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, AND
OTHER TARIFF MODIFICATIONS

BPU Docket No. WR1912____

Direct Testimony of

JOHN M. WATKINS

Exhibit P-8

TABLE OF CONTENTS

NEW JERSEY-AMERICAN WATER COMPANY, INC.

I. INTRODUCTION

1. Q. Please state your name and business address.

A. My name is John M. Watkins, 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 Senior Director Regulatory Services.

3. Q. What are your responsibilities in this position?

A. My duties consist of reviewing, preparing and assisting in regulatory filings and related activities for all of the regulated subsidiaries of American Water Works Company, Inc. ("American Water"). My responsibilities and my team's responsibilities include the preparation of written testimony, exhibits and work papers in support of rate applications and other regulatory filings as well as responses to data requests for New Jersey-American Water Company, Inc. ("New Jersey-American Water" or "the Company") and its regulated utility affiliates.

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 testified before the New Jersey Board of Public Utilities ("Board" or "BPU") in cases WR03070511, WR06030257, WR08010020, WR10020149 and

WR10040260. I have also testified before regulatory commissions in Connecticut (Case 99-08-32), Missouri (WR-2000-281, WR-2015-0301, WR-2017-0285), Massachusetts (DTE 00-105), New York (Case 04-W-0577, Case 07-W-0508 and Case 11-W-0200), Illinois (Docket No 16-0093), Iowa (RPU-2016-002), and Indiana (Cause No. 45032).

6. Q. What is the purpose of your testimony in this proceeding?

A. I will describe and explain two proposals of the Company that are in the best interests of all stakeholders in this proceeding, including our customers, the Company and the public interest. The first involves New Jersey-American Water's proposal for a Revenue Stabilization Mechanism ("RSM"). The RSM is a symmetrical mechanism that will ensure that the Company receives, and the customers pay, the revenue level found appropriate in this case; no more and no less. This proposal is in the best interests of all stakeholders, reducing revenue volatility due to unpredictable weather and providing stable cash flows necessary to finance the infrastructure investments to serve our communities. The second proposal is a Pension and Other Post-retirement Benefits ("OPEB") tracker. Given the demonstrated variability between the amounts collected in rates and the amounts actually needed to fund these programs, the Company believes that the public interest will be best served by a mechanism that ensures that customers fund no more, and no less than is necessary. The proposed tracker will accomplish this; tracking the required costs versus those authorized in rates and providing for a reconciliation of the two.

II. REVENUE STABILIZATION MECHANISM (RSM)

7. Q. Please generally describe the purpose of the Company's proposed RSM.

A. The Company's proposed RSM is designed to align the Company's revenues with the level the Board uses to set rates in this case going forward. The mechanism effectively addresses the unpredictable changes in volume of water sold due to factors beyond the control of the Company. Currently the Company uses well established and sound methods to set new rates based on normalized and historical sales to establish pro forma revenue levels. This method, however, cannot precisely predict changes in volumes of water sold due to factors outside of the control of the Company or the Board. Stated differently, the RSM aligns the ratemaking process with reality by avoiding windfalls or shortfalls based on the unpredictability of abnormal weather, while providing the Company a realistic opportunity to collect the revenues necessary to recover the amount included in authorized rates ("Authorized Revenues"), independent of sales volume. The RSM will ensure that the Company collects the amount of Authorized Revenues and that customers pay no more or less than the revenue level found appropriate to produce just and reasonable rates. If revenue is higher than expected, the net difference will be credited to customers. Conversely, if revenue is lower than expected, the RSM will make up the net difference to the Company. As I discuss below, this essentially produces the same result as the weather normalization mechanisms adopted for natural gas utilities that the Board has long found beneficial to those utilities and their customers. Once the revenue requirement is set, the RSM allows the price to flow up or down as sales volumes

1 change in between rate cases. Water utilities should be afforded the same
2 opportunity to achieve their Authorized Revenues as gas utilities.

3 **8. Q. Why is the RSM needed?**

4 A. Although most of New Jersey-American Water's costs are fixed, its rate structure
5 is based, largely, on volumetric charges. Consequently, any factors that affect
6 sales, either positively or negatively, will necessarily drive a wedge between
7 Authorized Revenues in this case and the actual level experienced on a going
8 forward basis. Historically, rate regulation assumes that the regulator approves
9 sales volumes that, on average, do a fair job of predicting actual sales going
10 forward. (The term *fair* refers to an estimated level of sales that, on average,
11 neither overestimates nor underestimates the actual level of sales over time.) The
12 reason this is important is that if pro forma revenues are an accurate estimate of
13 future sales, the Company would only need to file a rate case if its costs increase
14 and not for the purpose of updating its sales forecast. For reasons that are further
15 explained below, it is becoming difficult to project a level of pro forma sales that
16 are actually achieved. An RSM will provide New Jersey-American Water with
17 revenue stability for ongoing programs and investments neccesary to maintain
18 and improve efficiency and service reliability by removing a disincentive for New
19 Jersey-American Water to promote end-use efficiency.

20 **9. Q. Is this reliance on sales volumes a cause of concern?**

21 A. Yes, as shown in the Direct Testimony of Company Witness Roach, New Jersey-
22 American Water's usage from existing residential and commercial customers is

affected by a long-term trend of declining use per customer. Continued reduction in revenues constrains the utility's ability to make investments in its facilities and improvements in its operations. Furthermore, it is a given that water usage is materially affected by seasonal weather variability. The need to fund significant, non-revenue producing investments and fund the Company's operations, however, doesn't vary with usage. Water utilities, moreover, operate their source of supply, treatment, and transmission and distribution systems to provide water service to a customer's premises, whether that customer uses a minimal amount of water per month or a much larger amount. Water utilities must be ready to provide service to customers if and when called upon. To do so, water utilities must invest in and maintain a capital intensive infrastructure to provide and deliver water to customers, as well as to provide customer service, to administer accounting and billing systems and to provide other critical services. Just like the fixed costs of natural gas utilities that are covered by Weather Normalization Clauses ("WNCs"), these fixed costs cannot be avoided in the water industry.

10. Q. How does this situation affect the Company's ability to recover its fixed costs?

A. Chart 1 below shows, rather starkly, that most of the Company's costs to provide water service are fixed, while most of its revenues are variable. Chart 1 shows the relationship between fixed and variable costs and revenues for water customers based upon data from the 2017 Rate Case, WR17090985.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

CHART 1

Fixed v. Variable Costs and Revenues for Water

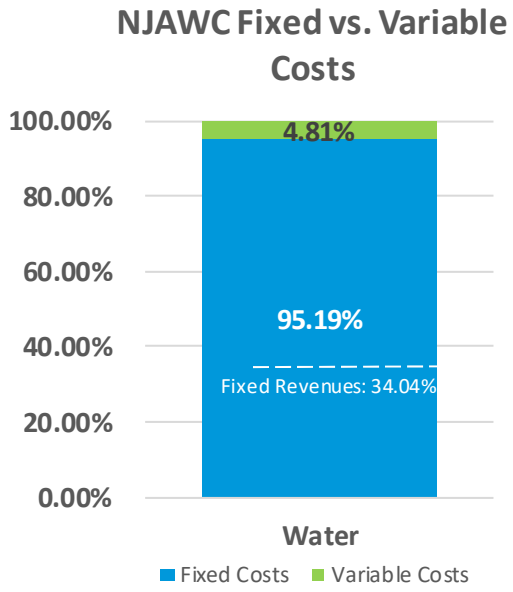


Chart 1 shows that approximately 95 percent of the Company's water system costs are fixed and only 5 percent of the Company's costs are variable. In contrast, only approximately 34 percent of the revenues are fixed (including fire protection and miscellaneous revenues), while approximately 66 percent of the revenues are variable. The Company, therefore, relies very heavily on variable (or volumetric) revenues for collecting fixed costs.

The Company's Board-approved rate schedules and rate design incorporate fixed customer charges based on meter size and volumetric usage charges. The result is that the Company must rely heavily on its variable (or volumetric) revenues for collecting close to two-thirds of its fixed costs. This presents a challenge because, as Mr. Roach explains in his testimony, declines in customer

usage patterns can have a substantial, negative impact on a water utility's actual revenues. Also, changes in customer usage patterns can reflect seasonal variation in usage (e.g., from winter to summer) as well as long-term water use trends (for example, as a result of sustained water efficiency and conservation efforts). This is true for the Company and other water utilities across the country. Although the effect of weather can be random and work either in favor of or against the Company from a financial standpoint, the declining use per customer is another factor that introduces a long-term trend of lower revenue, even if it may be obscured from time to time by higher, temporary weather-driven usage.

11. Q. Why do these facts create a public policy concern?

A. The effect of this rate design creates what is called the *throughput incentive*. That is, the more water customers use, the more revenue the Company collects and the better its financial performance. Yet, at the same time, public policy, as well as Company policy, is aimed at promoting more efficient use of our water resources. Any actions taken by the Company or the government (local, state, or Federal), no matter how beneficial to society, create a disconnect between the public policy goal of more efficient use of water resources and the Company's legitimate financial objectives. Despite this clear policy of favoring efficiency and conservation, New Jersey-American Water is penalized when governmental policy favoring conservation (more efficient fixtures and appliances) and/or the Company promotes the more efficient use of resources, because sales will lag, and its financial performance will deteriorate.

12. Q. Are New Jersey-American Water's sales volumes variable?

A Yes. Both weather and declining usage per customer cause New Jersey-American Water's sales volumes and revenues to vary from the Authorized Revenues. As explained in the Direct Testimony of Company Witness Roach, the variability in weather and customer usage patterns has had a substantial impact on New Jersey-American Water's actual sales volumes and therefore revenues.

13. Q. Please explain how weather variability affects New Jersey-American Water.

A. Mr. Roach explains that, as a general rule, customers use more water during hot, dry weather (primarily in the summer months) and less during cool, wet weather. A rate design that relies heavily on sales volumes to recover costs results in greater revenues for the utility and increased costs to customers when the weather is hot and dry and less revenues to the utility and lower costs to customers when the weather is wet and cool. In short, a water utility's revenue is significantly influenced by the randomness of weather, which is outside the utility's control, but more importantly, bears only a limited relationship to the cost of providing water service.

14. Q. How does declining usage per customer affect New Jersey-American Water?

A. Notwithstanding weather variability, New Jersey-American Water customers are using less water per customer than they have in the past. As Mr. Roach explains, New Jersey-American Water's experience is consistent with a national trend of declining water usage per customer. Reduced water sales and the resulting

reduction in revenues are having an adverse financial impact on New Jersey-American Water. In fact, as further discussed below New Jersey-American Water has not collected the Authorized Revenues in 7 of the last 10 calendar years, (see Table GPR-8 within Mr. Roach's Direct Testimony).

15. Q. Does New Jersey-American Water's proposed RSM address these public policy concerns?

A. Yes, it does. The RSM will afford New Jersey-American Water a more realistic opportunity to recover the Authorized Revenues established in this case, independent of sales volume. At the same time, it ensures that customers are not paying more than the Authorized Revenues established in this case.

16. Q. How does the RSM differ from New Jersey-American Water's current ratemaking structure?

A. Although New Jersey-American Water's current ratemaking structure sets prices based on costs and a fixed level of expected revenues, the utility's revenues actually flow up or down as water sales volumes change between rate cases. In contrast, once the revenue requirement is set, the RSM allows the price to flow up or down as sales volumes change in between rate cases.

17. Q. Why is an RSM necessary when declining usage can be factored into the rate case sales forecast?

A. For several reasons. First, because consumption per customer continues to decline which surpresses sales volume in each subsequent year after the

conclusion of a rate case, unless the Company files annual rate cases, it will experience an increasing under-recovery of its revenues. The RSM protects against this deterioration because it stabilizes revenues, and hence rates between base rate cases. Furthermore, revenue is based in part on a forecast of normal weather conditions, which implicitly includes such factors as heat and rainfall. Sales, however, can increase from that level in a hot, dry year or decrease significantly in a cool, wet year. Any deviation from the normalized usage forecast can be captured by the RSM, both positive and negative.

18. Q. Has the disconnect between projected and actual sales revenues created problems for the Company?

A. Yes. The persistent trend of declining usage, combined with weather-related variability, has created fiscal stress for the Company. The nature of investment has shifted largely from plant needed for serving new customers to non-revenue producing infrastructure replacement and compliance with new drinking water standards. Now and in the future, most of the Company's needed investments will not be intended to serve new growth from either increasing consumption or a population boom on the horizon; they will resemble the infrastructure replacement and renewal investments the Company has made through the DSIC and other non-revenue generating assets. The Board has been very forward looking in its adoption of the DSIC mechanism. That, however, covers only one side of the equation. We are, consequently, asking the Board to be equally forward looking with respect to revenue erosion. With such a heavy reliance on

variable volumetric sales, as consumption slows down, the costs of operating water systems are not being recovered.

Furthermore, tying revenues to volumetric sales serves to incentivize water utilities to sell more water and disincentivize water conservation efforts. Conservationists, for their part, have decried the fact that the traditional incentive for utilities to increase sales may hurt wider sustainability and conservation efforts. Mr. Roach addresses this "conservation conundrum" in his Direct Testimony.

19. Q. Has the Company conducted an analysis on the revenue levels proposed for purposes of establishing pro forma revenues during previous rate case proceedings and the revenue levels actually experienced by the Company?

A. Yes, Schedule JMW-1 shows what the over/under collection of revenues net of production costs would have been for the Company from 2009-2018. This schedule shows that from 2009-2018 the Company collected less revenue, net of production costs, than what was included in Authorized Revenues in 7 out of 10 years. In total for the 7 years, the actual dollars collected were less than authorized by over $69.8 million, or an average of approximately $7.0 million per year. The revenues net of production costs were less than authorized by over $45.2 million, or an average of approximately $4.5 million per year.

20. Q. What is the impact of declining sales?

A. Mr. Roach's testimony explains that the Company's usage from existing residential customers has been declining by 1.76% per year, or approximately 3.3 gallons per customer per day ("gpcd") and that this trend will continue for many years; certainly well beyond the pro forma revenues forecasted in this case. Similarly, Mr. Roach's testimony also explains that the Company's usage from existing commercial customers has been declining by 0.69% per year, or approximately 7.6 gpcd, and will also continue well beyond into the future. Based on this continuing trend of declining sales, we also know that after this rate case is finalized, sales used to set rates will be higher than the actual sales experienced in each succeeding normal year. Because sales are the primary driver of revenues, if sales are lower than forecasted, actual revenues collected will also be lower than Authorized Revenues. Furthermore, unless rate relief is sought to recover the sales declines, the situation will worsen each successive year after new rates are implemented. This constrains the Company's investment planning efforts, because it cannot count on revenue levels that are impaired by declining usage. Given that much of New Jersey-American Water's costs are in its fixed assets - source of supply, treatment, and transmission and distribution facilities - that do not vary with volumes, any mismatch in revenues will create unnecessary pressure on the ability of the utility to invest in a timely manner.

21. Q. Will the RSM guarantee that the Company earns a profit?

A. No. The RSM only ensures that the Company will receive the amount of Authorized Revenues, nothing more, nothing less. If, for example, the Company fails to control its costs (e.g., labor, contractors, capital investment, etc.), its revenues will not change and its net income will decline. Therefore, even with an RSM, the Company must still manage all of its costs in order to have a reasonable opportunity to effectively earn its allowed rate of return on equity.

22. Q. Is it accurate to state that an RSM shifts business risk from utilities to customers?

A. No. There is no shifting of risk, as a utility has an equal chance of over-and under-collecting revenue under traditional ratemaking. Company witness Bulkley will explain how the adoption, or absence, of an RSM will not impact the Company's cost of equity due to the use of proxy companies that also have innovative ratemaking measures such as the RSM.

23. Q. How does the RSM benefit the Company and customers?

A. The RSM is symmetrical. If the actual revenue is greater than the Authorized Revenue, customers will see a credit. These credits will help to offset higher customer bills generally associated with use during hot and dry periods. If actual revenue is less, the Company will be permitted a surcharge. Unlike traditional ratemaking, the RSM provides certainty because the customer will pay only the amount that will be authorized by the BPU and the Company will only collect the

1 authorized amount. Said another way, the Board will be assured that the
2 Company collects, and customers pay, the Authorized Revenue, nothing more;
3 nothing less. An RSM also will improve the ratemaking process – by reducing
4 the contentiousness and complexity of issues. Once the utility's total revenue
5 target is set, the sales volume debates become less critical because any sales
6 volume errors are trued up. The reduction or elimination of this contentious
7 obstacle in rate proceedings benefits customers in a couple of ways. First, the
8 savings from less-costly rate proceedings will be passed on to the customers.
9 Secondly, it allows the parties involved in the case to focus upon the issues that
10 are pertinent to providing quality service.

11 **24. Q. Are there other benefits to implementing an RSM?**

12 A. Yes. The Company's proposed RSM still encourages and rewards customers for
13 using water more efficiently because reduced consumption will still translate into
14 a reduced bill and increased consumption will still result in a higher bill. At the
15 same time, because the RSM will recover the Company's fixed costs, the RSM
16 will make water companies indifferent to selling less water and will mitigate the
17 adverse effect of weather variability on revenues. As noted above, the nature of
18 water utility investment has shifted largely from plant needed for serving new
19 customers to non-revenue producing programs and investments to maintain and
20 improve service reliability and comply with new drinking water standards, which
21 also supports job creation in local economies. The Company is engaged in a
22 broad array of efforts to become more efficient, and an RSM supports more

consistent planning and deployment of the most efficient resources. Just as prudent energy efficiency investments are the least-cost investments in energy resources; improving water efficiency reduces operating costs (e.g., energy, treatment and residuals handling/storage costs) and reduces the need to develop new supplies and expand our water infrastructure. Improving water efficiency also reduces withdrawals from limited freshwater supplies, leaving more water for future use and improving the ambient water quality and aquatic habit.

Promoting water efficiency is the preferred way to meet the water and wastewater needs of all New Jersey residents and businesses at the least cost and with the greatest reliability, environmental and efficiency benefits. Improving water efficiency is a "win/win/win" providing a wide range of benefits—for consumers, utilities, businesses, and for communities as a whole. Approving an RSM opens the path to achieving that winning combination.

25. Q. Has the BPU recognized the effect of weather variability on other utilities and adopted a mechanism to address the weather-driven variability of revenue?

A. Yes. The Board has long-authorized the use of weather normalization rates for natural gas companies that use heating degree day data to normalize revenue. For example, the Board noted in a 1999 case involving New Jersey Natural Gas[1]:

> By Board order issued June 24, 1992, in Docket No. GR91081393, a Weather Normalization Clause ('WNC') was approved for use

[1] In Re New Jersey Nat. Gas Co., 1999 WL 218127 (Mar. 3, 1999).

> by New Jersey Natural Gas Company (‘NJNG‘ or ‘Company‘). The purpose of the WNC is to adjust rates for weather variances by crediting customers when weather is colder than normal and surcharging customers when weather is warmer than normal. The baseline measure for determining such weather variances is known as Normal Calendar Month Degree Days (‘NCMDD‘).

Although the mechanics and goals of the WNC for gas utilities, including its reconciliation component, are very much like the Company’s proposed RSM, Mr. Roach explains that, for water companies, in addition to degree days, usage variance is also affected by other variables such as rain and cloud cover, that present modeling difficulties, so degree days, alone, are not sufficiently precise for normalizing weather effects on water companies. The mere fact that the relationship between degree days and consumption is not as precise for water companies as for natural gas utilities, does not, however, negate the importance of adjusting for the significant effect of weather on a water company’s consumption. The salient point is that the Board has recognized that adopting a mechanism to account for weather-driven revenue variations is appropriate and beneficial both to customers and their utility provider.

26. Q. Does an RSM eliminate some of the difficulties of trying to design an effective weather normalization mechanism for a water utility?

A. Yes, as I noted, as a general rule, usage is increased by hot, dry weather and reduced by cool, wet weather, primarily in the summer months, although the variation is regionally influenced, as well. Variations in heat, precipitation, cloud cover, wind and other factors make predicting the effect of temperature alone on outdoor usage extremely difficult. Although the ratemaking process has

historically tried to take this into consideration by basing rates on "normal" weather conditions, as a practical matter, normal weather is never really achieved. In fact, "weather" is difficult to even define in a statistical sense, and establishing "normal" weather is even more difficult. A mechanism that mitigates the adverse effect of weather variability on revenues recognizes that normal weather is a condition that will likely never be achieved and effectively reduces the adverse impacts of weather variability for both the Company and its customers. Moreover, people in New Jersey are using less water every year, and New Jersey's experience is consistent with a national trend of declining water usage per customer. The RSM captures actual usage, regardless of the reason and harmonizes it with the Authorized Revenues.

27. Q. Do you believe that the RSM differs fundamentally from other automatic adjustment clauses?

A. Yes, I do, in several significant ways. First and foremost, the RSM is not a cost adjustment clause. It is a revenue adjustment clause. Although some costs such as power and chemicals may be adjusted in the RSM, they are adjusted simply as an adjunct to revenue collection and not independently. For example, if it takes a certain amount of kwh's to produce x amount of water, then the charge for kwh's in the RSM is simply an adder or deduction to the revenue based on whether more or less water is produced, pumped and sold. In other words, the power cost varies solely based on the volumes of water produced. This is important because rates are based upon an assumption of revenue that the BPU

finds is appropriate for the utility to collect. If the utility is collecting more, or less, revenue (as determined by volumetric sales) than found appropriate by the Board, the RSM does nothing more than to correct the revenue to the amount deemed necessary and appropriate. Second, the RSM adjusts revenue for weather and conservation. Weather is entirely out of the Company's control and water conservation is largely driven by federal and state conservation standards and programs described by Mr. Roach. Third, to the extent the Company would have some control over sales to its customers, it is in the public's interest to eliminate any incentive to increase sales, to make the Company indifferent to sales losses due to conservation, and to provide an impetus to the Company to foster water efficiency. An RSM would simply allow for recovery of the BPU-approved revenues. That is completely different than adjusting rates to allow recovery of changing expenses.

28. Q. Is there evidence of a widespread concern by public utility regulators with traditional water and wastewater utility ratemaking?

A. Yes. The National Association of Regulatory Utility Commissioners ("NARUC") has been at the forefront of this issue. At its November 2013 annual meeting, the National Association of Regulatory Utility Commissioners ("NARUC") adopted a resolution that supports consideration of alternative recovery mechanisms for water and wastewater utilities, attached hereto as Schedule JMW-2. 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…

NARUC's resolution expressly supports alternative recovery mechanisms for water and wastewater utilities that address the above concerns**.**

29. Q. Does the NARUC resolution propose a remedy to address these problems?

A. **Yes, it does. The NARUC resolution recommends the adoption of alternative recovery mechanisms, such as the RSM. 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.

30. Q. Are alternative regulatory mechanisms such as the RSM recognized in the regulatory community as an effective means of addressing the shortcomings of volumetric rate design?

A. Yes. RSMs have been adopted in many states as a way to eliminate the "throughput incentive" to water and energy efficiency initiatives and investment. Clauses similar to the RSM proposed 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, revenue stabilization mechanisms have been approved for gas utilities in 23 states and an additional two states plus the District of Columbia have mechanisms pending, according to the December 2016 report from the American Gas Association entitled "Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List."[2] The Report also states that Weather Normalization Adjustments have been allowed in 22 states. A December 2017 report by the Institute for Electric Innovation lists 32 states and the District of Columbia that have an approved fixed cost recovery mechanism for electric utilities with an additional state pending approval.

[2] 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 and 30 states for natural gas delivery, and 5 states for water have this kind of mechanism.

31. Q. Please describe how the Company proposes to implement the RSM.

A. The Company is seeking Board approval of Authorized Revenues and production costs in this proceeding. Once approved, the RSM would then compare the Authorized Revenues to actual billed revenues for the residential, commercial, industrial (excluding Other Industrial Water ("OIW") customers) and other public authorities (OPA) customer classes, and defer/accrue the difference, less the applicable change in production costs, on a monthly basis. Sales for Resale and OIW customers would be excluded from the RSM. Production costs would include power, chemicals, and water waste disposal for the GMS class (percentage of usage for OIW and Resale customers would be removed). The annual amounts of metered revenues and the annual amount of expenses for all production costs would be prorated to monthly amounts. The Company proposes that the proration be set using the Company's last three years of system delivery to obtain a reasonable monthly amount of Authorized Revenues and production costs. These monthly amounts would be reset in the next base rate case proceeding.

32. Q. Why does the RSM consider revenues net of production costs?

A. Production costs should be taken into account because they vary with sales volumes. Delivering more water costs more and delivering less water costs less. Netting production costs will ensure that both the Company and its customers are made whole; paying only those production costs associated with the actual amount of water delivered.

1 **33. Q. Please describe the specific accounting treatment for the RSM.**

2 A. Each month the Company would compare the actual metered revenues for the
3 applicable customer classes to the Authorized Revenues for the applicable
4 classes. The Company would also compare the actual production costs to the
5 amount included in authorized rates for production costs associated with the
6 applicable customer classes. If the actual revenues fall short, the difference in the
7 revenue less the production costs would be temporarily deferred to a regulatory
8 asset. If the actual revenues were more, the difference in the revenue less the
9 production costs would be temporarily deferred to a regulatory liability.

10 **34. Q. Please explain the RSM's reconciliation component.**

11 A. New Jersey-American Water proposes an annual reconciliation to occur at the
12 end of each calendar year. The Company would file the first reconciliation by
13 January 31, subject to a 60-day review and approval period. The first filing will
14 reconcile the revenues for the period when rates become effective through
15 December 31, 2021. Each subsequent filing will be filed as described above but
16 will reconcile the revenues for the entire preceding calendar year.

17 The Company proposes that any credit be issued as soon as administratively
18 possible; the credit would be determined based on the number of customers at the
19 time the credit is issued. A one-time credit that is equal to all customers would
20 benefit the lower-usage customers at a greater percentage, rewarding customers
21 who conserve water at a higher percentage than those that use more water. For
22 example, in the 2015 RSM calculation (see Schedule JMW-1), the credit for 2015

would have been $6,047,660. Assuming the customer count for RSM customers is 601,000, then the one-time credit per customer would be $10.06 ($6,047,660/601,000). The Company is proposing that any surcharge be based on a volumetric amount and should be targeted to recover the shortfall within the current calendar year or from April 1 through December 31. An example of the surcharge would be the $15,336,658 shortfall in 2014. The usage for the applicable customer classes from the rates effective date of May 1, 2012 was 64,234,167 thousand gallons. Prorating this amount to 9 months (April-December), results in an estimated usage of 48,175,625 thousand gallons. The surcharge would have been $0.3183 ($15,336,658/48,175,625) per thousand gallons for nine months[3]. Again, a volumetric surcharge would ensure that the lower-usage customers would continue to benefit from their conservation because the volumetric rate would be equal for the entire Company. Therefore, if a customer conserves water, he or she will save more money not only on the current bill, but also on any adjustment applied the following year. No matter what happens with sales, customers who use less will pay less.

35. Q. How does the Company propose to treat customer growth through acquisitions?

A. In the event the Company experiences growth through acquisition, the Company proposes to exclude the acquisition revenue and production costs from the RSM

[3] For an average residential customer using 6,000 gallons per month, the monthly surcharge would be $1.91 (6 x $0.3183) per month or $22.92 per year in this example.

until they can be recognized in the Company's next rate case. The Company will track the revenues specific to the acquisition and exclude the revenues in the filing of any subsequent RSM filings until the acquisition is included in the Company's next rate case and rolled into the RSM. The Company will make adjustments to production costs by tracking the actual costs or estimating the costs in relation to any tuck-in acquistions.

36. Q. Does the RSM eliminate the need to perform an accurate sales forecast?

A. No. The Company always strives for, and the Board should always demand, the most accurate sales forecasts possible. The most accurate forecasts achievable should minimize, to the extent possible, the surcharge or credit under the RSM.

37. Q. How would declining use affect the calculation?

A. Declining usage lowers the actual water sales volume and therefore actual revenues. The RSM would account for any sales declines not reflected in the pro forma revenue forecast. If the Board approves both the RSM and the declining usage adjustment, and the Company projects too great a decline in usage, the Company will credit the over-collection of the revenues to customers through the RSM.

38. Q. Could the RSM potentially result in both credits and surcharges to customers from year to year?

A. Yes. As discussed above, the RSM is symmetrical. Actual revenues can deviate from Authorized Revenues, because of inaccurate sales forecasts and weather.

Other causes include improved water and energy efficiency, customer conservation, customer growth or attrition, and changing economic conditions.

39. Q. Have you provided additional information concerning the operation of the RSM?

A. Yes, the proposed water RSM Tariff is filed as Sheet 36 in Exhibit P-1, the proposed tariff.

40. Q. Please summarize the reasons supporting the adoption of the RSM.

A. Rate designs that tie a utility's revenue recovery directly to sales volume have prompted two widespread concerns in modern utility regulation. First, rewarding a water utility for selling more water implicitly encourages water use and penalizes a water utility for encouraging end use water efficiency and conservation. This misalignment is troubling because utilities play an important role in helping to improve water efficiency and promote conservation. Second, because of seasonal variability and declining use per customer, volumetric rates do not give water utilities a reasonable opportunity to recover their authorized revenues. Accordingly, these utilities are constrained in their ability to invest in needed infrastructure, or to raise the capital required to do so. By ensuring that the Company can collect the revenues authorized by the Board, the RSM: 1) makes the Company indifferent to selling less water; 2) removes the disincentive to promote water efficiency; 3) reduces the adverse impact of weather variability for both the utility and its customers; and 4) reasonably ensures that revenues for continued water efficiency investments are available. The result is a better

alignment of all stakeholder interests, and the Company respectfully urges the Board to authorize its proposed RSM.

III. PENSION AND OPEB TRACKER

41. Q. Please describe your proposed Pension and OPEB tracker.

A. Because of the historical variances the Company has experienced between forecasted and actual expense levels, New Jersey-American Water is proposing a mechanism that will track the differences between its pension and OPEB expense included in the authorized rates of the Company and the level of such expenses actually incurred by New Jersey-American Water. The Company proposes to defer those differences for future credit or recovery.

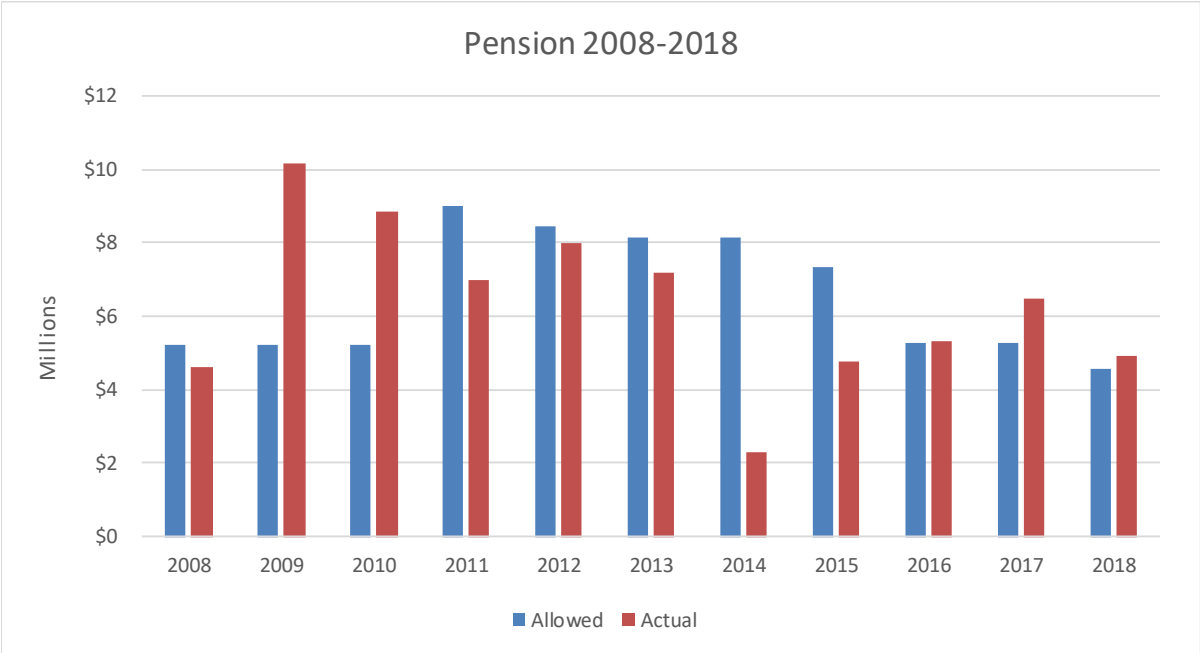
42. Q. Please explain the difference between a tracker and a reconciliation.

A. A tracker is a mechanism that allows the utility to track the actual costs incurred for a specific cost category in-between rate cases. The tracker would defer the difference between the actual expense and the authorized expense and amortize the over or under collection that was deferred in the next base rate case. Reconciliations or true-ups, like the proposed RSM, are filed annually to ensure the revenue recovered by the reconciliation mechanism matches actual costs, therefore a credit or surcharge would be implemented annually.

43. Q. Are the costs associated with pension and OPEBs difficult to forecast or predict?

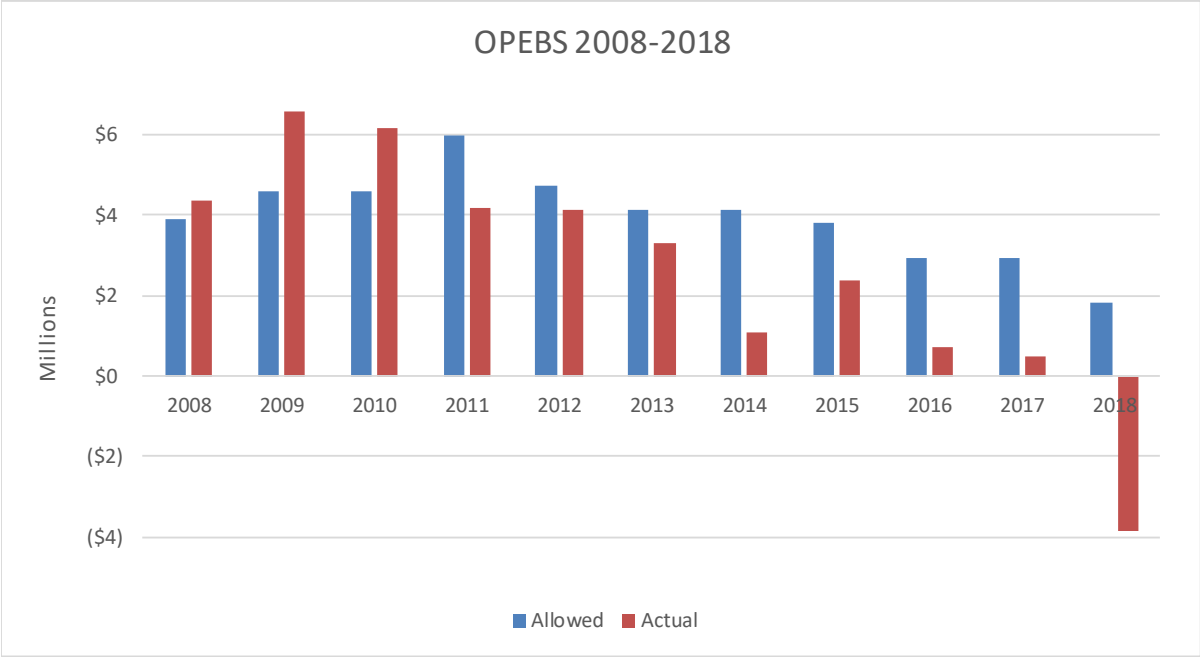
NEW JERSEY-AMERICAN WATER COMPANY, INC.

A. Yes. Pension and OPEB costs are largely dependent upon market conditions, which can and have experienced great volatility. The Company's pension and OPEB projections are calculated by the actuary, Willis Towers Watson. The charts and tables below show the expense included in authorized rates and the actual expense incurred for the years 2008 through 2018 for both pension and OPEBs. The variance column in the tables is derived by taking the actuals and subtracting the amount included in the authorized rates. A positive number shows that the actual expenses were higher than the amount included in the authorized rates and a negative number shows the actual expense was below that amount.



NEW JERSEY-AMERICAN WATER COMPANY, INC.

Pension	Allowed	Actual	Variance
2008	$5,222,058	$4,629,410	($592,648)
2009	5,223,716	10,166,647	4,942,931
2010	5,223,716	8,863,478	3,639,762
2011	8,986,323	6,982,962	(2,003,361)
2012	8,434,349	7,996,497	(437,852)
2013	8,158,362	7,206,662	(951,700)
2014	8,158,362	2,319,874	(5,838,488)
2015	7,351,227	4,745,905	(2,605,322)
2016	5,252,678	5,302,052	49,374
2017	5,252,678	6,469,023	1,216,345
2018	4,552,268	4,942,780	390,512
Total	$71,815,737	$69,625,290	($2,190,447)



NEW JERSEY-AMERICAN WATER COMPANY, INC.

OPEB	Allowed	Actual	Variance
2008	$3,915,092	$4,366,398	$451,306
2009	4,598,594	6,562,878	1,964,284
2010	4,598,594	6,171,819	1,573,225
2011	5,956,630	4,174,768	(1,781,862)
2012	4,730,763	4,115,776	(614,987)
2013	4,117,829	3,280,299	(837,530)
2014	4,117,829	1,102,975	(3,014,854)
2015	3,784,802	2,386,435	(1,398,367)
2016	2,918,931	705,274	(2,213,657)
2017	2,918,931	484,848	(2,434,083)
2018	1,818,792	(3,833,624)	(5,652,416)
Total	$43,476,788	$29,517,846	($13,958,942)

44. Q. What causes the costs of pensions and OPEBs to fluctuate from year to year?

A. Accounting Standards Update (previously FAS) costs can fluctuate from year to year as a result of changes in economic or demographic assumptions used by our actuaries to determine the cost. Economic assumptions deal with current interest rates, salary increases, inflation and investment markets. Demographic assumptions are about the participant group make-up and expected behavior and life expectancy. Primary drivers of cost fluctuation generally include actual asset returns varying from expected returns on assets and discount rates varying from year end to year end. If asset returns and discount rates rise, obligations measured at year end become smaller (compared to the prior year end) and result in decreased costs in the current year compared to the prior year. If asset returns and discount rates decrease, obligations measured at year end become larger and result in increased costs from the prior period. Although demographic assumptions have been more consistent historically, an example of an important demographic change was the 2014 mortality assumption change. As a result of

1 society in general having longer life expectancies, the SEC required actuarial
2 experts to reassess their populations and reconsider previous assumptions. Since
3 people are living longer, this increased obligations at year end 2014, and
4 increased costs in 2015.

5 **45. Q. How will the proposed Pension and OPEB tracker function?**

6 A. For a given year, the proposed Pension and OPEB tracker will track the amount
7 of expenses included in authorized rates for pensions and OPEBs and compare
8 that to the actual expenses incurred. The Company used the most recent actuarial
9 report prepared for American Water by Willis Towers Watson to establish the pro
10 forma expense level. The service cost was reduced by the capitalization rate and
11 then the non-service costs was added to this which resulted in the pro forma
12 pension and OPEB expense. Each month, one-twelfth (1/12) of the amount
13 authorized in rates ("base level") will be compared to the actual monthly expense
14 of the Company. Actual costs above or below that base level will be recorded
15 monthly as deferrals on the Company's books. The Company would continue to
16 defer these costs until an amortization could be set in the next base rate case,
17 which would have the effect of returning any excess to customers or permitting
18 the Company to collect any shortfall in that case. In subsequent rate cases, the
19 amount of authorized rates would again be set by using the latest forecast by
20 Willis Towers Watson.

21 **46. Q. Are there advantages to customers if pension and OPEB costs are recovered**
22 **through a tracking mechanism as proposed by the Company?**

A. Yes. The concept behind the establishment of tracking mechanisms for pension and OPEBs is to protect customers and the Company from the wide variations that can exist in expected versus actual costs. As noted, pension and OPEB costs are largely dependent upon market conditions, which can and have experienced great volatility as demonstrated in the charts and tables above. The tracking mechanism benefits customers when actual pension or OPEB costs are below authorized levels, as the customers will receive the benefit in the next rate case. If the authorized levels are lower than actual costs the Company would simply be able to recover the additional expense. Although symmetrical, in six of the eleven years for pension shown above, the customers would have received a benefit from a tracking mechanism. In total over the last eleven years the customers would have received over a $2 million benefit from a pension tracker and over a $13 million benefit from an OPEB tracker.

47. Q. Are Pension and OPEB trackers recognized in the regulatory community?

A. Yes. Pension and OPEB recovery has been approved for gas utilities in 18 states and the District of Columbia, according to the December 2016 report from the American Gas Association entitled "Innovative Rates, Non-Volumetric Rates, and Tracking Mechanisms: Current List." In addition, three American Water jurisdictions provide for the variations in Pensions and OPEBs. California and New York have reconciliation clauses, while Missouri provides for a tracker mechanism.

48. Q. Please summarize the reasons why the Board should adopt the Company's Pension and OPEB tracker.

A. Pension and OPEB expense is unpredictable and is subject to general market swings and actuarial changes that are beyond the control of the Company. The tracker that we are proposing will ensure that the Company's rates ultimately reflect no more or less than the actual Pension and OPEB costs incurred. This is fair to both customers and the Company and establishes the balance that reasonable ratemaking requires.

49. Q. Does this conclude your direct testimony?

A. Yes, it does.

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

1 **1. Q. Please describe your educational background.**

2 A. I am a graduate of Trenton State College with a Bachelor of Science Degree in Finance
3 and minors in Mathematics and Economics. I received a Masters in Business
4 Administration with a concentration in Accounting from Drexel University.

5 **2. Q. What has been your business experience?**

6 A. From May 1996 to October 1998, I was employed by U.S. Vision as a Staff Accountant. I
7 began my employment with Service Company as a Rate Analyst for the Region in
8 November 1998. At that time, the Region included American Water subsidiaries located
9 in the states of Connecticut, Iowa, Maryland, Massachusetts, Michigan, Missouri, New
10 Hampshire, New York, Ohio, Tennessee and Virginia. In May 2000, I transferred to
11 Haddon Heights, New Jersey, in conjunction with the transfer of the Service Company's
12 responsibility for the New England companies which at that time, together with New
13 Jersey-American Water, comprised American Water's Northeast Region. In July 2000, I
14 was promoted to Financial Analyst-Intermediate. In March 2003, I was promoted to Senior
15 Financial Analyst. In September 2007, I was promoted to Principal Financial Analyst. In
16 November 2010, I was promoted to Senior Manager – Rates & Regulation. In this position
17 I led the Rates and Regulation group in supporting rate case filings for all American Water
18 regulated subsidiaries. At that time, I supported filings for American Water subsidiary
19 companies located in the states of Arizona, California, Hawaii, Indiana, Illinois, Iowa,
20 Kentucky, Maryland, Michigan, Missouri, New Jersey, New Mexico, New York,
21 Pennsylvania, Ohio, Tennessee, Texas, Virginia and West Virginia. In April 2012, I was

NEW JERSEY-AMERICAN WATER COMPANY, INC.

Appendix A

1 promoted to Director Regulatory Services. In this position my duties consisted of
2 reviewing, preparing and assisting in regulatory filings and related activities for all of the
3 regulated subsidiaries of American Water. In June 2014, I transferred into the position of
4 Director Rates and Regulatory Support. In January 2017, I was promoted into my current
5 position of Senior Director Regulatory Services.

New Jersey American Water Company

Water	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Authorized Revenues (1)	$439,739,115	$439,739,115	$454,158,610	$467,686,598	$473,360,865	$473,360,865	$479,895,096	$501,344,725	$501,344,725	$516,018,955	$4,746,648,670
Actual Revenues	410,469,866	432,198,459	439,676,035	461,162,881	450,704,130	457,426,392	485,970,924	522,731,814	502,384,314	514,115,359	4,676,840,174
Variance - Surcharge (Credit)	$29,269,249	$7,540,656	$14,482,575	$6,523,717	$22,656,735	$15,934,473	($6,075,828)	($21,387,089)	($1,039,589)	$1,903,596	$69,808,496

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Authorized Production Costs (1)	$37,809,859	$37,809,859	$28,634,133	$28,594,307	$28,577,603	$28,577,603	$28,213,102	$27,016,570	$27,016,570	$25,286,811	$297,536,417
Actual Production Costs	30,491,124	30,432,858	27,838,998	28,009,897	26,564,975	27,979,788	28,241,270	24,427,026	23,712,771	25,242,079	272,940,786
Variance - Surcharge (Credit)	($7,318,735)	($7,377,001)	($795,135)	($584,410)	($2,012,628)	($597,815)	$28,168	($2,589,544)	($3,303,799)	($44,732)	($24,595,631)

Revenues net of Expenses

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Total
Variance - Surcharge (Credit)	$21,950,514	$163,655	$13,687,440	$5,939,307	$20,644,107	$15,336,658	($6,047,660)	($23,976,633)	($4,343,388)	$1,858,864	$45,212,865

Note (1): Classes of customers include Residential, Commercial, OPA and Industrial (excluding OIW)

Estimate of GMS customers	601,000	(Excludes OIW and Resale)
Estimated one time credit	($10.06)	

Usage from 5/1/2012	64,234,167
Estimated usage for 4/1-12/31	48,175,625
Estimated surcharge	$0.3183

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