STATE OF

RHODE ISLAND AND PROVIDENCE PLANTATIONS

RHODE ISLAND PUBLIC UTILITIES COMMISSION

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# DIRECT TESTIMONY
*of*
DAVID F. RUSSELL, PE

FILED ON BEHALF OF THE TOWN OF MIDDLETOWN, RHODE ISLAND

IN THE MATTER OF

Newport Water DIVISION RATE CASE

RIPUC DOCKET NO. 24-30-WW

October 25, 2024

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## INTRODUCTION

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

A. My name is David F. Russell, and my business address is 15 Titcomb Street, Suite 300, Newburyport, Massachusetts 01950.

**Q. On whose behalf are you testifying in this case?**

A. I am testifying on behalf of the Town of Middletown, Rhode Island (the "Town") who is an Intervener in this case (RIPUC Docket No. 24-30-WW – Petition of the Newport Water Division (NWD) for a multi-year increase in its base rates). NWD provides retail water service to most of the residents and businesses in Middletown, and Middletown pays substantial amounts annually for fire protection service through about 412 public fire hydrants located throughout the Town.

**Q. What is the nature of your involvement in this case?**

A. I am working with the Town as their expert consultant and witness to assist in its intervention in this Docket. Specifically, I have been asked to review the rate filing (RIPUC Docket No. 24-30-WW) submitted by the Town of Newport's Water Division ("NWD") to the Rhode Island Public Utilities Commission ("RIPUC" or "Commission"), and to review NWD's revenue requirements, cost of service and rate design and to analyze their impacts on the Town's residents and businesses, and the Town itself from the Fire Protection Charges it receives from the NWD.

**Q. What is the purpose of your testimony?**

**A.** My involvement in this case is focused on reviewing the company's capital improvements, certain revenue requirements proposed by the company, and certain rate design and cost issues. My review and this testimony are centered on the belief that publicly owned utilities should strive to provide their services in a manner that will result in the lowest total revenue

requirements (or least cost) to its customers in the long run, while maintaining safe, reliable and adequate service. Furthermore, to the extent possible their rates should be reasonable, affordable (particularly at levels required for health and sanitation), and wherever customer impacts are high causing rate shock (or fairly close to it), every effort should be made to mitigate those impacts or phase in the increases over time (for example, through rate "gradualism"). My review, analysis and the testimony provided herein may require supplementation or modification after review of additional discovery responses, un-redacted documents or consideration of further testimony that may be submitted by other interveners and the NWD.

**Q. What is your present occupation?**

A. I am a professional consultant specializing in utility management, economics and rates. I am the owner and founder of my own consulting business - ***RUSSELL CONSULTING, LLC***. I specialize in providing the following professional services to cities and towns, municipal utilities, regulatory agencies and consumer advocacy groups: management reviews and audits, needs assessment and facilities planning, utility economics and rate studies, determination of component and total revenue requirements, cost-of-service studies, demand management and conservation programs, expert witness services, utility contracts and negotiations, feasibility studies, system appraisals and related regulatory/institutional studies.

**Q. Please summarize your training and experience.**

I have over 40 years of experience as a professional engineer, utility manager and consultant. My formal education consists of a B.S. Degree in Electrical Engineering from Rutgers College, an M.S. Degree in Engineering Management from Northeastern University and an M.A. Degree in Economics from Rutgers University. I am a Registered Professional Engineer in the States of Massachusetts (Registration Number 28342), New Jersey (Registration Number 26512), and Florida (Registration Number

75247). For nearly all my career I have been actively involved in the management and control of utility businesses, from small public water systems to large multi-state, fully integrated, private electric companies.

I have provided expert witness testimony on many occasions before several state public utility commissions, legislative committees and Superior Courts, including testimony on matters directly related to utility planning, forecasting and needs assessment, least cost planning, capital improvements, revenue requirements, cost of service studies and rate design, and demand management/conservation programs. I have testified before this Commission on many occasions, including the prior base rate case for this water utility, the Newport Water Division (NWD).

I have prepared numerous rate studies for water and wastewater utilities, and both gas and electric utilities within this country and internationally. I have also evaluated and critiqued many other Utility rate studies prepared by others as both a regulator and as a consultant. For the Bristol County Water Authority I was their rate expert witness in a rate increase case requested by the Providence Water Supply Board. I was the expert witness for the Town of Cumberland in two prior rate increase cases proposed by the Pawtucket Water Supply Board. And, since the mid-1990s I provided testimony in the last five rate cases proposed by the largest private water company in Massachusetts (Aquarian Water Company and its predecessor Massachusetts-American Water Company), representing the five towns served by that company. I also reviewed and evaluated a utility rate study for two large commercial customers of a utility in South Carolina; and reviewed and evaluated a 5-year financial plan and rate study prepared by the Guam Water Authority for the Public Utility Commission and the Administrative Law Judge on that Island.

Early in my career I was directly employed by two state regulatory agencies. For the Massachusetts Department of Public Utilities, I held the position of Chief Engineer for 2 years before leaving State service for a position (Strategic Planner for General Public Utilities in New Jersey) in the private sector. For the New Jersey Board of Public Utilities, I was employed as a consultant to the Board's Chief Economist. I have held management positions for three large Electric Utilities operating in the Northeast and Mid-Atlantic states, and was a Principal Management Consultant for a large Environmental Engineering Co. with headquarters in Boston, MA. for eight years before establishing my own consulting business almost 30 years ago.

I have written several papers and articles that have been published in professional journals and/or presented at utility industry conferences. Topics have included rate design and cost of service studies, appraisals of utility systems, energy conservation and other measures to reduce total energy costs, and cost/benefit analysis of alternative ownership options for utilities. Many of these papers have been published in Professional Journals and/or presented at industry conferences. I also taught undergraduate and graduate courses in economics and management science, as an adjunct professor at Boston University.

**Q: Do you belong to any professional organizations or committees?**

For nearly 30 years I have been an active member of the American Water Works Association (AWWA) and its regional affiliate - the New England Water Works Association (NEWWA). As a member of AWWA's Rates and Charges Committee I was actively involved in revising and updating portions of AWWA's publication entitled, "Principles of Water Rates, Fees, and Charges," which was published as the seventh edition of that manual ("M1") in 2017. I have held the position of Assistant Treasurer for NEWWA and for the same 3 years was a member of its Executive Committee and Board of Directors. Until recently and for many years I was Co-Chair of the Financial

Management Committee of NEWWA. I am currently an active member of that Committee, and the Rates Committee of the Florida Section of the AWWA. I am a member of the Water Environment Federation (WEF) and the New England Chapter; a life member the Institute of Electrical and Electronics Engineers; and the Rutgers Engineering Society

For additional details I have attached a copy of my resume as Exhibit No. DFR-1. I have divided my testimony into several topics each of which is preceded with an underlined heading.

**Q. At the outset how would you characterize this rate increase proposal?**

A. The initial proposed Increase (effective on July 1, 2024), particularly given the already high rates currently in effect, will lead to very high customer impacts, which many would consider the impact to result in rate shock to many customers of the Newport Water Division (NWD). While it is possible that a sizable percentage of the proposed increase may not be justified, I have focused my attention at this time primarily on ways to minimize or mitigate the impacts to customers, assuming a fairly high proportion of the level of increase proposed will be approved (either through full litigation or as part of a settlement Agreement).

NWD proposes to dramatically increase rates by about 20% (plus any associated increase in the labor contract for the AFSCME (currently being negotiated), which may be applied retroactively starting in the current fiscal year (FY2025 - which began about four months ago). Additionally, in each of three succeeding years starting in FY2026 with annual step increases that will include any additional increases in labor contracts plus any increases beyond the approved increase in FY 2025 that can be justified during each of the three Step Increase review cases. Thus, the FY2025 total proposed increase is likely, if approved as proposed, to be in the range of about 26% to 28%, depending upon the terms of the approved contract. If each of the

three step increases average about 4.5%, the rates at the end of the third step increase (FY2028) would be nearly 50% higher than they are now.

The proposed increase in FY2025 distributes the increases to retail customers in Newport and Middletown, and two wholesale customers (The Newport Naval Station (NNS) and the Portsmouth Water and Fire District (the "PWFD") based on a Cost-of-Service Study (COSS) performed by its rate consultant (Mr. Harold J. Smith). The first and each of the three successive step increases are proposed to be implemented on an Across-The-Board (A-T-B) basis. In their Filing, NWD states that a large percentage of the proposed increase of $3,849,392 is almost totally due to increased Capital costs and nearly all operating costs (particularly, Salaries and benefits, Chemicals, Electricity expenses and Repair and maintenance costs).

## Overview of the Division's Case

**Q. What are your general impressions of this case and the proposed increase?**

A. With the addition of a relatively high increase on top of already high rates, the resulting charges will likely lead to high customer impacts and in many cases Rate Shock and unaffordability. This may require serious consideration of various rate mitigation measures and/or rate gradualism. NWD has portrayed this proposed increase as being relatively small given that much of it can be attributed to general inflation, however they fail to note that they have received two rate increases in the past 4 years that together total about 11%, which when combined with the current proposed increase equates to a total increase of 32% over those four years. Furthermore, they fail to note that the rates charged to its residential customers are among the highest currently in the state and other bordering states. In fact, using the most recent rate survey from the Commission's website, it is clear that residents using 90,000 gallons per year were charged about $1,053.90 for just water

service. The Statewide average among regulated water utilities for the same timeframe was $600.10 for the same level of consumption. Thus, for that usage level, customers in Newport and Middletown pay nearly 1.8 times or 78% more than a large percentage of all residential customers in Rhode Island. While 90,000 gallons of usage is somewhat higher than what the average residential customer in NWD's service area uses in a year, it is not an excessive level and many residential customers use close to or more than that level. And, while average statewide bills may increase somewhat before these proposed increases are effective, if the level of increase proposed by the Company is allowed, residential customers in NWD's service area will be paying as much as 2.2 times (119% more) more than what average residential customers across the state would be paying. The following table contains the typical bills and rate comparisons referred to in this paragraph.

| ***Water Utility in RI*** | ***Annual Charge for 90,000 gallons*** |
|---|---|
| ***Kent County Water Authority*** | **$802.96** |
| ***NWD (current)*** | **$1,053.90** |
| ***NWD (w/Prop.Incr.)*** | **$1,311.84** |
| ***NWD (w/Prop.Incr.&Un Est.)*** | **$1,351.20** |
| ***Pawtucket Water Supply Bd.*** | **$602.52** |
| ***Providence Water Supply Bd.*** | **$585.02** |
| ***Suez Water*** | **$539.04** |
| ***Woonsocket Water Dept.*** | **$637.07** |
| ***Total (w/o Newport Water)*** | **$3,000.48** |
| ***Average (w/o Newport Water)*** | **$600.10** |
| ***Newport Water Compared to*** | |
| ***Average Chg. (w/no Incr.)*** | **76% Higher (1.76 times)** |
| ***Average Charge (w/ Incr.)*** | **119% Higher (2.19 times)** |
| ***Avg. Chg. (w/ Incr. + Un. Est.)*** | **125% Higher (2.25 times)** |

To put this proposed increase in a regional perspective, a random sample of twelve communities near Rhode Island's neighboring state of Connecticut, were selected and compared with both NWD's current and proposed rates for the same usage level. The following table contains a listing of those 12 communities and their respective charges to residential customers that consume 90,000 gallons of water per year. All amounts were taken from the most recent rate survey data available from Tighe and Bond's website. The results are provided in the following Table.

| ***Town*** | ***Annual Charge for 90,000 gallons*** |
|---|---|
| ***Sprague (CN)*** | **$546.60** |
| ***Preston (CN)*** | **$760.68** |
| ***Sterling (CN)*** | **$608.64** |
| ***Colchester (CN)*** | **$760.56** |
| ***Windham (CN)*** | **$352.56** |
| ***Middletown (CN)*** | **$481.44** |
| ***East Lyme (CN)*** | **$552.48** |
| ***Groton (CN)*** | **$735.36** |
| ***Ledyard (CN)*** | **$830.52** |
| ***New London (CN)*** | **$345.24** |
| ***Manchester (CN)*** | **$426.96** |
| ***Norwich (CN)*** | **$693.60** |
| ***Total*** | **$7,094.64** |
| ***Average of 12 Water Utilities.*** | **$591.22** |
| | |
| ***Newport Water Compared to*** | |
| ***Average Charge (w/no Incr.)*** | **78% Higher** |
| ***Average Charge (w/ Incr.)*** | **122% Higher** |
| ***Avg. Chg. (w/Incr. + Un.est)*** | **129% Higher** |

The average of the 12 communities bordering RI for the same timeframe was $591.11 for the same level of consumption. Thus, for that usage level,

customers in NWD's service area pay on average 1.78 times or 78% more than a large percentage of all residential customers in those 12 communities pay for the same level of water consumption. While 90,000 gallons of usage is somewhat higher than what the average residential customer in those 12 communities uses in a year, it is not an excessive level and many residential customers use close to or more than that level in that neighboring state. And, while average bills in those 12 communities may increase somewhat before these proposed increases are effective, if the level of increase proposed by the Company is allowed, residential customers in NWD's service area will on average be paying as much as 2.22 times (122% higher) more than what the average residential customers in those 12 communities would be paying.

**Q. How have you organized the remainder of your testimony?**

A. My testimony is separated into eight general topics – Estimated Sales, Proposed New Positions, Rate Increase difference between two customer classes, Capital Improvements and Funding, Direct Mitigation Measures, Rate Design and Customer Assistance Programs. Lastly, a summary of recommendations is provided at the end of this testimony.

## ESTIMATED SALES

**Q. Mr. Russell, do you have any concerns about NWD's use of a low estimate of rate year sales to estimate rate year revenues from user charges?**

A. I do, potentially. To begin with, after the revenue requirement is determined, the rates are designed and their level set so that the realized revenues will match the total costs that need to be recovered from the new rates. If the consumption levels used to estimate the rate revenues in the rate year turn out to be significantly higher than expected (i.e., the estimated levels proposed by the NWD), then the NWD will collect more revenues than it

needs (all else being equal). And, ratepayers would be stuck with rates for water service that would be higher than they need to be. Because some revenues are derived from fixed charges, there is not a direct relationship between the percentage that realized consumption levels are higher than expected and the percentage increase in rate revenues. For this Company about 84% of rate revenues are derived from consumption charges. Thus, for each percentage point (1.00%) that consumption is greater than expected in the rate year, rate revenues will be about 0.84% greater than expected.

So, my concern with respect to this issue is that there is a strong indication that rate year consumption levels could be significantly higher than levels estimated by Newport Water. If it turns out that the sales of water in FY2024 and the first half of FY2025 continue the increasing trend from the FY2023 increase over FY2022 (about 5%), then a significant downward adjustment to the estimated proposed total sales revenue should be made. This adjustment could be estimated by multiplying the residential volumetric rate times the difference between the revised level of water sales minus the proposed level of water sales.

## PROPOSED NEW POSITIONS

**Q. At this time what is your position with respect to the NWD's proposal to add six new positions?**

A. Without addressing the need or cost effectiveness of each of these new positions, I recommend that hiring of one or more of these positions be delayed for at least one or 2 years in order to mitigate some of the impact to customers in the short run (this fiscal year and possibly the next). While the decision as to which position(s) to delay should rest with management of the NWD, it may be more appropriate to choose one or two positions from the administrative area, or one from the administrative area and one from the

distribution positions. To the extent it aids in makes such a delay possible, NWD should consider increasing its use of part time employees and or additional use of student internships.

## RATE INCREASE DIFFERENCE BETWEEN TWO CUSTOMER CLASSES

**Q. Do you have any recommendations with respect to equalizing the relative rate increases between Public and Private Fire Protection customers?**

A. Yes, I do. First, it is interesting to note that the COSS used in this case, with one exception, results in increases to all customer classes and types of charges that are very close to each other on a percentage basis. For example, looking at the relative impacts to Base Charges, the increases over a broad range of meter sizes are all within two percent of the average increase of 17 percent. Thus, there are no significant differences in increases or inequitable impacts to all customers with respect to these charges. Similarly, the impacts to Residential and Non-Residential customers are very close on a percentage basis, and impacts to the two wholesale customers are identical at 18 percent. However, the percentage impact to Public Fire Protection Customers (16% increase) is 2 times (or 100%) higher than the increase to Private Fire Protection Customers (8%). Given the nature (very subjective and relying on many assumptions) of Cost-of-Service Studies and the variance in fire flow requirements/standards between communities with divergent building characteristics and densities, the wide variance in hydrant capacities, and the fact that the services provided to these customer classes are nearly identical, strongly indicates the need/appropriateness of phasing-in (by rate gradualism) the impacts to these two customer classes at this time? Therefore, I recommend that the increase to both classes be equalized at approximately 12% each. The exact percentage (probably within one percent plus or minus of 12%) can be calculated with a trial-and-error method in increments of plus 0.2% and

testing the new levels until the revised revenue decreases from each class equals the total from both classes before any adjustments. At 12% the increase ($197,513) to Public Fire Protection is reduced to $151,836, and the increase ($42,667) to Private Protection is increased to $64,244, which leaves a deficit of total revenue increase of about $24,000. So, the next trial would try a number like 12.2% for both classes, and so on until the deficit is close to zero. Additionally, over the next few base rate cases this revenue adjustment could be taken away resulting in charges to both classes that fully reflect the COS analysis.

## CAPITAL IMPROVEMENTS AND FUNDING

**Q. Please summarize your findings, conclusions and recommendations relative to NWD's proposal to fund many of its planned capital improvements with cash (current revenues) instead of funding them with debt?**

A. In this section I summarize an issue I brought up in the prior base case (Docket No. 4933) and explain why its application in this case is further justified, even if it is only applied to one or two capital improvement projects in the short run. Again, the major difference between this case and the prior case is the magnitude of the increase and the greater need to mitigate the customer impacts that will result from this increase, particularly, given the extraordinarily high inflation that our Country and this State have experienced in recent years.

Utilities typically divide assets into two general categories. One general category consists of new large (and expensive) facilities that are designed to add new/expansion capacity for many years or new large (and expensive) facilities that fully, or to a large extent, replace existing facilities and are expected to have long useful lives. For purposes of this testimony these will

be referred to as “Large Fixed Assets.” Such facilities because of their cost and ability to provide service for many years are almost always funded with long term debt. Debt funding makes sense from the utility’s point of view for these large investments because it is very difficult to raise the large amounts needed in any other way. And, from the customer’s point of view it makes sense because they would prefer to have the costs spread over many years rather than concentrated in one year. Furthermore, it makes sense from an equity point of view because customers come and go, or modify their consumption levels for many reasons. By spreading the associated costs over many years, there is a much better match between those customers who benefit most over time from use of those assets are the ones that pay for most of its associated costs. For example, customer A moves and leaves the system five years after a major fixed asset was placed in service. He would have paid for only 5 years of the associated cost of that asset through debt service payments, a portion of which would be included in his rates. Customer B stays a customer for more than 20 years and the debt is retired after 20 years. He pays his portion of the associated debt service costs for all 20 years that the debt was outstanding. If the costs of major fixed asset were paid for from current revenues, both customers would pay the same for that asset in one year (assuming their consumption levels were equal). Would it be fair or equitable for customer A to pay the same as customer B, even though he would only benefit from use of this asset for only 5 years, while Customer B benefited from all 20 years under the one-year funding approach? Clearly it would not be. On the other hand, under the 20-year funding scenario both customers paid in proportion to the benefit each received from this asset, resulting in a more equitable sharing of the costs of that asset, and a much closer nexus between those benefiting from this asset and the cost each would pay for its use.

The other category includes almost all plant and equipment that are relatively less expensive, are designed to renew or replace portions of larger facilities,

or have relatively shorter useful lives. For purposes of this testimony these will be referred to as “Minor Fixed Assets.” These facilities are paid for almost entirely from current revenues. Replacement of relatively short sections of a water main due to a break or the need to relocate part of an existing water main, meter replacements, and Misc. Fence Repairs are examples of minor fixed assets that are paid for with current revenues.

There are at least three Major Fixed Asset Capital projects that NWD plans to start in the short run that will be funded with current revenues. These are a rehabilitation of a system Dam, Systemwide Main Improvements and the Forest Avenue Pump Station. One or more of these projects could be debt funded instead, which would spread the associated costs over many years instead of just a few. The short-term costs of financing either of these projects would be considerably lower than the annual expenses paid from current (pay as you go) revenues under the cash option that NWD proposes. The total cost of the project would likely be greater in the long-run under the financing option, but after factoring in the time vale of money, the difference is likely to be relatively small. The debt funding option is used by the NWD for many other Major Fixed Asset Capital projects. Here I’m recommending that NWD fund one nor two of these projects with debt as opposed to cash for two reasons. First, for long life capital assets it is a much more equitable method from the perspective customer base. And second, because in the short run (2 or more years), it will significantly lower the level of current revenues (revenue requirements) to pay for its construction, which in turn will lower the level of increase in rates adopted in this case. Hence, reducing some of the customer impact associated with this case.

This issue was brought up in the prior case, but there was little interest at that time. Again, however, because of the high impacts associated with this case, its adoption for one or more Capital projects slated to be funded with current revenues could be implemented to reduce or mitigate some of the

high customer impacts associated with this case. If the NWD or any of the interveners would like to explore this alternative funding option for one or more of the three eligible projects in settlement negotiations or in litigating the case, I would be glad to demonstrate how this could result in lower annual costs in the short run and possibly the long run as well for a particular capital project.

**Q. At this time what is your position with respect to the NWD's proposal to start one or more of its planned capital improvement projects in the current fiscal year or the next?**

A. Without addressing the need or cost effectiveness of each of these planned projects, I recommend that one or more of these projects be delayed for at least one or 2 years in order to mitigate some of the impact to customers in the short run (this fiscal year and possibly the next). While the decision as to which projects to delay should rest with management of the NWD, it depends largely on system requirements and which project(s), if postponed, would not cause that facility, as a direct result of such delay, to be significantly damaged when constructed; result in significant damage to other system facilities; or result in service to one or more customer(s) being adversely affected? The postponement of one or two projects would lower NWD's total Revenue requirements by several hundred thousand dollars in the rate year and possibly the following year.

**Q. Do you have any recommendations with respect to the Restricted Capital Spending Account and the level to which it should be funded?**

A. Without addressing, at this time, the appropriateness of the proposed funding level for this restricted account for the current fiscal year or going forward, it appears from NWD's case that there will be significant annual deposits into this Account that far exceed the annual total costs (resulting in excess revenues for that year) that will be withdrawn to pay for specific planned capital projects in both FY2025 and FY2026. I recognize that this account

will in some years have excess revenues and in other years it will have costs greater than its funding level, but over time it will tend to balance out. However, given the current economic hardships facing most consumers over the past few years, it is time to consider measures that will mitigate some of the impacts associated with this increase, even if just for a year or two. Therefore, I recommend that at least half of the excess funding/revenue expected to occur in this account for the current and next fiscal years, be used to offset the proposed revenue increase proposed in this case. Beyond FY2026 the proposed funding for this account could be returned to the level proposed in this case.

**DIRECT MITIGATION MEASURES**

**Q. Please discuss your position relative to the adoption of any direct mitigation measures**.

A. Certainly, because of the very large rate increase proposed in this case it may be necessary to phase-in (rate gradualism) some portion of the revenue increase going forward. However, given the many factors that have not yet been determined, it is impossible to determine the extent to which it should be applied at this time.

In general, I tend to follow the cost causation principle of ratemaking, However, I also recognize that there are other criteria or principles of ratemaking that may under certain circumstances lead to rates that are not based solely on following the exact rates produced by a Cost-of- Service Study. Also, there may be other social, economic or environmental considerations that may warrant considerable deviation from rates that are based solely or exactly on cost of providing water service to a particular customer or class of customers. Furthermore, in making a transition from rates that are not fully cost based to ones that are, it often makes sense to gradually phase-in the difference over one or more additional periods of time

to the rates that are fully cost based. These statements are fully backed by Professor Bonbright's treatise (Title – "Principles of Public Utility Rates." by James. C. Bonbright, Albert L. Danielson and David R. Kamerschen, 2nd Edition 1988) on utility rates cited by the Commission in its Order and Decision in NWD's rate case two cases back (Docket 4595), and in the American Water Works Association's (AWWA) M1 manual on water rates Entitled, "Principles of Water Rates, Fees and Charges," 7th edition, 2017.

At this point in the case, other than the phasing in of the difference in rate increases proposed for the two Fire Protection Classes provided above, I do not have a specific recommendation relative to the what level of increase that should be allowed as part of this case or what the timing of future adjustments should be before no further adjustments will be needed. This is the case because it is uncertain as to what NWD's final proposal will be given the many adjustments that have already been made; the extent to which additional adjustments will be accepted; or the extent that any of my recommendations or those of any of the other interveners will be accepted by the NWD.

## RATE DESIGN

**Q. Please summarize your findings, conclusions and recommendations relative to NWD's Rate Design.**

A. With respect to rate design it is recommended that the NWD seriously consider modifying its rate structure for residential customers for the listed reasons as outlined below:

- The current uniform consumption rates by class do not provide additional incentives (other than the price itself) to customers in each class to use less or be more efficient with usage. This is particularly true for the residential class. A two-block or three-block increasing

rate structure for residential customers provides two additional benefits. First, it can be designed to provide most customers with a lower rate for water that is used for health and sanitation purposes. Second, it provides low-income customers and many senior citizens with an opportunity to pay lower average rates for most, if not all of, their water consumption. Therefore, it is recommended that NWD consider adopting a two-block increasing rate structure for its residential customers, and that the commission should require NWD to adopt such a structure with a breakpoint between rate blocks somewhere in the range of 18,000 gallons to 36,000 gallons per year (1,500 gallons to 3,000 gallons per month), or close thereto; at a first block rate that is significantly below cost, with the difference made up in the second block rate. If a third is preferred, it could be designed with a fairly high break point above which most usage would be for outside use (primarily irrigation and pool filling). Thus, the third block should start at about 6,600 to 8,300 gallons per month (80,000 to 100,000 gallons per year), and the third block rate should be set at a level significantly above its cost-based level. Again, the second block rate would be set at a rate that would ensure that the total consumption revenue requirement would be satisfied. The final parameters should be determined by NWD as part of this case, or as part of the first step review and approval process.

## CUSTOMER ASSISTANCE PROGRAMS

**Q. Has the company proposed any customer assistance programs (CAPs)?**

**A.** To my knowledge they have not.

**Q. Do you have a recommendation relative to this issue?**

**A.** Yes, I do. While I made similar recommendations in the prior base rate case (Docket No.4933), the need for and appropriateness of such CAPs has dramatically increased since that case due to two circumstances. First, the high impacts that many, if not most, customers will experience if the level of the proposed rates is approved. Second, most customers are already experiencing economic hardships due to much higher prices in general. This need is further evident due to the fairly high incidence of low-income customers in both service areas (7.3% of the population in Middleton and 13.4% of the population in Newport, are considered to be at or below the Federal poverty level).

For all these reasons I recommend that the company institute a lifeline rate or a discount percentage to low-income customers. A lifeline rate should be applicable to a level of consumption approximated by the level of use needed for health and sanitation purposes, plus a reasonable mark-up (additional amount) to compensate for variability of household demographics and usage patterns. For this level of use an eligible customer would be charged a unit rate that is significantly less than the cost-based rate determined for that level of use. Alternatively, a discount percentage for a low-income customer could be applied to the whole bill (for example, between 10% to 25%), or a flat discount (for example, $25 to $50 per billing period) could be used to decrease an eligible customer's total bill. Eligibility should be based on a multiple (for example, 1.25 times) of the Federal Poverty Level for the Area. Verification of low income could be determined by various means, but the simplest and easiest to administer would be to piggy-back on an existing program, like those administered by electric or gas utilities.

Two examples of these types of low-income assistance programs offered by two major cities in the US are described in detail along with implementation considerations are contained in an article in an industry publication. The

citation for this article is, American Water Works Association's Journal, August, 2017, Volume 109, Number 8, pages 30 to 36, entitled, "Model Water Utility Affordability Programs."

## SUMMARY OF RECOMMENDATIONS

The following Table summarizes my estimates of reductions to the proposed increase that would result from each of the recommendations provided above (as of today's date). Most of these estimates depend on many variables that will only be known near the end of the hearing process. Thus, each will need to be estimated or re-estimated as those variables become known.

Table summarizing the impacts of the recommendations on the proposed Revenue Requirements

| **Reason for Recommended Adjustment** | **Change in Rate Year Revenue Increase** |
|---|---|
| Estimated Rate Year Sales | To Be Determined |
| Proposed New Positions | -$75,000 to -$150,000 |
| Rate increase Difference between Two Classes | To Be Determined (equalized rate at about 12.3%) |
| Funding of Major Fixed Assets | To Be Determined |
| Postpone some Capital Improvements | Up to -$500,000 |
| Funding of the Restricted Capital Funding Account | -$500,000 up to -$1million |
| General Phase-in of the Proposed Increase | To Be Determined |
| Rate Structure | No Reduction in Revenue |
| Customer Assistance Program | No Reduction in Revenue |
| **TOTAL (Rate Year) Reduction** | To Be Determined |

**Q. Mr. Russell, do you anticipate having to file or provide supplemental testimony in this case?**

A. Yes, I do. My review, analysis and the testimony provided herein may require supplementation or modification after review of discovery responses not yet received, additional discovery, the availability of documents not available before the date of filing this testimony, and consideration of further testimony submitted by other parties in this Docket. Responses to several information requests were not received prior to the required filing date of this testimony. Thus, it may be necessary to produce a supplement to this pre-filed direct testimony; to submit sur-rebuttal testimony; or additional testimony during the evidentiary hearings, and the Town would like to reserve the right to do so. Specifically, going forward I reserve the right to fully address one or more of the following issues, including the ability to expand or modify those issues that I have partially covered above:

- The potential and appropriateness of Phasing-in one or more of the six proposed new positions

- The potential and appropriateness of postponing one or more planned capital improvements

- The potential and appropriateness of reducing the annual funding level of the IRP Fund for one or more years

- The potential and appropriateness Funding one or more Capital Improvement Projects with Debt financing (instead of rate revenues)

- The potential and appropriateness of Increasing expected rate year sales revenue to reflect recent and or long-term trends

- The potential and appropriateness of reducing Fire Protection Charges

- The potential and appropriateness of equalizing the relative rate increases between Public and Private Fire Protection customers

- The potential and appropriateness of reducing the revenue requirement associated with Sewer Charges

- The potential and appropriateness of reducing the revenue requirement associated with Electricity Charges

- The potential and appropriateness of offsetting the revenue requirement associated with City Services by taking credit for services that NWD provides to the City of Newport on an ongoing basis

- The potential and appropriateness of reducing the revenue requirement associated Middletown's share of customer service expenses with the Newport WPCD

- The potential and appropriateness of Requiring a reduction of UAW losses to a maximum of 15%

**Q. Mr. Russell, does that conclude your testimony at this time?**

A. Yes, it does.

**EXHIBIT No. DFR-1**

# Resume

## DAVID F. RUSSELL, P.E.

**CAREER SUMMARY:**

Since the early 1970s Mr. Russell has been professionally involved in the management, control and regulation of utility systems (electric, gas and water) in the Northeast. He has also successfully completed many related projects throughout the United States and Internationally. He has worked for two regulatory agencies; in MA. – the Department of Public Utilities – as its Chief Engineer; and in NJ. – the Board of Public Utilities – as a special consultant to the Chief Economist. He has held senior engineering and management positions for two New England electric utilities (Eastern Utilities Associates and Unitil Service Corp.), and one in NJ./PA.(General Public Utilities). He has also been a Principal Management Consultant for a major engineering company (Camp, Dresser & McKee, Inc.) at its headquarters in Boston/Cambridge, MA. for several years. Over the past 25 years he founded and developed a successful consulting business (***RUSSELL CONSULTING, LLC***) with an office centrally located in New England, about 30 minutes north of Boston, in Newburyport, MA. In 2014 a second office was opened in Venice, Florida to serve clients in the southeast.

He is an Engineer and Economist by training (BSEE from Rutgers College), and has advanced degrees in Engineering Management (MS. from Northeastern Univ.) and Economics (MA. from Rutgers Univ.) specializing in resource and regulatory economics. He has testified before four of the six Public Utility Commissions in New England (and several others nationally) on many occasions as an expert on utility management, finance, rate design and cost of service studies, and related industry issues. He is a Registered Professional Engineer in MA. (License No. 28324) and NJ. (License No. 26512) and the State of Florida (License No. 75247). He has authored several papers published in professional journals, and has presented his work at many professional seminars and industry conferences.

Mr. Russell has been a lead technical negotiator for several municipal clients in negotiating multi-million-dollar contracts with private utilities and energy customers. He has prepared numerous reports and technical presentations for utility CEO's; and municipal, regional and state governments. He has been responsible for the planning, review and feasibility analysis of numerous utility capital improvement projects, totaling many billions of dollars. This included a broad spectrum of utility facilities (electric, gas, water, sewer and solid waste facilities) - production plants, transmission facilities, and distribution systems. He has also led teams of consultants in the appraisal of utility system components and entire systems (all assets).

He has considerable international experience having worked for many other countries, including Mexico, Columbia, Egypt, Sri Lanka, Guam and the Bahamas. For the Government of Egypt he has worked on several projects each of which involved the feasibility and implementation of public-private partnerships in both the water and wastewater sectors. For the US Protectorate of Guam he was a Sub-Consultant assisting both the Government's Electric and Water Utilities in the development and implementation of their 5-year Capital Improvement Programs, along with preferred methods of recovering all associated operating expenses and capital costs.

**PROFESSIONAL EXPERIENCE:**

***RUSSELL CONSULTING ,LLC***
**Public and Private Utility Consultant**, 1994-Present

This consulting practice provides management and financial consulting services to public and private utilities, municipalities, governmental agencies and private companies. Areas of expertise include management consulting, management reviews and audits, rate design and cost of service studies, expert witness services, appraisals of utility plant and equipment, assistance to owners of large residential developments in obtaining utility services at least costs (initial costs of extensions and long term rates for service), utility contracts and negotiations, performance enhancement and benchmarking, utility economics, power markets and deregulation, and the feasibility and implementation of public-private partnerships. ***RUSSELL CONSULTING*** has teamed with other firms to successfully complete multi-disciplinary projects for domestic and international clients.

Unitil Service Corp.
**Director of Regulatory Services,** 1993-1994

Managed the staff and resources of the Regulatory Services Department for this regional utility holding company. Areas of functional responsibility included sales and load forecasting, customer and load research, rate research and analysis, rate design, rate and tariff administration, revenue requirements and cost of service studies, economic analysis, demand side management (DSM) planning, program design and evaluation, and related analytical services. Responsible for ensuring that rates and cost recovery for the retail companies contributed positively to the continued financial strength of the corporation and that positive regulatory relations were maintained. Successfully developed and maintained expanded DSM programs in Massachusetts and New Hampshire. Also responsible for preparing and filing each retail company's Least Cost Integrated Resource Plans, covering a 10-year planning horizon, including the first Integrated Gas Resource Plan. Successfully managed and coordinated an external (PUC) audit of the accounting and control of all DSM expenditures by the affiliated retail companies in New Hampshire.

Camp, Dresser and McKee, Inc.
**Principal Management Consultant,** 1985-1993

Took a lead role in many projects including management audits, financial feasibility reports, privatization studies and rate/cost of service studies for a wide range of municipal and private utilities. Gained international experience as a financial advisor to the World Bank, the Governments of Egypt and Mexico, and the Water and Sewerage Authority of the Bahamas. Served as project manager for management audits. As Assistant Team Leader for the Management and Financial Services Group helped to expand its size and capabilities from four professional consultants to nearly twenty over a two-year period.

Eastern Utilities Associates
**Section Manager,** 1982-1985

Responsible in the Rate Department for the development and implementation of several pass-through rate clauses designed to recover specific capital and operating costs based on customer demands and/or total use. These cost recovery mechanisms included fuel, purchased power and oil-conservation adjustment clauses. Was lead engineer for cost of service and rate design studies

prepared for rate cases involving affiliated retail electric companies. Also played a key role in rate filings before the Federal Energy Regulatory Commission for the Company's wholesale affiliate. Responsible for all PURPA-related programs for the Company's retail affiliates in MA. and R.I.

New Jersey Board of Public Utilities
**Consultant,** 1981-1982

Participated in the development of standard purchase and sale rates for cogeneration facilities and small powerplants as required by PURPA. Presented the staff's case on rate-of-return issues involving proposed rate increases by major electric and gas utilities. Assisted the Board's Chief Economist in the evaluation of mergers and acquisitions, and a major financing proposed by the State's largest electric utility (PSE&G) needed to fund its capital improvement program.

General Public Utilities (GPU)
**Senior Engineer,** 1978-1980

Provided in-house consulting services to the Corporate Planning Division. Instrumental in implementing the system-wide strategic planning process. Also assisted the Forecasting, Load Research and Supply Planning Groups in determining the need for new power plants and least-cost alternatives. This work included the development of the firm's conservation and load-management programs (the first in the industry). GPU was the 8th largest (Total Revenue) private electric utility in the US during that period.

Commonwealth of Massachusetts, Department of Public Utilities
**Chief Engineer,** 1971-1978

Assigned by the Commission to be the Hearing Officer for several major cases (Convenience and Necessity Petitions) proposed by private Electric and Gas Companies. These cases involved the full evaluation and report on the need for and costs of major construction projects proposed by these Companies including power plants, substations, transmission lines, gas storage facilities (LNG, SNG and Propane) and gas pipelines. I was also instrumental in developing the State's gas-pipeline safety code, and was responsible for the gas-pipeline safety program funded by the U.S. Department of Transportation. Also helped to design and implement the Cost of Gas Adjustment clause for all retail gas utilities. Managed the environmental review process, which included writing internal procedures, the Scope of Work for major facilities, and Statewide rules and regulations. Was appointed (Ex Officio member) by the Governor to the Cogeneration Commission and the Public Power Commission.

**RELATED PROFESSIONAL EXPERIENCE:**

- Registered Professional Engineer in Massachusetts (28342), New Jersey (26512) and Florida (75247).
- Author of several papers published in professional journals.
- Numerous presentations at regional and national meetings of professional organizations.
- Provided expert testimony in numerous quasi-judicial proceedings before several state public utility commissions, state legislative committees, and three Superior Court cases.
- Part-time instructor at Boston University teaching undergraduate and graduate courses in Economics, Management Science and Finance.

**PROFESSIONAL MEMBERSHIPS:**

- American Public Power Association
- American Water Works Association, Member of the Rates and Charges Committee (responsible for 3 Chapters. of the revised M1, "Rates" Manual), also a member of the Florida Section (and member of the recently formed Finance and Rates Committee).
- City of Newburyport Chamber of Commerce
- International Water Resources Association (Peer Review Editor)
- Inst. of Electrical and Electronics Engineers (Power Engr. & Engr. Management Sections)
- National Society of Professional Engineers
- New England Water Works Association, Assistant Treasurer (Assoc. Officer) - Member of the Executive Committee and the Board of Directors; Member of the Financial Mngt. (Co-Chairman) Comm., the Conservation (Chairman) Comm., and the Investment Comm. (fiduciary responsibility to the Association's employee retirements funds)
- Rutgers Engineering Society
- Water Environment Federation (Member of the Management & Admin. Committee)

**EDUCATION:**

- Rutgers University, MA in Economics (Resource and Regulatory Economics), Research Assistantship with Full Scholarship, 1984
- Northeastern Univ., MS in Engineering Management (Opers. Research & Finance), 1977
- Rutgers College, BS in Electrical Engineering, Alumni Scholarship (full tuition and expenses), 1971

**PUBLICATIONS\PRESENTATIONS:** Author of several papers published in professional journals and presentations given at regional and national conventions.

**EXPERT WITNESS SERVICES:** Provided expert testimony in numerous quasi-judicial proceedings before several State Public Utility Commissions, and Legislative Committees. Also presented expert testimony in litigated proceedings before the New Hampshire Superior Court and the Massachusetts Superior Court. Areas of expertise include many of the issues and topics outlined above.

**COMMUNITY SERVICE:** Chairman of the Planning Board, City of Newburyport, Ma.; Commissioner – Newburyport Harbor Comm.; Chairman of the Building Comm. to rebuild and expand the City's seventy-year-old Police Station; Member of the Merrimack Valley Planning Comm.; I.C. Parish Council; Member of American Legion - Post 150 (MA) and Post 159 (FL); Treasurer for the City Comm. (Major Political Party); and Treas. for a State Representative; 3rd Degree Knight of Columbus; Member Saint Vincent DePaul Society

**ADJUNCT PROFESSOR:** Part-time instructor at Boston University teaching Undergraduate and Graduate courses in Economics, Management Science and Finance.

**WHO'S WHO IN AMERICA:** His biography was included in the Millennium and subsequent Editions of Marquis' Who's Who in the America. Recipient of the 2019 Albert Nelson Marquis Lifetime Achievement Award.

**PERSONAL:** U.S. Citizen - Married, three children - Golfer/Runner/Coach (youth athletics)
FED. ID#: 46-4250630 1st Lt., U.S Army NG (Inactive Res.)