,803	20.30	926	8.5
2016	83,921.28	16,114	17,699	0.2109	66,222	21.82	3,036	6.5
2017	77,944.72	12,733	13,986	0.1794	63,959	22.59	2,831	5.5
TOTAL	3,303,595.91	2,280,944	2,505,339		798,257		88,965	

COMPOSITE ANNUAL ACCRUAL RATE	2.69%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.76
COMPOSITE AVERAGE AGE (YEARS)	28.88
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	8.36

New Jersey - American Water Company

Account #: 380.200 - Treatment and Disposal Equipment - Sludge & Effluent Removal

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	20,535.50	17,181	17,728	0.8633	2,808	4.41	637	38.5
1991	113,546.55	85,112	87,818	0.7734	25,729	6.76	3,805	31.5
1995	70,137.16	48,191	49,723	0.7089	20,414	8.45	2,416	27.5
2012	12,106.00	3,671	3,788	0.3129	8,318	18.81	442	10.5
2013	6,537.00	1,804	1,861	0.2847	4,676	19.55	239	9.5
2015	2,752.13	606	626	0.2273	2,126	21.05	101	7.5
2017	24,545.63	4,010	4,137	0.1686	20,408	22.59	903	5.5
TOTAL	250,159.97	160,577	165,681		84,479		8,543	

COMPOSITE ANNUAL ACCRUAL RATE	3.42%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.66
COMPOSITE AVERAGE AGE (YEARS)	26.55
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	9.67

New Jersey - American Water Company

Account #: 380.250 - Treatment and Disposal Equipment - Sludge Dig Tank

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2016	4,791.10	920	780	0.1628	4,011	21.82	184	6.5
TOTAL	4,791.10	920	780		4,011		184	

COMPOSITE ANNUAL ACCRUAL RATE	3.84%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.16
COMPOSITE AVERAGE AGE (YEARS)	6.50
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	21.82

New Jersey - American Water Company

Account #: 380.300 - Treatment and Disposal Equipment - Sludge Drying & Filtering

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	117,553.10	98,353	108,687	0.9246	8,866	4.41	2,011	38.5
1991	392,851.47	294,474	325,414	0.8283	67,437	6.76	9,974	31.5
1995	239,002.76	164,219	181,473	0.7593	57,530	8.45	6,810	27.5
2012	3,430.00	1,040	1,149	0.3351	2,281	18.81	121	10.5
2013	802.00	221	245	0.3050	557	19.55	29	9.5
2014	5,371.00	1,334	1,474	0.2744	3,897	20.30	192	8.5
TOTAL	759,010.33	559,641	618,442		140,568		19,137	

COMPOSITE ANNUAL ACCRUAL RATE	2.52%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.81
COMPOSITE AVERAGE AGE (YEARS)	31.04
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	7.09

New Jersey - American Water Company

Account #: 380.350 - Treatment and Disposal Equipment - Secondary Treatment Filters

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	246,279.88	206,055	214,468	0.8708	31,812	4.41	7,214	38.5
1991	1,248,644.56	935,961	974,177	0.7802	274,468	6.76	40,594	31.5
1995	753,174.29	517,506	538,636	0.7152	214,538	8.45	25,394	27.5
2011	571,941.00	188,834	196,544	0.3436	375,397	18.09	20,757	11.5
2012	3,450.00	1,046	1,089	0.3156	2,361	18.81	126	10.5
2013	278,665.00	76,904	80,044	0.2872	198,621	19.55	10,160	9.5
2014	64,502.00	16,017	16,671	0.2585	47,831	20.30	2,357	8.5
2015	162,535.93	35,812	37,274	0.2293	125,262	21.05	5,950	7.5
2017	127,122.91	20,767	21,615	0.1700	105,508	22.59	4,671	5.5
TOTAL	3,456,315.57	1,998,902	2,080,518		1,375,798		117,223	

COMPOSITE ANNUAL ACCRUAL RATE	3.39%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.60
COMPOSITE AVERAGE AGE (YEARS)	23.51
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	11.39

New Jersey - American Water Company

Account #: 380.400 - Treatment and Disposal Equipment - Aux. Effluent Treatment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	9,155.80	7,660	7,172	0.7833	1,984	4.41	450	38.5
1991	132,212.32	99,104	92,781	0.7018	39,431	6.76	5,832	31.5
1995	95,279.25	65,466	61,290	0.6433	33,989	8.45	4,023	27.5
2011	3,145.83	1,039	972	0.3091	2,173	18.09	120	11.5
2012	82,215.00	24,933	23,342	0.2839	58,873	18.81	3,130	10.5
2013	68,098.00	18,793	17,594	0.2584	50,504	19.55	2,583	9.5
2014	35,177.00	8,735	8,178	0.2325	26,999	20.30	1,330	8.5
2015	18,123.78	3,993	3,738	0.2063	14,385	21.05	683	7.5
2016	65,509.66	12,579	11,776	0.1798	53,733	21.82	2,463	6.5
TOTAL	508,916.64	242,302	226,844		282,073		20,614	

COMPOSITE ANNUAL ACCRUAL RATE	4.05%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.45
COMPOSITE AVERAGE AGE (YEARS)	18.75
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	14.14

New Jersey - American Water Company

Account #: 380.450 - Treatment and Disposal Equipment - Other Sewer Removal

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	11,324.11	9,475	10,032	0.8859	1,292	4.41	293	38.5
1991	39,649.98	29,721	31,470	0.7937	8,180	6.76	1,210	31.5
1995	21,553.86	14,810	15,681	0.7275	5,873	8.45	695	27.5
2012	3,963.00	1,202	1,273	0.3211	2,690	18.81	143	10.5
2013	8,581.00	2,368	2,507	0.2922	6,074	19.55	311	9.5
2016	13,548.58	2,602	2,755	0.2033	10,794	21.82	495	6.5
TOTAL	98,620.53	60,177	63,718		34,903		3,147	

COMPOSITE ANNUAL ACCRUAL RATE	3.19%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.65
COMPOSITE AVERAGE AGE (YEARS)	25.24
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	10.53

New Jersey - American Water Company

Account #: 380.500 - Treatment and Disposal Equipment - Chemical Treatment Plant

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	43,432.80	36,339	36,311	0.8360	7,121	4.41	1,615	38.5
1991	102,488.87	76,824	76,765	0.7490	25,723	6.76	3,805	31.5
1995	92,411.59	63,496	63,448	0.6866	28,964	8.45	3,428	27.5
2012	17,442.00	5,289	5,285	0.3030	12,157	18.81	646	10.5
2013	51,850.00	14,309	14,298	0.2758	37,552	19.55	1,921	9.5
2015	5,099.02	1,123	1,123	0.2202	3,976	21.05	189	7.5
TOTAL	312,724.28	197,381	197,231		115,493		11,604	

COMPOSITE ANNUAL ACCRUAL RATE	3.71%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.63
COMPOSITE AVERAGE AGE (YEARS)	26.08
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	9.96

New Jersey - American Water Company

Account #: 380.600 - Treatment and Disposal Equipment - Other

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R1.5
ASL: 27
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	119,510.59	99,991	109,087	0.9128	10,423	4.41	2,364	38.5
1991	398,537.32	298,736	325,913	0.8178	72,624	6.76	10,741	31.5
1995	239,799.54	164,766	179,756	0.7496	60,044	8.45	7,107	27.5
2011	73,365.77	24,223	26,426	0.3602	46,939	18.09	2,595	11.5
2014	2,921.00	725	791	0.2709	2,130	20.30	105	8.5
2016	32,280.68	6,198	6,762	0.2095	25,519	21.82	1,170	6.5
2017	11,698.69	1,911	2,085	0.1782	9,614	22.59	426	5.5
2019	10,433.11	1,096	1,196	0.1147	9,237	24.16	382	3.5
TOTAL	888,546.70	597,647	652,017		236,530		24,890	

COMPOSITE ANNUAL ACCRUAL RATE	2.80%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.73
COMPOSITE AVERAGE AGE (YEARS)	28.06
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	8.84

New Jersey - American Water Company

Account #: 381.000 - Plant Sewers

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R2.5
ASL: 50
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2002	152,618.52	55,978	104,179	0.6826	48,439	31.66	1,530	20.5
2007	2,870.13	810	1,507	0.5251	1,363	35.89	38	15.5
2008	5,550.72	1,470	2,735	0.4928	2,815	36.76	77	14.5
2011	8,452.56	1,791	3,333	0.3943	5,120	39.41	130	11.5
2013	17,439.99	3,069	5,712	0.3275	11,728	41.20	285	9.5
2014	118,466.55	18,703	34,807	0.2938	83,659	42.11	1,987	8.5
2015	564,913.61	78,889	146,820	0.2599	418,094	43.02	9,719	7.5
2016	13,026.21	1,580	2,941	0.2258	10,085	43.93	230	6.5
2017	9,091.04	935	1,741	0.1915	7,350	44.86	164	5.5
TOTAL	892,429.33	163,225	303,776		588,653		14,160	

COMPOSITE ANNUAL ACCRUAL RATE	1.59%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.34
COMPOSITE AVERAGE AGE (YEARS)	9.97
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	40.86

New Jersey - American Water Company

Account #: 382.000 - Outfall Sewer Lines

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 40
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	19,473.44	15,186	19,473	1.0000	0	8.81	0	38.5
1991	100,596.36	68,165	90,485	0.8995	10,111	12.90	784	31.5
1995	60,961.05	37,084	49,227	0.8075	11,734	15.67	749	27.5
2001	61,963.14	30,537	40,536	0.6542	21,427	20.29	1,056	21.5
2015	1,950.00	355	471	0.2415	1,479	32.72	45	7.5
TOTAL	244,943.99	151,326	200,192		44,752		2,634	

COMPOSITE ANNUAL ACCRUAL RATE	1.08%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.82
COMPOSITE AVERAGE AGE (YEARS)	28.34
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	15.29

New Jersey - American Water Company

Account #: 389.100 - Other Plant & Miscellaneous Equipment - Intangible

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S3
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2000	684.61	578	604	0.8827	80	3.12	26	22.5
2002	1,235,970.27	1,002,437	1,048,206	0.8481	187,764	3.78	49,687	20.5
2003	803,696.36	636,517	665,579	0.8281	138,118	4.16	33,199	19.5
2004	627,008.69	483,412	505,483	0.8062	121,525	4.58	26,532	18.5
2006	785,605.15	567,429	593,336	0.7553	192,269	5.55	34,616	16.5
2007	93,830.59	65,134	68,108	0.7259	25,722	6.12	4,205	15.5
TOTAL	3,546,795.67	2,755,508	2,881,317		665,479		148,265	

COMPOSITE ANNUAL ACCRUAL RATE	4.18%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.81
COMPOSITE AVERAGE AGE (YEARS)	18.90
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	4.46

New Jersey - American Water Company

Account #: 389.200 - Other Plant & Miscellaneous Equipment - Collection

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: R3
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2015	9,090.00	2,609	957	0.1053	8,133	17.82	456	7.5
TOTAL	9,090.00	2,609	957		8,133		456	

COMPOSITE ANNUAL ACCRUAL RATE	5.02%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.11
COMPOSITE AVERAGE AGE (YEARS)	7.50
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	17.82

New Jersey - American Water Company

Account #: 389.600 - Other Plant & Miscellaneous Equipment - CPS

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: S5
ASL: 10
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2016	19,839.07	12,887	-8,917	-0.4495	28,756	3.50	8,206	6.5
TOTAL	19,839.07	12,887	-8,917		28,756		8,206	

COMPOSITE ANNUAL ACCRUAL RATE	41.36%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	-0.45
COMPOSITE AVERAGE AGE (YEARS)	6.50
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	3.50

New Jersey - American Water Company

Account #: 390.000 - Office Furniture and Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2005	951.00	832	951	1.0000	0	2.50	0	17.5
2008	10,358.44	7,510	10,358	1.0000	0	5.50	0	14.5
2018	2,300.00	518	1,212	0.5269	1,088	15.50	70	4.5
2020	4,997.72	625	1,463	0.2927	3,535	17.50	202	2.5
2022	2,071.04	52	121	0.0586	1,950	19.50	100	0.5
TOTAL	20,678.20	9,536	14,106		6,572		372	

COMPOSITE ANNUAL ACCRUAL RATE	1.80%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.68
COMPOSITE AVERAGE AGE (YEARS)	9.22
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	10.78

New Jersey - American Water Company

Account #: 390.200 - Office Furniture and Equipment - Computers and Peripheral Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 5
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2018	2,075.70	1,868	724	0.3490	1,351	1.00	1,351	4.5
2021	35,662.90	10,699	4,148	0.1163	31,515	3.50	9,004	1.5
2022	90,015.66	9,002	3,490	0.0388	86,525	4.50	19,228	0.5
TOTAL	127,754.26	21,569	8,363		119,391		29,583	

COMPOSITE ANNUAL ACCRUAL RATE	23.16%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.07
COMPOSITE AVERAGE AGE (YEARS)	0.84
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	4.16

New Jersey - American Water Company

Account #: 391.000 - Transportation Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: L2
ASL: 11
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1984	2,791.51	2,792	2,792	1.0000	0	1.00	0	38.5
1991	8,834.70	8,835	8,835	1.0000	0	1.00	0	31.5
1995	5,353.79	4,973	5,354	1.0000	0	1.00	0	27.5
2015	642,845.05	333,698	642,845	1.0000	0	5.29	0	7.5
2016	4,913.49	2,359	4,913	1.0000	0	5.72	0	6.5
2021	63,124.52	8,452	38,541	0.6106	24,583	9.53	2,580	1.5
TOTAL	727,863.06	361,108	703,280		24,583		2,580	

COMPOSITE ANNUAL ACCRUAL RATE	0.35%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.97
COMPOSITE AVERAGE AGE (YEARS)	7.53
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	5.56

New Jersey - American Water Company

Account #: 391.200 - Transportation Equipment - Heavy Duty Trucks

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: L3
ASL: 18
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2007	330,264.64	221,665	330,265	1.0000	0	5.92	0	15.5
2014	19,998.03	9,012	19,998	1.0000	0	9.89	0	8.5
TOTAL	350,262.67	230,677	350,263		0		0	

COMPOSITE ANNUAL ACCRUAL RATE	0.00%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	1.00
COMPOSITE AVERAGE AGE (YEARS)	15.10
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	6.15

New Jersey - American Water Company

Account #: 393.000 - Tools Shop and Garage Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2008	4,386.73	2,544	4,387	1.0000	0	10.50	0	14.5
2010	2,086.39	1,043	2,086	1.0000	0	12.50	0	12.5
2011	7,339.12	3,376	7,339	1.0000	0	13.50	0	11.5
2012	6,053.62	2,543	6,054	1.0000	0	14.50	0	10.5
2013	15,181.04	5,769	15,181	1.0000	0	15.50	0	9.5
2014	262.10	89	262	1.0000	0	16.50	0	8.5
2015	11,705.57	3,512	10,582	0.9040	1,124	17.50	64	7.5
2016	92,141.19	23,957	72,190	0.7835	19,952	18.50	1,078	6.5
2017	73,699.30	16,214	48,858	0.6629	24,841	19.50	1,274	5.5
2018	61,471.80	11,065	33,342	0.5424	28,129	20.50	1,372	4.5
2019	58,710.14	8,219	24,768	0.4219	33,942	21.50	1,579	3.5
2020	35,963.06	3,596	10,837	0.3013	25,126	22.50	1,117	2.5
2021	149,086.89	8,945	26,955	0.1808	122,132	23.50	5,197	1.5
2022	303,629.89	6,073	18,299	0.0603	285,331	24.50	11,646	0.5
TOTAL	821,716.84	96,945	281,139		540,578		23,327	

COMPOSITE ANNUAL ACCRUAL RATE	2.84%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.34
COMPOSITE AVERAGE AGE (YEARS)	2.95
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	22.05

New Jersey - American Water Company

Account #: 394.000 - Laboratory Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 20
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2004	29,134.96	26,950	28,981	0.9947	154	1.50	103	18.5
2007	38,844.11	30,104	32,373	0.8334	6,471	4.50	1,438	15.5
2008	2,542.24	1,843	1,982	0.7796	560	5.50	102	14.5
2011	5,146.45	2,959	3,182	0.6183	1,964	8.50	231	11.5
2012	9,635.96	5,059	5,440	0.5646	4,196	9.50	442	10.5
2014	9,642.02	4,098	4,407	0.4570	5,235	11.50	455	8.5
2016	6,333.18	2,058	2,213	0.3495	4,120	13.50	305	6.5
2018	12,543.69	2,822	3,035	0.2420	9,509	15.50	613	4.5
TOTAL	113,822.61	75,894	81,614		32,209		3,689	

COMPOSITE ANNUAL ACCRUAL RATE	3.24%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.72
COMPOSITE AVERAGE AGE (YEARS)	13.34
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	6.66

New Jersey - American Water Company

Account #: 395.000 - Power Operated Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: L3
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2000	17,615.00	11,991	15,571	0.8840	2,044	7.98	256	22.5
2001	252,058.50	169,178	219,689	0.8716	32,369	8.22	3,938	21.5
2007	2,864.77	1,614	2,096	0.7316	769	10.91	70	15.5
2008	127,392.36	68,251	88,629	0.6957	38,763	11.61	3,340	14.5
2010	80,141.83	37,971	49,308	0.6153	30,833	13.15	2,344	12.5
2015	15,044.71	4,451	5,779	0.3841	9,265	17.60	526	7.5
2020	1,811.43	181	235	0.1299	1,576	22.50	70	2.5
TOTAL	496,928.60	293,637	381,309		115,620		10,544	

COMPOSITE ANNUAL ACCRUAL RATE	2.12%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.77
COMPOSITE AVERAGE AGE (YEARS)	17.76
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	10.23

New Jersey - American Water Company

Account #: 396.000 - Communication Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 15
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2008	2,300.20	2,224	2,050	0.8914	250	1.00	250	14.5
2009	9,660.00	8,694	8,017	0.8299	1,643	1.50	1,095	13.5
2010	68.11	57	52	0.7685	16	2.50	6	12.5
2011	15,251.35	11,693	10,782	0.7070	4,469	3.50	1,277	11.5
2012	21,978.51	15,385	14,187	0.6455	7,792	4.50	1,732	10.5
2014	79,652.05	45,136	41,621	0.5225	38,032	6.50	5,851	8.5
2015	126,973.77	63,487	58,542	0.4611	68,432	7.50	9,124	7.5
2016	367,317.22	159,171	146,773	0.3996	220,544	8.50	25,946	6.5
2017	140,206.98	51,409	47,405	0.3381	92,802	9.50	9,769	5.5
2018	29,470.59	8,841	8,153	0.2766	21,318	10.50	2,030	4.5
2019	26,162.90	6,105	5,629	0.2152	20,534	11.50	1,786	3.5
2020	114,122.40	19,020	17,539	0.1537	96,583	12.50	7,727	2.5
2021	80,272.26	8,027	7,402	0.0922	72,870	13.50	5,398	1.5
2022	973,089.70	32,436	29,910	0.0307	943,180	14.50	65,047	0.5
TOTAL	1,986,526.04	431,685	398,061		1,588,465		137,038	

COMPOSITE ANNUAL ACCRUAL RATE	6.90%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.20
COMPOSITE AVERAGE AGE (YEARS)	3.26
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	11.74

New Jersey - American Water Company

Account #: 397.000 - Miscellaneous Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
1998	168.54	165	169	1.0000	0	1.00	0	24.5
2001	56,398.80	48,503	55,291	0.9804	1,108	3.50	317	21.5
2002	92,844.52	76,133	86,787	0.9348	6,057	4.50	1,346	20.5
2003	7,919.51	6,177	7,042	0.8892	878	5.50	160	19.5
2005	242,603.23	169,822	193,589	0.7980	49,014	7.50	6,535	17.5
2006	116,280.82	76,745	87,486	0.7524	28,795	8.50	3,388	16.5
2009	6,122.20	3,306	3,769	0.6156	2,354	11.50	205	13.5
2011	29,161.80	13,414	15,292	0.5244	13,870	13.50	1,027	11.5
2012	5,864.00	2,463	2,808	0.4788	3,056	14.50	211	10.5
2013	3,861.47	1,467	1,673	0.4332	2,189	15.50	141	9.5
2014	35,033.79	11,911	13,579	0.3876	21,455	16.50	1,300	8.5
2015	31,679.61	9,504	10,834	0.3420	20,846	17.50	1,191	7.5
2016	188,522.45	49,016	55,876	0.2964	132,647	18.50	7,170	6.5
2017	59,212.08	13,027	14,850	0.2508	44,362	19.50	2,275	5.5
2018	142,855.45	25,714	29,313	0.2052	113,543	20.50	5,539	4.5
2019	31,871.09	4,462	5,086	0.1596	26,785	21.50	1,246	3.5
2020	2,730.60	273	311	0.1140	2,419	22.50	108	2.5
2021	116,694.73	7,002	7,982	0.0684	108,713	23.50	4,626	1.5
2022	74,076.28	1,482	1,689	0.0228	72,387	24.50	2,955	0.5
TOTAL	1,243,900.97	520,586	593,422		650,479		39,740	

COMPOSITE ANNUAL ACCRUAL RATE	3.19%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.48
COMPOSITE AVERAGE AGE (YEARS)	10.46
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	14.54

New Jersey - American Water Company

Account #: 398.000 - Other Tangible Equipment

CALCULATED ANNUAL ACCRUAL AND ACCRUED DEPRECIATION

BASED ON ORIGINAL COST AS OF December 31, 2022

ALG - Remaining Life
Survivor Curve: SQ
ASL: 25
Net Salvage: 0%
Truncation Year:

Year	Original Cost	Calculated Accumulated Depreciation	Allocated Actual Booked Amount	Accumulated Depreciation Factor	Net Book Value	ALG Remaining Life	Annual Accrual	Average Age
2009	3,684.19	1,989	3,684	1.0000	0	11.50	0	13.5
2011	13,745.46	6,323	13,745	1.0000	0	13.50	0	11.5
2012	17,042.97	7,158	17,043	1.0000	0	14.50	0	10.5
2014	16,346.53	5,558	16,347	1.0000	0	16.50	0	8.5
2022	24,535.15	491	4,514	0.1840	20,021	24.50	817	0.5
TOTAL	75,354.30	21,519	55,334		20,021		817	

COMPOSITE ANNUAL ACCRUAL RATE	1.08%
THEORETICAL ACCUMULATED DEPRECIATION FACTOR	0.73
COMPOSITE AVERAGE AGE (YEARS)	7.14
DIRECTED WEIGHTED ALG COMPOSITE REMAINING LIFE (YEARS)	17.86

SECTION 9

9 ESTIMATION OF SURVIVOR CURVES

9.1 Average Service Life

All assets have a service life, which is defined as "the period of time from its installation until it is retired from service" [3]. All account groups of property are made up of various assets with differing service lives and investment values. To calculate a depreciation rate, one must first calculate an average life for all assets in a single account. This can be done by ascertaining the age at retirement for every asset in an account and plotting it as a percentage of the units surviving at each age interval (a "Survivor Curve"). From the average life for each account, remaining lives can then be found which are then used to calculate the annual depreciation accruals and ultimately depreciation rate. A discussion of the general concept of survivor curves is presented and the Iowa type survivor curves are reviewed.

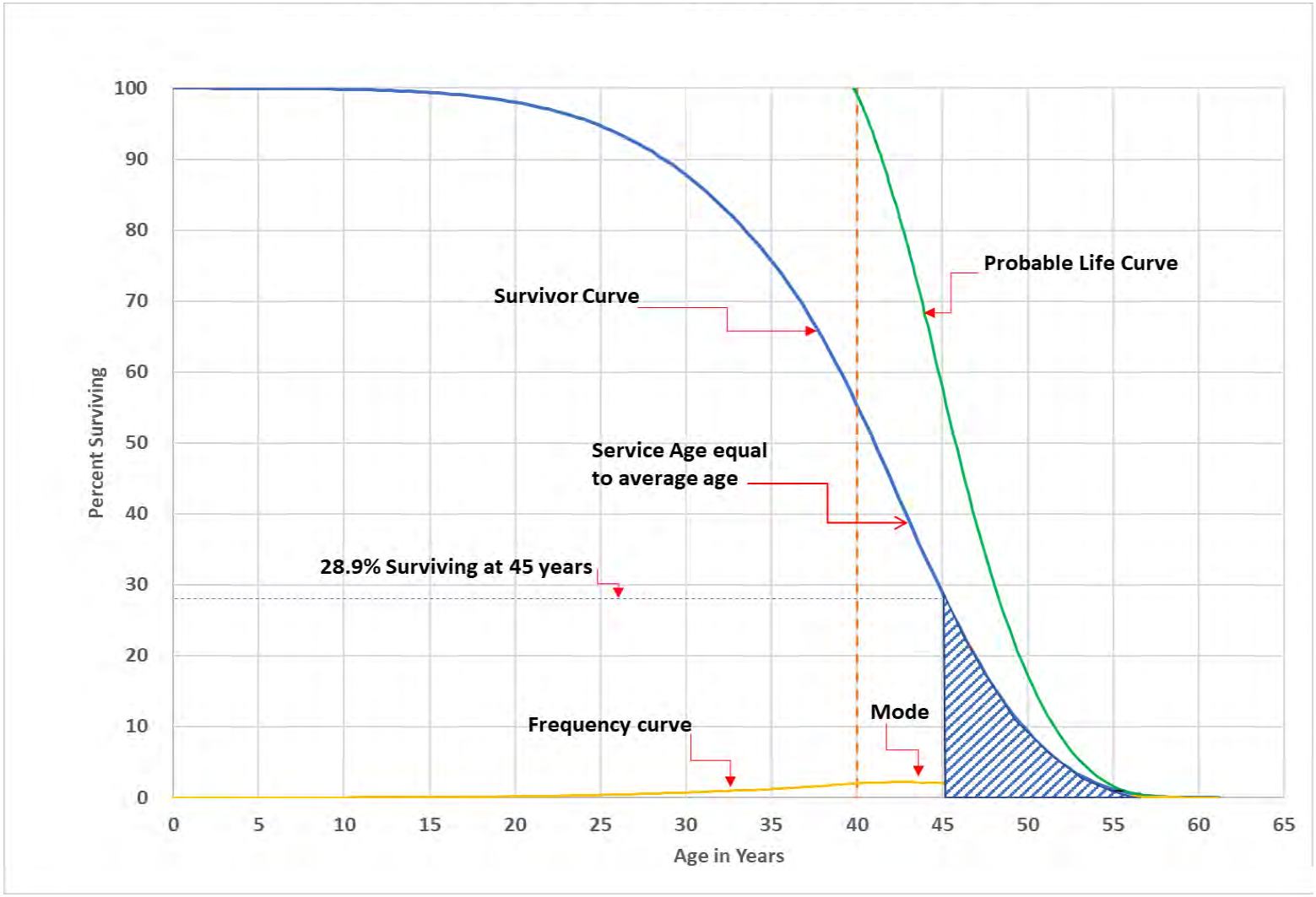
9.2 Survivor Curves

A survivor curve is defined as "a graph of the percent of units remaining in service expressed as a function of age" [4]. To calculate the average life of the group, the remaining life expectancy, the probable life and the frequency curve, one must first create a survivor curve. Figure 1 shows a typical 40-R4 smoothed survivor curve as well as the accompanying derived curves. The type 40-R4 refers to the Iowa type curve, whose designation will be explained in further detail in the next section

To calculate the average service life, one must calculate the area under the survivor curve and divide by the percent surviving at age zero. The remaining life is equal to the area under the survivor curve and to the right of the current age, divided by the percent surviving at the current age. In Figure 1, for example, the hatched area to the right of age 45 divided by 28.9 percent surviving balance represents the remaining life for an asset that has reached that age. The probable life is "the total life expectancy of the property surviving at any age and is equal to the remaining life plus the current age." [5] If the probable life of the property is calculated for each year of age, the probable life curve shown in the chart can be developed. The frequency curve is calculated by taking the difference between the percent surviving on successive years on the survivor curve[6]. Alternatively, frequency can be empirically determined by finding the amount of retirements at any given age. Plotting retirement frequency from the youngest to oldest ages and then taking the cumulative frequencies will generate percent surviving versus age.

[3] Wolf, Frank K. and W. Chester Fitch, Depreciation Systems (Iowa State University Press, 1994), 21.
[4] *Ibid*, 23.
[5] *Ibid*, 29.
[6] *Ibid*, 23-24.

Figure 1: Typical Survivor Curve (40-R4) and Derived Curves



9.3 Iowa Type Curves

In 1931, Robley Winfrey and Edwin Kurtz of the Engineering Research Institute at Iowa State University published Bulletin 103, which laid the groundwork for what would eventually be known as the Iowa Curves. "The 13 type curves can be used as valuable aids in forecasting the probable future service lives of individual items and of groups of items of different kinds of physical equipment" [7]. The 13 curves described in Bulletin 103 eventually became a series of 22 generalized survivor curves which are used throughout the regulated utility industry. These 22 curves were described in Bulletin 125, published in 1967 by Harold A. Cowles, which became known as the Iowa curves.

The Iowa curves are organized with three variables: the average life of the plant; the location of the mode; and the variation of the life. All Iowa curves have both a letter and a number to represent the shape and height of the mode. The L curves, or left-moded curves, are used when the mode of the curve should be to the left of the average life. There are six L curves are presented in Figure 2. The R curves, or right-moded, are used when the mode of the curve should be to the right of the average life. There are five R curves, which are presented in Figure 3. The S curves, or symmetrically-moded, are used when the mode is equal to the average life. There are seven S curves, which are presented in Figure 4. The O curves, or origin curves, are used when the mode occurs at age 0. There are four O curves, which are presented in Figure 5. There are some occasions where it is appropriate to use a half curve. In these cases, the curve is assumed to be exactly half way between the two curves.

In addition to Bulletin 125, Iowa curves have also been presented in subsequent Experiment Station bulletins and in the text Engineering Valuation and Depreciation[8]. In 1957, Frank V. B. Couch, Jr., an Iowa State College graduate student, submitted a thesis[9] presenting his development of the fourth family consisting of the four O-type survivor curves.

[7] *Ibid*, 21

[8] Marston, Anson, Robley Winfrey and Jean C. Hempstead, Engineering Valuation and Depreciation (The Iowa State University Press, 1953)

[9] Couch, Frank V. B., Jr., Classification of Type O Retirement Characteristics of Industrial Property Unpublished M.S. Thesis (Engineering Valuation, Library, Iowa State College, Ames, Iowa, 1957)

Figure 2: Left Modal or "L" Iowa Type Survivor Curves

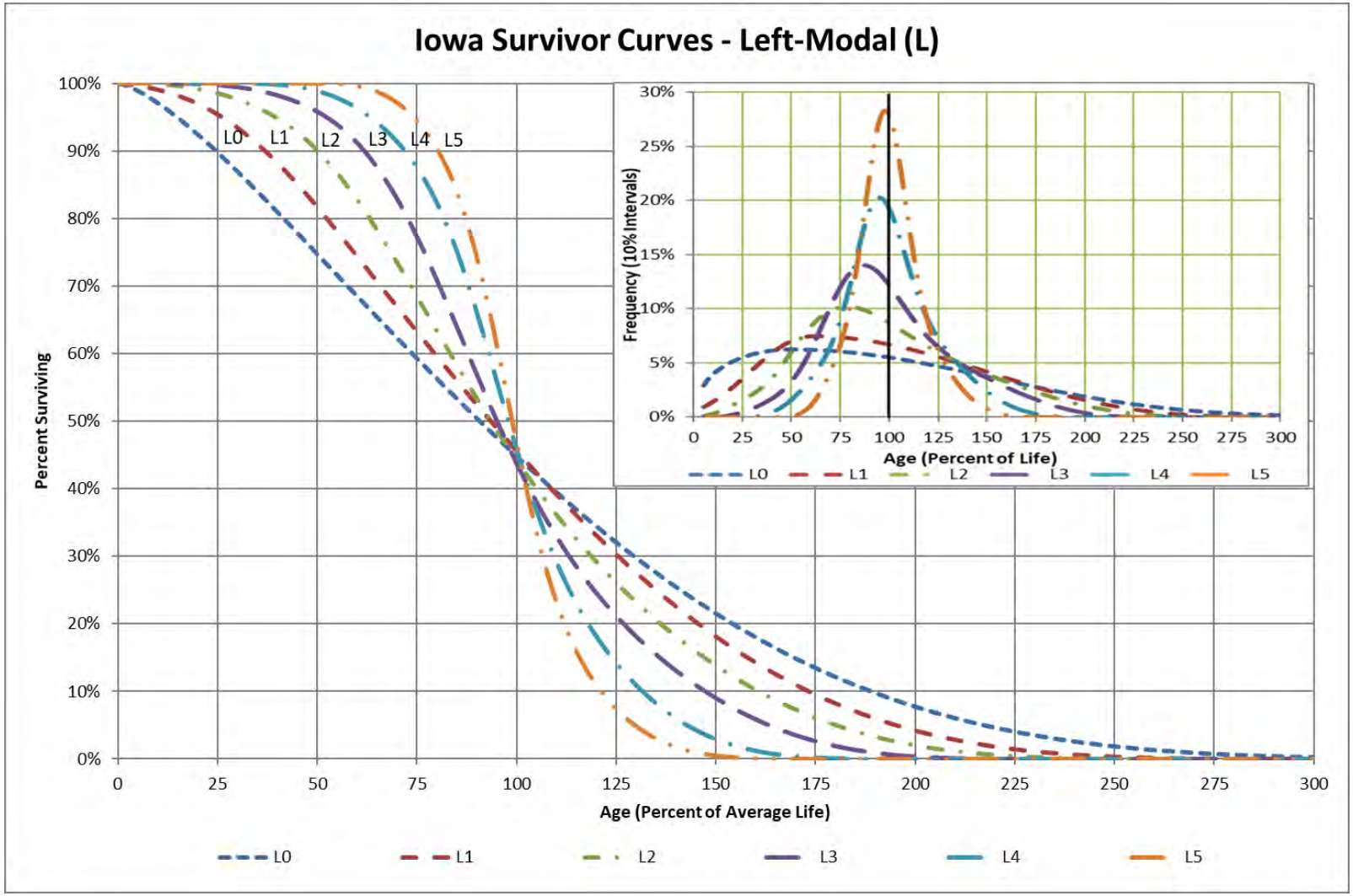


Figure 3: Right Modal or "R" Iowa Type Survivor Curves

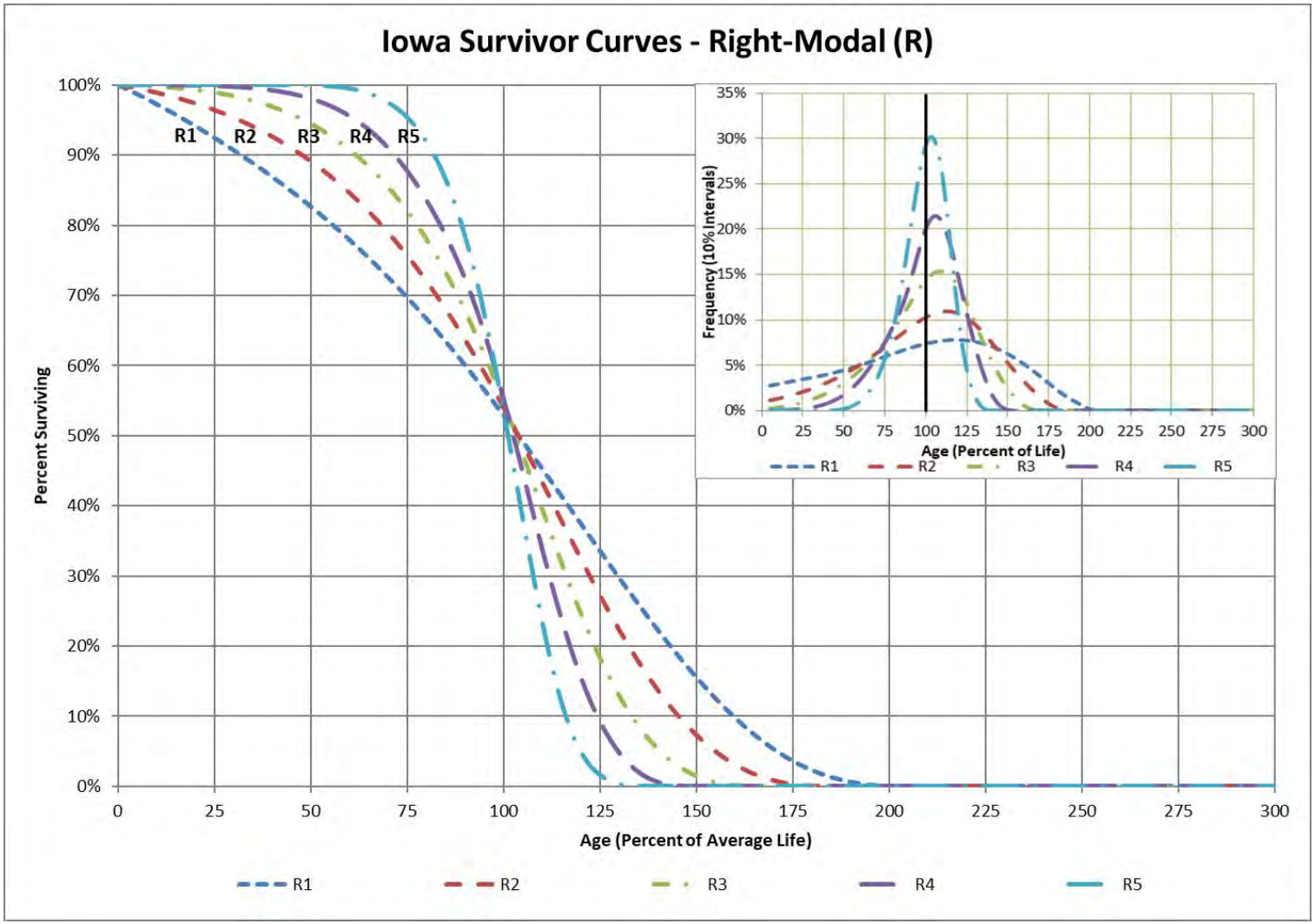


Figure 4: Symmetrical or "S" Iowa Type Survivor Curves

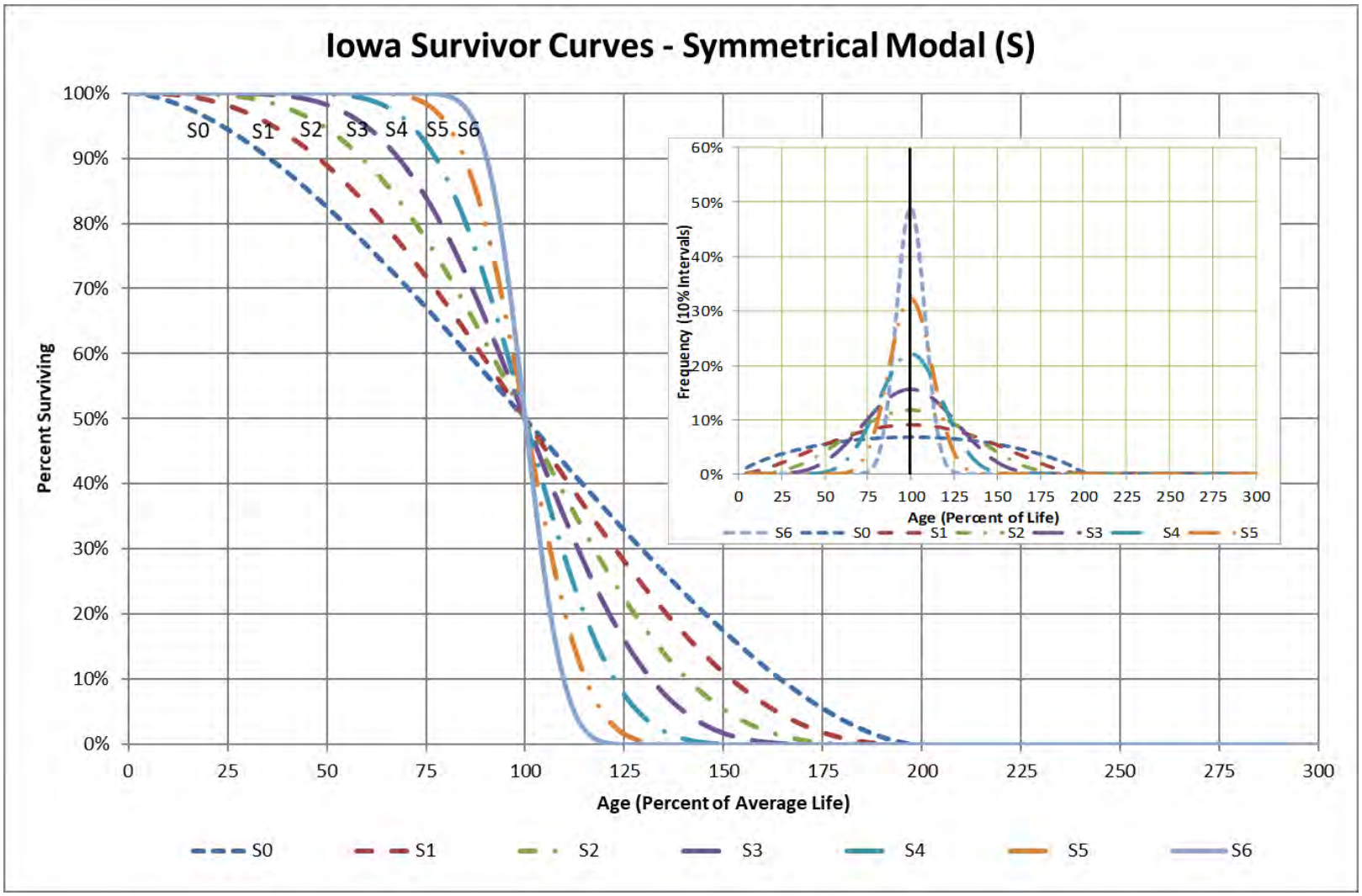
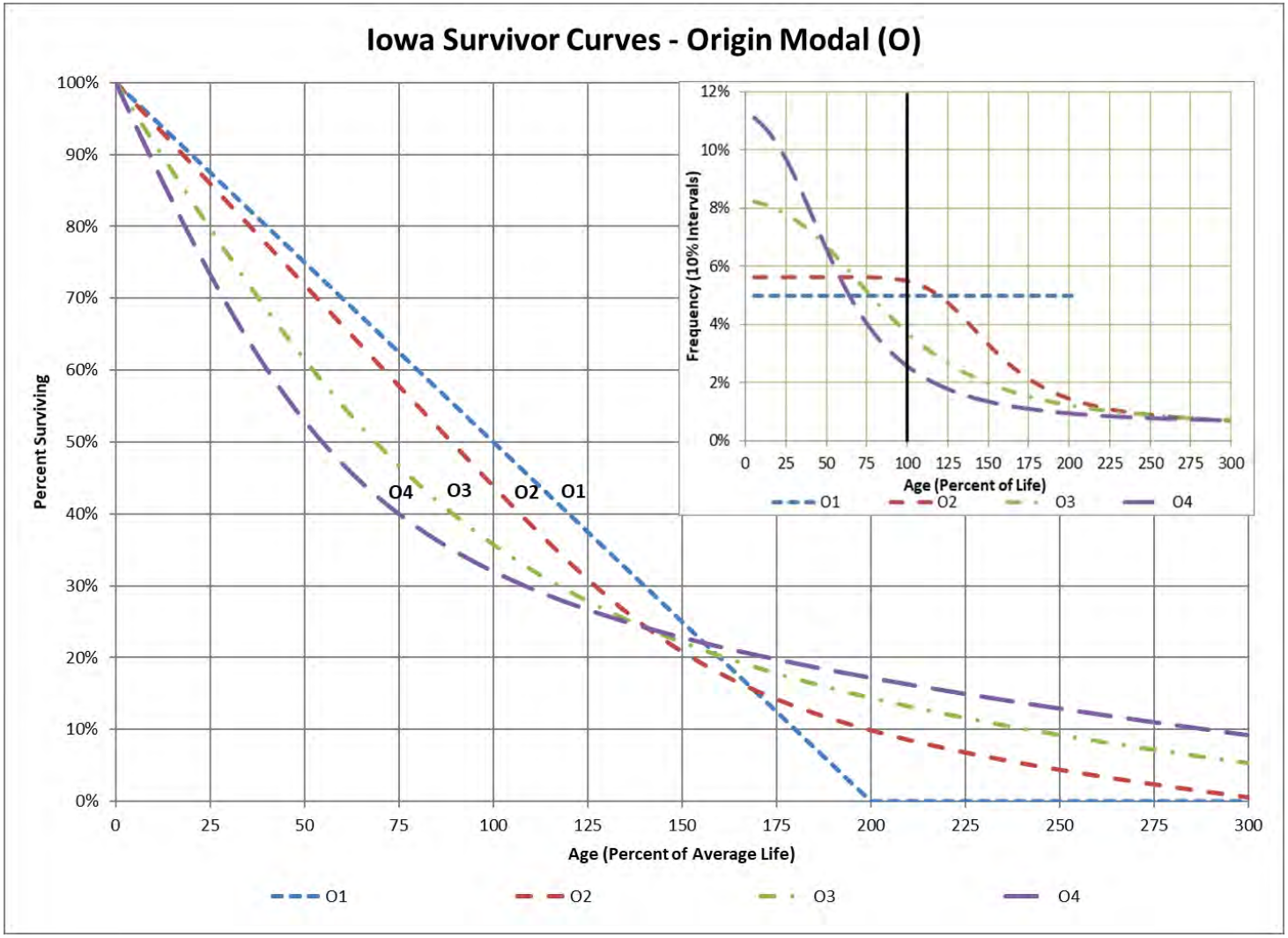


Figure 5: Origin Modal or "O" Iowa Type Survivor Curves



9.4 Retirement Rate Method of Analysis

The retirement rate method is a widely accepted actuarial method used to create survivor curves. This method is also referred to as an original life table. These survivor curves can then be used to determine the average service life of a plant account. The retirement rate method is thoroughly explained in several publications, including Statistical Analyses of Industrial Property Retirements, [10] Engineering Valuation and Depreciation [11] and Depreciation Systems. [12]

The retirement rate method is a subgroup of the placement and the experience band methods, as described in "Depreciation Systems". The placement band method creates a survivor curve which describes the life characteristics of assets placed into service during a selected timeframe. The experience band method creates a survivor curve which describes the life characteristics of assets removed from service during a selected time frame. The retirement rate method creates both placement and experience bands to give the most complete or representative data. An example of the calculations used in the development of a life table follows. The example includes schedules of annual aged property transactions, a schedule of plant exposed to retirement, a life table and illustrations of smoothing the stub survivor curve.

9.5 Schedules of Annual Transactions in Plant Records

The property group used to illustrate the retirement rate method is observed for the experience band 2008-2017 during which there were placements during the years 2003-2017. In order to illustrate the summation of the aged data by age interval, the data was compiled in the manner presented in Schedules 1 and 2. In Schedule 1 (page 9-10), the year of installation (year placed) and the year of retirement are shown. The age interval during which a retirement occurred is determined from this information. In the example which follows, $10,000 of the asset invested in 2003 were retired in 2008. The $10,000 retirement occurred during the age interval between 4 ½ and 5 ½ years (2008 - 2003) on the basis that approximately one-half of the amount of property was installed prior to and after July 1 of each year. That is, on the average, property installed during a year is placed in service at the midpoint of the year for the purpose of the analysis. All retirements also are stated as occurring at the midpoint of a one-year age interval of time, except the first age interval which encompasses only one-half year.

The total retirements occurring in each age interval in a band are determined by summing the amounts for each transaction year-installation year combination for that age interval. For example, the total of $143,000 retired for age interval 4½-5½ is the sum of the retirements entered on Schedule 1 immediately above the stair step line drawn on the table beginning with the 2008 retirements of 2003 installations and ending with the 2016 retirements of the 2011 installations. Thus, the total amount of $143,000 for age interval 4½-5½ equals the sum of:

$$\$10 + \$12 + \$13 + \$11 + \$13 + \$13 + \$15 + \$17 + \$19 + \$20 = \$143\ k$$

[10] Anson, Winfrey & Hempstead, supra note 6

[11] Anson, Winfrey & Hempstead, supra note 6

[12] Wolf & Fitch, supra note 1

Other transactions which affect the group are recorded in a similar manner in Schedule 2 (page 9-11). The entries illustrated include transfers and sales. The entries which are credits to the plant account are shown in parentheses. The items recorded on this schedule are not totaled with the retirements but are used in developing the exposures at the beginning of each age interval.

Schedule 1. Retirements for each year 2008-2017 – summarized by age interval

Experience Band 2008-2017 Placement Band 2003-2017

Retirements (Thousands of Dollars)
Annual Survivors at the Beginning of the Year

Year Placed	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total Durring Age Interval	Age Interval
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
2003	10	11	12	13	14	16	23	24	25	26	26	13½-14½
2004	11	12	13	15	16	18	20	21	22	19	44	12½-13½
2005	11	12	13	14	16	17	19	21	22	18	64	11½-12½
2006	8	9	10	11	11	13	14	15	16	17	83	10½-11½
2007	9	10	11	12	13	14	16	17	19	20	93	9½-10½
2008	4	9	10	11	12	13	14	15	16	20	105	8½-9½
2009		5	11	12	13	14	15	16	18	20	113	7½-8½
2010			6	12	13	15	16	17	19	19	124	6½-7½
2011				6	13	15	16	17	19	19	131	5½-6½
2012					7	14	16	17	19	20	143	4½-5½
2013						8	18	20	22	23	146	3½-4½
2014							9	20	22	25	150	2½-3½
2015								11	23	25	151	1½-2½
2016									11	24	153	½-1½
2017										13	80	0-½
Total	**53**	**68**	**86**	**106**	**128**	**157**	**196**	**231**	**273**	**308**	**1,606**	

Schedule 2. Other Transactions for Each year 2008-2017 – summarized by age interval

Experience Band 2008-2017 Placement Band 2003-2017

Acquisitions, Transfers and Sales (Thousands of Dollars)
Annual Survivors at the Beginning of the Year

Year Placed (1)	2008 (2)	2009 (3)	2010 (4)	2011 (5)	2012 (6)	2013 (7)	2014 (8)	2015 (9)	2016 (10)	2017 (11)	Total Durring Age Interval (12)	Age Interval (13)
2003	-	-	-	-	-	-	60[a]	-	-	-	-	13½-14½
2004	-	-	-	-	-	-	-	-	-	-	-	12½-13½
2005	-	-	-	-	-	-	-	-	-	-	-	11½-12½
2006	-	-	-	-	-	-	-	(5)[b]	-	-	60	10½-11½
2007	-	-	-	-	-	-	-	6[a]	-	-	-	9½-10½
2008	-	-	-	-	-	-	-	-	-	-	(5)	8½-9½
2009		-	-	-	-	-	-	-	-	-	-	7½-8½
2010			-	-	-	-	-	-	-	-	-	6½-7½
2011				-	-	-	-	(12)[b]	-	-	-	5½-6½
2012					-	-	-	-	22[a]	-	-	4½-5½
2013						-	-	(19)[b]	-	-	10	3½-4½
2014							-	-	-	-	-	2½-3½
2015								-	-	(102)[c]	(121)	1½-2½
2016									-	-	-	½-1½
2017												0-½
Total	**-**	**-**	**-**	**-**	**-**	**-**	**60**	**(30)**	**22**	**(102)**	**(50)**	

[a] *Transfer Affecting Exposures at Beginning of Year*
[b] *Transfer Affecting Exposures at End of Year*
[c] *Sale with Continued Use*
Parentheses denote Credit amount.

9.6 Schedule of Plant Exposed to Retirement

The development of the amount of plant exposed to retirement at the beginning of each age interval is illustrated in Schedule 3 (page 9-13). The surviving plant at the beginning of each year from 2007 through 2016 is recorded by year in the portion of the table titled "Annual Survivors at the Beginning of the Year." The last amount entered in each column is the amount of new plant added to the group during the year. The amounts entered in Schedule 3 for each successive year following the beginning balance or addition, are obtained by adding or subtracting the net entries shown on Schedules 1 and 2. For the purpose of determining the plant exposed to retirement, transfers-in are considered as being exposed to retirement in this group at the beginning of the year in which they occurred, and the sales and transfers-out are considered to be removed from the plant exposed to retirement at the beginning of the following year. Thus, the amounts of plant shown at the beginning of each year are the amounts of plant from each placement year considered to be exposed to retirement at the beginning of each successive transaction year. For example, the exposures for the installation year 2013 are calculated in the following manner:

Exposures at age 0	=	amount of addition	=	$750,000
Exposures at age ½	=	$750,000 - $ 8,000	=	$742,000
Exposures at age 1½	=	$742,000 - $18,000	=	$724,000
Exposures at age 2½	=	$724,000 - $20,000 - $19,000	=	$685,000
Exposures at age 3½	=	$685,000 - $22,000	=	$663,000

For the entire experience band 2008-2018, the total exposures at the beginning of an age interval are obtained by summing diagonally in a manner similar to the summing of the retirements during an age interval (Schedule 1). For example, the figure of 3,789, shown as the total exposures at the beginning of age interval 4½-5½, is obtained by summing:

$255 + $268 + $ 284 + $311 + $334 + $374 + $405 + $448 + $501 $ $609 = $3,789k

Schedule 3 – Plant exposed to retirement at the beginning of each year, 2008 -2017 – summarized by age interval

Experience Band 2008 - 2017 Placement Band 2003-2017

Exposures (Thousands of Dollars)
Annual Survivors at the Beginning of the Year

Year Placed (1)	2008 (2)	2009 (3)	2010 (4)	2011 (5)	2012 (6)	2013 (7)	2014 (8)	2015 (9)	2016 (10)	2017 (11)	Total at Beginning of Age Interval (12)	Age Interval (13)
2003	255	245	234	222	209	195	239	216	192	167	167	13½-14½
2004	279	268	256	243	228	212	194	174	153	131	323	12½-13½
2005	307	296	284	271	257	241	224	205	184	162	531	11½-12½
2006	338	330	321	311	300	289	276	262	242	226	823	10½-11½
2007	376	367	257	346	334	321	307	267	280	261	1,097	9½-10½
2008	420[a]	416	407	397	386	374	361	347	332	316	1,503	8½-9½
2009		460[a]	455	444	432	419	405	390	374	356	1,952	7½-8½
2010			510[a]	504	492	479	464	448	431	412	2,463	6½-7½
2011				580[a]	574	561	546	530	501	482	3,057	5½-6½
2012					660[a]	653	639	623	628	609	3,789	4½-5½
2013						750[a]	742	724	685	663	4,332	3½-4½
2014							850[a]	841	821	799	4,955	2½-3½
2015								960[a]	949	923	5,719	1½-2½
2016									1,080[a]	1,069	6,579	½-1½
2017										1,220[a]	7,490	0-½
Total	**1,975**	**2,382**	**2,724**	**3,318**	**3,872**	**4,494**	**5,247**	**5,987**	**6,852**	**7,796**	**44,780**	

[a] *Additions during the year.*

	1555	1922	2214	2738	3212	3744	4397	5027	5772	6576	44780
	420	460	510	580	660	750	850	960	1080	1220	0
	1975	2382	2724	3318	3872	4494	5247	5987	6852	7796	44780

9.7 Original Life Tables

The original life table, illustrated in Schedule 4 (page 9-15) is developed from the totals shown on the schedules of retirements and exposures, Schedules 1 and 3, respectively. The exposures at the beginning of the age interval are obtained from the corresponding age interval of the exposure schedule, and the retirements during the age interval are obtained from the corresponding age interval of the retirement schedule. The retirement ratio is the result of dividing the retirements during the age interval by the exposures at the beginning of the age interval. The percent surviving at the beginning of each age interval is derived from survivor ratios, each of which equals one minus the retirement ratio. The percent surviving is developed by starting with 100 percent at age zero and successively multiplying the percent surviving at the beginning of each interval by the survivor ratio, i.e., one minus the retirement ratio for that age interval. The calculations necessary to determine the percent surviving at age 5½ are as follows:

Percent surviving at age 4½	=	88.15		
Exposures at age 4½	=	$3,789,000		
Retirements from age 4½ to 5½		= $143,000		
Retirement Ratio	=	$143,000 ÷ $3,789,000	=	0.0377
Survivor Ratio	=	1.000 - 0.0377	=	0.9623
Percent surviving at age 5½	=	(88.15) x (0.9623)	=	84.83

The totals of the exposures and retirements (columns 2 and 3) are shown for the purpose of checking with the respective totals in Schedules 1 and 3. The ratio of the total retirements to the total exposures, other than for each age interval, is meaningless. The original survivor curve is plotted from the original life table (column 6, Schedule 4). When the curve terminates at a percent surviving greater than zero, it is called a stub survivor curve. Survivor curves developed from retirement rate studies generally are stub curves.

Schedule 4: Original Life Table - Calculated by the Retirement Rate Method

Experience Band 2008-2017					Placement Band 2003-2017
Age at Beginning of Interval	**Exposures at Beginning of Age Interval**	**Retirements During Age Interval**	**Retirement Ratio**	**Survivor Ratio**	**% Surviving at Beginning of Age Interval**
0	7,490	80	0.0107	0.9893	100.00
0.5	6,579	153	0.0233	0.9767	98.93
1.5	5,719	151	0.0264	0.9736	96.62
2.5	4,955	150	0.0303	0.9697	94.07
3.5	4,332	146	0.0337	0.9663	91.22
4.5	3,789	143	0.0377	0.9623	88.15
5.5	3,057	131	0.0429	0.9571	84.83
6.5	2,463	124	0.0503	0.9497	81.19
7.5	1,952	113	0.0579	0.9421	77.11
8.5	1,503	105	0.0699	0.9301	72.65
9.5	1,097	93	0.0848	0.9152	67.57
10.5	823	83	0.1009	0.8991	61.84
11.5	531	64	0.1205	0.8795	55.6
12.5	323	44	0.1362	0.8638	48.9
13.5	167	26	0.1557	0.8443	42.24
					35.66
Total	**44,780**	**1,606**			

- Exposure and Retirement Amounts are in Thousands of Dollars
- Column 2 from Schedule 3, Column 12, Plant Exposed to Retirement.
- Column 3 from Schedule 1, Column 12, Retirements for Each Year.
- Column 4 = Column 3 divided by Column 2.
- Column 5 = 1.0000 minus Column 4.
- Column 6 = Column 5 multiplied by Column 6 as of the Preceding Age Interval.

9.8 Smoothing the Original Survivor Curve

The smoothing of the original survivor curve eliminates any irregularities and serves as the basis for the preliminary extrapolation to zero percent surviving of the original stub curve. Even if the original survivor curve is complete from 100 percent to zero percent, it is desirable to eliminate any irregularities, as there is still an extrapolation for the vintages which have not yet lived to the age at which the curve reaches zero percent. In this study, the smoothing of the original curve with established type curves was used to eliminate irregularities in the original curve.

The Iowa type curves are used in this study to smooth those original stub curves which are expressed as percentages surviving at ages in years. Each original survivor curve was compared to the Iowa curves using visual and mathematical matching in order to determine the better fitting smooth curves. In Figures 6, 7, and 8, the original curve developed in Schedule 4 is compared with the L, S, and R Iowa type curves which most nearly fit the original survivor curve. In Figure 6, the L1 curve with an average life between 12 and 13 years appears to be the best fit. In Figure 7, the S0 type curve with a 12-year average life appears to be the best fit and appears to be better than the L1 fitting. In Figure 8, the R1 type curve with a 12-year average life appears to be the best fit and appears to be better than either the L1 or the S0.

In Figure 9, the three fittings, 12-L1, 12-S0 and 12-R1 are drawn for comparison purposes. It is probable that the 12-R1 Iowa curve would be selected as the most representative of the plotted survivor characteristics of the group.

Figure 6: Illustration of the Matching of an Original Survivor Curve with a L1 Iowa Type Curve Original and Smooth Survivor Curves

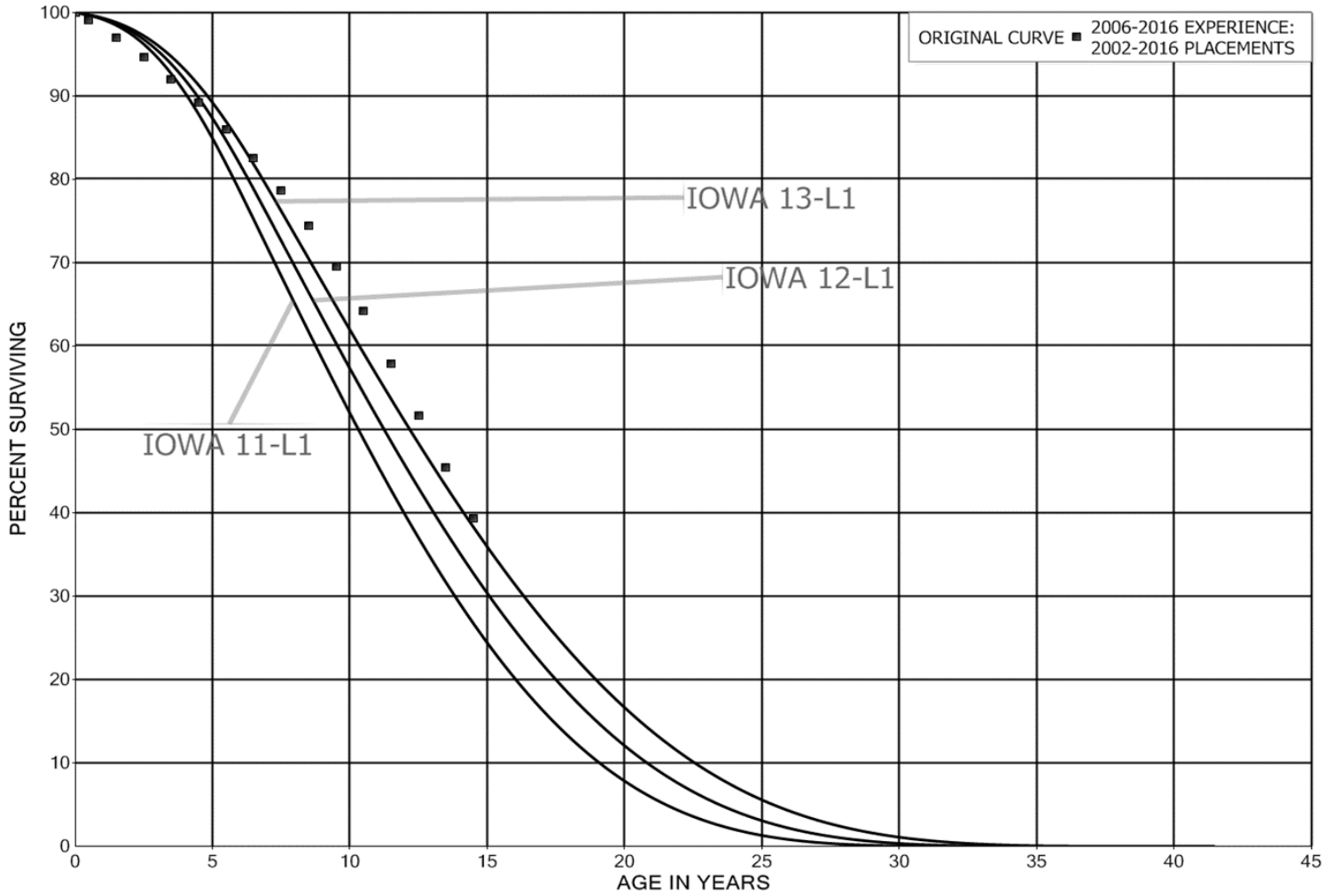


Figure 7: Illustration of the Matching of an Original Survivor Curve with a SO Iowa Type Curve Original and Smooth Survivor Curves

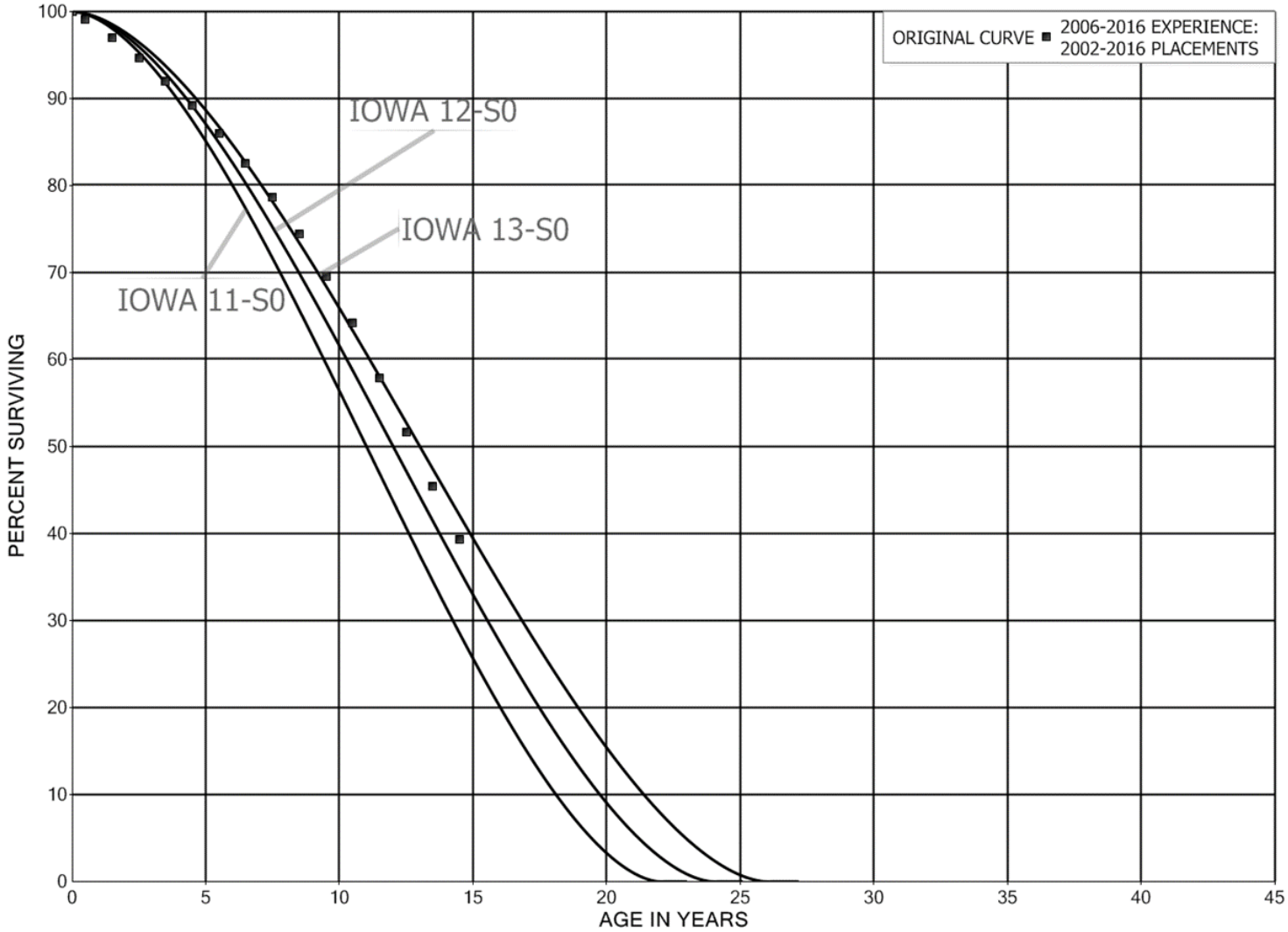


Figure 8: Illustration of the Matching of an Original Survivor Curve with a R1 Iowa Type Curve Original and Smooth Survivor Curves

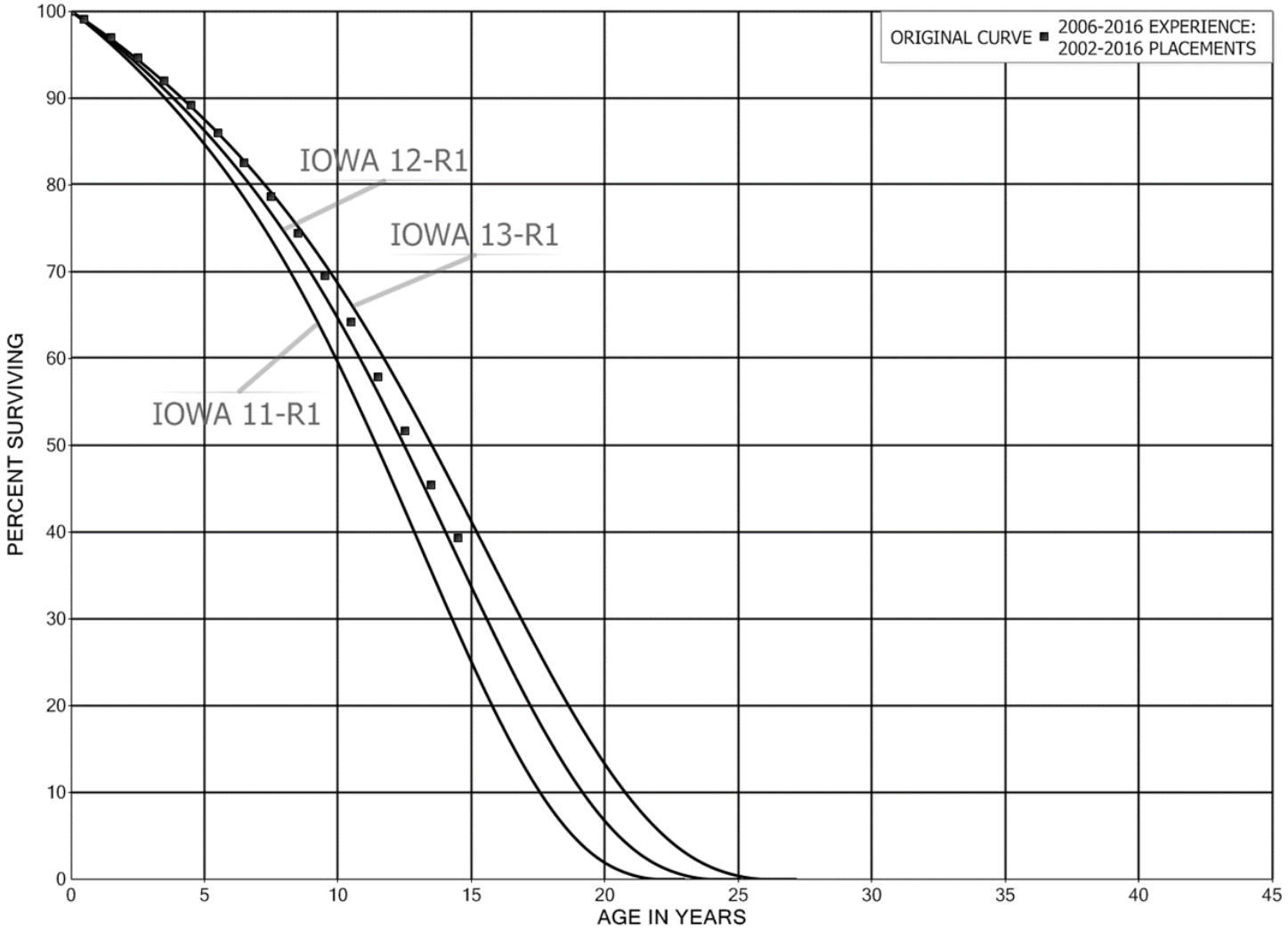


Figure 9: Illustration of the Matching of an Original Survivor Curve with a L1 Iowa Type Curve Original and Smooth Survivor Curves