

NW 1-2: Regarding Mr. Russell's testimony on pages 7-10 in which he compares Newport Water's rates to that of other utilities:

- a. Please fully describe the process Mr. Russell undertook to examine all similarities and differences between Newport and each of the utilities he used for comparison to ensure that the comparison between rates was a fair comparison.
- b. Please provide all documentation Mr. Russell analyzed and relied on in making his comparisons between Newport Water's rates and the rates of the utilities he used for comparison.
- c. Of the Massachusetts and Connecticut utilities listed on page 9, which of these utilities is regulated.
- d. Please provide a list of all treatises, technical books, periodicals, pamphlets or other writings relied upon by Mr. Russell that indicate that comparison of water rates among utilities should be used as a factor by a regulatory body in setting rates.
- e. Please state why you used 90,000 gallons of usage for your comparison and set forth all facts and provide all documents that support using 90,000 gallons of usage in your comparison.

Response:

- a. First, he compared NW's rates with each of the other regulated water utilities in Rhode Island. This was the only "fair" or reasonable such comparison to be made with water utilities in that state. Second, to allow for a wider comparison or regional water systems, six water utilities from each of the two neighboring states were selected. Each of these 12 were selected simply because they were relatively close to RI's border and data on their rates was readily available. The average rates that these systems charge are representative of southeastern New England. In fact, the state average reported for Massachusetts (\$595) was very close to the average of the other five regulated water systems in RI (\$600.10).
- b. Please see Mr. Russell's testimony and the response to NW 1-2.a.
- c. None of the listed utilities in Massachusetts are regulated. Mr. Russell is not sure if any of the listed utilities in Connecticut are regulated.
- d. Mr. Russell did not rely on any such writings. However, he has used (and has seen others use) such comparisons of the average rates charged by a large sample of utilities nearby or surrounding a particular utility to put that utility's rates in perspective for the regulatory body. Clearly, comparisons with a particular utility are not useful unless the circumstances of that utility are very similar. However, if the regional average charges are vastly different (in this case NW's rates are 60% to nearly 90% higher) (and there are some very unusual circumstances

associated with the utility in question that makes it radically different from most of its surrounding systems) such comparisons are relevant and should be considered by a regulatory body in setting rates.

e. Indicated in Mr. Russell's testimony, while 90,000 gallons per years is higher (in most systems) than average residential consumption, it is not an unusually high usage level for many residential customers. Additionally, it is the level of use that has been used historically within the industry to make these comparisons. In particular see the rate surveys performed by Tighe and Bond, AWWA/Raftelis Financial Consultants, and the Massachusetts Water Resources Association (MWRA).

NW 1-3: Please provide all supporting information and documentation relied upon by Mr. Russell to support his statement on page 11 that the number of Newport's customers "has been steadily increasing for several years."

Response:

This statement was also meant to be a generalization. Perhaps it would have been better said as follows, "... the number of customers has increased somewhat since the last rate case." If that generalization is not correct, please specify for which class or classes of customers it is not correct.

NW 1-4: Regarding Mr. Russell's testimony on Pg.14 that "the consumption impacts of conservation efforts and improved efficiencies have both reached or soon will reach saturation levels resulting in a period of diminishing returns.":

- a. Please state all facts supporting this testimony
- b. Please provide all supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

a. This statement is not based on any specific facts. Rather it is based on Mr. Russell's expert opinion resulting from his extensive experience and observations for more than 40 years relative to conservation efforts and improved (appliance/fixture) efficiencies. In the 1970s while working for the Massachusetts Department of Public Utilities (as its Chief Engineer) he was appointed as a member of the Governor's Commission on Cogeneration (focused on conservation of energy resources); in the early 1980s he was instrumental in developing the electric industry's first Conservation and Load Management Plan (as a Strategic Planner and Senior Engineer for General Public Utilities); in the 1990s for several years he was the Chairman of the Conservation Committee of the New England Water Works Association; and since the mid 1980 he has worked for numerous water utilities as a Management and Financial Consultant specializing in planning, needs assessment and rate studies. Conservation and efficiency improvements within the water industry have been ongoing since the late 1960s or early 1970s (50 plus years). If the statement quoted in this information request is not fully correct, it is largely correct. Mr. Russell does not imply that conservation efforts and appliance efficiency improvements will not continue, only that their impacts on reducing water sales going forward will be relatively small in comparison to the cumulative impacts associated with these factors over the last 50 years.

b. Please see response to NW 1-4. a.

NW 1-5: Regarding Mr. Russell's testimony on Pg. 14 that "most of the more effective conservation measures and most of appliance improvements have over time been implemented and the associated reductions in water use have largely been accounted for.":

- a. Please state all facts supporting this testimony
- b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response: a. and b. Same response as NW 1-4. a.

- NW 1-6:** Regarding Mr. Russell's testimony on Pg. 14 that "going forward the consumption impacts of these two factors are likely to be greatly reduced."
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

- a. and b.

NW 1-7: Regarding Mr. Russell's testimony on Pg. 14 that "Newport Water's third reason - Price elasticity of water – is only somewhat applicable to Commercial customers":

- a. Please state all facts supporting this testimony
- b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

a. Please note use of the word "commercial" in this statement was meant to include both commercial and industrial customers. This statement is based on the fact that the price elasticity of demand for residential water usage is relatively inelastic, and nearly inelastic for essential water use. This was not meant to mean that there would be no effect on residential demand for water due to price elasticity, only that it would be relatively small, particularly in comparison to commercial and industrial customers, and because the final allowed percentage increase is likely to be considerably less than the percentage increase requested (in addition to Mr. Russell's testimony, also see the testimonies of the Division's and PWFD's witnesses). The impact of price elasticity on C&I customers in Newport and Middletown will be very small because the percentage increase in rates (prices) to these customers will be very small (4% if the full increase is allowed). Conversely, the impact of price elasticity on C&I customers served at wholesale could be significant because of the relatively high percentage increase in rates (prices) to these customers will be much higher (about 25% to 34%, if the full increase is allowed). Furthermore, as stated, the impact due to price elasticity on all three classes has diminished over time because of the widespread implementation of conservation measures and efficiency improvements for at least a half century.

- b. Please see response to NW 1-7. a.

- NW 1-8:** Regarding Mr. Russell's testimony on Pg. 14 that "Newport Water's third reason - Price elasticity of water - is only somewhat applicable to Commercial customers":
- a. Please state all facts supporting this testimony
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.
 - c. Please state whether price elasticity applies to each of Newport's other customer classes and identify each class it applies to.
 - d. If it does not apply to any of Newport's other customer classes, please explain why it does not.

Response:

- a. Please see response as NW 1-7. a.
- b. Please see response to NW 1-7. a.
- c. It does not apply to Newport's other customer classes (public and private fire protection customers).
- d. It does not apply to public or private fire protection customers because their bills are fixed regardless of whether there is any water consumption.

- NW 1-9:** Regarding Mr. Russell's testimony on Pg. 14 that Newport's commercial customers' "ability to reduce their consumption levels have been greatly reduced because of their already extensive use of conservation measures and more efficient appliances.":
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

- a. and b. Please see responses to NW 1-4. a. and NW 1-7. a.

- NW 1-10:** Regarding Mr. Russell’s testimony on Pg. 14 that “it appears that the only significant factor affecting this short-term upward trend and recent increases are due largely to improving economic conditions”:
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

a. First, it should be noted that “improving economic conditions” includes (and can be observed/measured by) several economic indicators (like GDP, employment and personal income), and expansion of both the number of housing units and the addition of new or expanded commercial and industrial facilities. Facts supporting improving economic conditions are clearly demonstrated in Mr. Testimony – in particular see the Tables on pages 15 to 17. Significant growth in residential developments and expansion of C&I facilities have been identified in each of the communities served as well as the facilities owned by the Navy. Growth in GDP means businesses are expanding facilities and increasing production or expanding services. This leads to increased water use from production facilities or services that use water. Growth in GDP also leads to increasing levels of employment, which increases personal income. All of this leads to more disposable income within households leading to increased domestic water use, particularly non-essential uses of water. Within NW’s franchise area this is particularly significant because much of the regional economy is dependent on services related to tourism, which is closely correlated with increasing income levels, including increasing income levels both regionally and nationally. This does not mean that other factors could also be contributing to increasing water demands, but other factors are less obvious or have been decreasing over time (see responses to NW 1-4, 5,6 and 8). Lastly, it appears that unusual weather conditions have not significantly impacted sales in recent years (see responses to MIDD 1-34, MIDD 2-22 and MIDD 3-3). Based on all these considerations it is Mr. Russell expert opinion that, “it appears that the only significant factor affecting this short-term upward trend and recent increases are due largely to improving economic conditions.” If NW has or can identify other factors, they should bring them to the attention of the Commission and all parties involved.

b. In addition to the response to NW1-10. a., please see response to NW1-11. b.

- NW 1-11:** Regarding Mr. Russell’s testimony on Pg. 14 that Newport’s “It is generally accepted that improving economic conditions leads to higher demands for water use.”:
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

a. Perhaps this statement would have been better phrased as follows, “[i]t is generally accepted that improving economic conditions leads to higher demands (increasing use) for almost all goods and services that are price elastic, which includes water. Also please see response to NW 1-10. a.

b. To respond to this information, request Mr. Russell did a quick search on the internet for the types of publications sought in this information request. In about 10 minutes Mr. Russell came up with four articles/papers that directly address the relationship between water sales/demand and economic conditions/indicators. The titles and authors of each are listed below:

- “Forecasting Urban Water Demand” (AWWA publication, 2nd Edition, 2008).
- “Factors Influencing Residential Water Demand: A Review of the Literature”(B.Klien, D. Kennedy, J. Lowrey, C. Geomans) 2006.
- “Determinants of Residential Water Demand in Germany” (Ecological Economics, Volume 68, Issue 6, 15 April 2009) J. Schleich and T. Hillenbrand.
- “Water, Economic Growth and Conflict: Three Studies” (David L. Katz) 2008.

Also, Mr. Russell refers Newport counsel to any college textbook that contains sections or chapters on econometric forecasting. Lastly, Mr. Russell recently read an article in the AWWA Journal (February 2015), whose authors are well respected in the water/utility industry, including Mary Ann Dickinson (CEO for the Alliance for Water Efficiency). One statement they made stood out in Mr. Russell’s mind relative to the issue of the relationship between economic conditions and water sales. To wit, “Even the slightest economic downturn can influence water use significantly.” Can there be any doubt that they would not disagree with the statement, “Even the slightest economic upturn can influence water use significantly?” Also, please see response to NW1-10. a.

- NW 1-12:** Regarding Mr. Russell's testimony on Pg. 14 that "Residential consumption increases with higher incomes and lower unemployment/higher employment,":
- a. Please state all facts supporting this testimony, including, but not limited to all facts regarding income increases and employment rates for Newport Water's residential customers.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

- a. Please see responses to NW 1-10. a., NW 1-11. b and NW 1-39. b.
- b. Please see response to 12. a. Also note that it is Mr. Russell's expert opinion that while the economic indicators that he provided in his testimony are not specifically focused on just NW's franchise area, it is extremely unlikely that the area of RI covered by NW did not share in improving economic conditions realized by the whole state or RI, regionally across all of New England, and nationally.

- NW 1-13:** Regarding Mr. Russell's testimony on Pg. 14 that Newport's "commercial/industrial water use increases with greater demands/sales of their products and services":
- a. Please state all facts supporting this testimony, including, but not limited to all facts regarding increased demands and sales for Newport Water's commercial and industrial customers.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony, including, but not limited to, all documentation regarding increased demands and sales for Newport Water's commercial and industrial customers.

Response:

- a. Please see responses to NW 1-10. a., NW 1-11. b, NW 1-12. b. and 39. b.
- b. Please see response to NW 1-13. a.

- NW 1-14:** Regarding Mr. Russell's testimony on Pg. 19 that "Utilities typically divide assets into two general categories... "Large Fixed Assets" ... [and] "Minor Fixed Assets...":
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.
 - c. Please identify the dollar amount and years of usefulness that separate "Large Fixed Assets" from "Minor Fixed Assets."

Response:

- a. This statement is not based on any specific laws, rules, regulations or written industry standards. Furthermore, it was not meant to be a definitive statement without exceptions. The word "typically" does not imply universal acceptance. Rather it is based on Mr. Russell's expert opinion resulting from his extensive experience (as a regulator, utility manager and financial consultant) and observations for more than 40 years in reviewing, evaluating and planning the funding of capital improvements by all types of utilities (Water, Wastewater, Resource Recovery, Electric and Gas). Large/expensive fixed assets with expected long useful lives are typically funded with long term debt. Smaller/less expensive fixed assets (including partial replacements and repairs) are typically paid for from current revenues.
- b. See response to NW 1-14. a.
- c. There is no specific amount or expected useful lives that can be used in all cases to distinguish between these two general categories that Mr. Russell defined for explanatory purposes. Each depends on the type of utility involved, the utility's current assets, revenues and reserves, and other conditions (particularly, financial and economic) and circumstances in which a particular utility is operating in. The key point is expensive fixed assets with long expected useful lives should have their capital costs spread over an extended period so that more of those customers that benefit from use of those facilities pay for its costs. Having said that, in general for a publicly owned water utility like NW a reasonable level would be a dollar amount approaching or exceeding 10% of total rate revenues with an expected useful life of 20 years or more. If the Commission decides that either or both of the fixed assets that Mr. Russell proposes to be funded with debt should not be because the associated capital costs are not of a magnitude that warrants spreading those costs over many years, or that only the current customer base should pay for those costs essentially in the year they are constructed, then they should consider funding all of the dam repairs with debt. Collectively these improvements to NW's dams will cost (about 20% of annual rate revenues) considerably more than either of the two other fixed assets

recommended for debt funding. Additionally, the useful lives of each of these dams should be extended by considerably more than 20 years.

NW 1-15: On Page 19-22, Mr. Russell suggests that Newport borrow funds to pay for the Reservoir Road Tank Improvements, which according to Newport's CIP will cost \$1.5 million dollars. Please state how much Newport will pay in total for this project over the life of the loan including in your answer all principal, interest, and each and every cost associated with the loan, including, but not limited to, loan origination fees, cost of issuance, attorney's fees and financial advisor fees.

Response:

In Mr. Russell's testimony he indicated how those costs would be determined (see his testimony pages 21 and 22), and he provided an estimate of the debt service payments associated with this alternative. A more accurate or closer approximation of those costs should be calculated by NW. The reasons for this are explained in the response to NW 1-17.a. and NW 1-22.a. NW would recover these DS costs in the same manner as they propose to recover the DS costs associated with the new debt proposed for the system-wide main improvements.

NW 1-16: On Page 19-22, Mr. Russell suggests that Newport borrow funds to pay for the Forest Avenue Pump Station Retrofit Improvements, which according to Newport's CIP, will cost \$1.85 million dollars. Please state how much Newport will pay in total for this project over the life of the loan including in your answer all principal, interest, and each and every cost associated with the loan, including, but not limited to, loan origination fees, cost of issuance, attorney's fees and financial advisor fees.

Response:

a. Please see responses to NW 1-15.

NW 1-17: On Page 19-22, Mr. Russell suggests an “alternative funding plan” using Bond Anticipation Notes (BANs) and full borrowings for the Reservoir Road Tank Improvements and the Forest Avenue Pump Station Retrofit Improvements, which consists of the following:

- FY2020 - BANs for \$700,000 with “cost at 4% - \$28,000”;
- FY2021 - Debt Issue of \$1.7 million “with annual Debt Service payments of about \$131,000 starting in 2023”;
- FY2022 - BANs for \$200,000 with “Cost at 4% - \$8,000”;
- FY2023 - BANs for \$700,000 with “Cost at 4% - \$28,000”; and,
- FY2024 – Debt Issue of \$1.3 million “with annual Debt Service payments of about \$101,000 starting in FY2025”

With regard to this plan:

- a. Do any of the costs identified above include costs associated with the proposed borrowing, including loan origination fees, cost of issuance, attorney’s fees and financial advisor fees.
- b. If not, please provide the associated cost for each of the borrowings above. Please do not aggregate the costs, rather please provide all costs associated with each individual borrowings in each of the fiscal years set forth above.

Response:

a. Yes, these fees are included in Mr. Russell’s estimates. However, please note that the footnote to these estimated amounts clearly states, “This total amount and the annual amounts from the table from the alternative case are approximate estimates, but are based largely on similar estimates provided by Newport Water. Assuming the Commission approves this alternative or some variation of it, more precise estimates can [only] be made when the amounts, timing and other terms of each debt and loan instrument are provided by Newport Water and their financial Advisors.” I added the word “only” because only NW can provide all of the input parameters needed to make “more precise estimates.” In performing “more precise estimates” a detailed analysis of each of the costs listed in this question should be individually estimated and factored into the analysis. For the approximate estimates in Mr. Russell’s Testimony, an estimated dollar amount of \$200,000 was added to the project costs of each Capital improvement (\$1.5 Mil. provided in Exhibit 1 attached to Ms. Forgue’s Testimony) as an estimate of the

associated issuance fees (listed in this information request), which equals the principal amount of each debt issue.

b. Please see response to NW 1-17. a. These costs are included by adding an amount that would cover all associated issuance costs.

- NW 1-18:** Regarding Mr. Russell's testimony on Pg. 22 that "In the long run the present value of the short run savings minus the present value of the additional debt service payments, may be close to zero or a relatively small negative amount (net cost increase).":
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.
 - c. Please provide a worksheet that shows this calculation and includes all assumptions made in making the calculation.

Response:

- a. First, Mr. Russell did not make a detailed NPV analysis of the savings (short term cost reduction) versus the long-term costs (future debt service payments). He did, however, outline the approach that should be used. Again, a useful/close estimate of this NPV can only be made when the amounts, timing and other terms of each debt and loan instrument, are provided by Newport Water and their financial Advisors. Another key input is the appropriate discount rate to use. The parties may have considerable disagreements on what that value should be. Mr. Russell's professional opinion as stated in his testimony is that unless the NPV shows that the additional cost is much higher than the savings, debt funding is preferred to using current revenues to pay for Major Fixed Assets.
- b. and c. Notwithstanding the foregoing, Mr. Russell has made rough estimates of the requested NPV. The bottom line of this analysis results in a positive NPV (NPV of the short run savings is greater than the NPV of the long run additional costs) assuming a discount rate of both 4% and 6%.

NW 1-19: On page 22, footnote 1, Mr. Russell states that, “This total amount and the annual amounts from the table for the alternative case are approximate estimates, but are based largely on similar estimates provided by Newport Water.” Please identify each and every estimate “provided by Newport” that you are referring to in this footnote.

Response:

a. See responses to NW 1-17. a. for the estimates used to derive the principal amounts of each debt issue listed on page 21 of Mr. Russell’s testimony. The debt service payments were estimated by taking the ratio of each principal amount for the proposed new debt to the principal amount of NW’s second debt issue in FY2022 (\$3.036 Mil.), and multiplying that ratio by the average debt service payments (\$234,000) provided by NW on HJS Schedule D-16 for their second debt issue for its System wide Main Improvements. Thus, the estimates provided by NW include the capital costs of each project, the “Par Amount” of the second debt issue to fund the system wide main improvement and the average debt service payments associated with that debt. Please note in preparing this response a couple of errors were noticed with respect to the timing of the first debt issue (for the Reservoir Road Tank) and the amount of the second debt issue (for the Forest Ave. Pump Station Retrofit). These errors will be corrected, and revised estimates will be provided to all parties in a separate transmittal.

b. Please see response to NW 1- 9. a.

- NW 1-20:** Regarding Mr. Russell’s testimony on Pg. 22 that “by spreading the construction expenditures [of the system wide main improvements] on a more equalized annual schedule, the planning and scheduling of each project’s implementation may be more effectively accomplished.”:
- a. Please state all facts supporting this testimony.
 - b. Please state how Newport’s planning and scheduling of the system wide main improvements will be more effectively accomplished.
 - c. Please identify in detail all current inefficiencies in Newport’s current planning and scheduling of the system wide main improvement projects.
 - d. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

- a. The facts are summarized below:
 - During the first three years the alternative proposal only shifts 25% of the total Capital Improvements (\$1.0 Mil.) over that period from FY2021 to FY2022.
 - During the fourth and fifth years the alternative proposal only shifts \$1.0 Mil. from FY2023 out one year to FY2024.
 - While NW plans to spend the amounts indicated on Exhibit 1 in the exact amounts during the exact years indicated, in practice it is very likely that the amounts expended each year will not exactly match those planned amounts due to any number of factors that cannot be fully anticipated one or two years in advance of actual construction, let alone several years in the future.
 - In fact, it is just as likely that the alternative schedule will occur as NW’s planned schedule, particularly beyond the first year or two.
 - Thus, without perfect knowledge of future events, there is very little, if any difference between the alternative schedule and NW’s planned schedule.
 - Even if the NW’s planned schedule could be realized going forward, the differences between that schedule and the alternative are relatively minor.
- b. The quoted statement does not state that, “... Newport’s planning and scheduling of the system wide main improvements will be more effectively accomplished.” You misquoted the statement – the correct word was “may” not “will.”
- c. Mr. Russell did not make an evaluation of Newport’s Construction Management Department or team. Therefore, he does not know if Newport’s current planning and scheduling of the system wide main improvement projects,” is performed efficiently or inefficiently.
- d. Please see responses to NW 1-20. a., b. and c.

- NW 1-21:** Regarding Mr. Russell's testimony on Pgs. 22-24 regarding his proposed schedule for the system-wide main improvements:
- a. What is Mr. Russell's estimate for how much the project costs will increase under his schedule?
 - b. Can Mr. Russell guarantee that the Newport won't incur higher project costs under his proposed schedule?

Response:

- a. As explained in response to NW 1-20.a. because of the uncertainty associated with the timing of future events and circumstances, and because of the relatively minor differences of the alternative schedule versus NW's schedule, it is very unlikely that the total project costs (\$6.75 Mil., under either plan) will be significantly different (in either direction).
- b. Mr. Russell cannot make such a guarantee, as NW cannot guarantee that its plan will incur lower project costs under their plan.

NW 1-22: Regarding Mr. Russell's testimony on Pgs. 23 that "by making these two adjustments to the construction schedule, each of the proposed two proposed debt issues can be delayed one year and with the use of Bond Anticipation Notes prior to issuing the bonds," please state how much money Newport would expend on each of these Bond Anticipation Notes, including, but not limited to loan origination fees, cost of issuance, attorneys fees and financial advisor fees. Please do not provide a cumulative number, rather please identify each and every cost associated with each and every BAN identified on page 23 of your testimony.

Response:

a. Again, I refer you to the specific qualifications Mr. Russell attributes to these estimates as specified in footnote 2 on page 24 of his Testimony. Furthermore, as Mr. Russell does not have a professional relationship with (nor is he aware of who NW has such relationships with) any of the organizations or people with whom NW would obtain such detailed fee information. He could and has in effect estimated those fees by assuming an interest rate that in addition to paying the lender's required interest rate includes a markup or additional points to cover all of those costs. If NW would provide current estimates of what those fees are likely to be, I would be glad to revise my estimates based on those fees. Also, please see the response to NW 1-17.

- NW 1-23:** Regarding Mr. Russell's testimony on Pg. 24 that "The present value (PV) of short run savings minus the PV of two additional debt service payments 19 and 20 years in the future, may be close to zero or somewhat negative (Net PV of additional costs exceed the Net PV of savings)":
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.
 - c. Please provide a worksheet that shows this calculation and includes all assumptions made in making the calculation.

Response:

- a. Please see response to NW1-18. a.
- b. and c. Notwithstanding the foregoing. Mr. Russell has made rough estimates of the requested NPV. The bottom line of this analysis results in a positive NPV (NPV of the short-run savings are greater than the NPV of the long run additional costs) assuming discount rates of both 4% and 6%.

NW 1-24: On page 24, footnote 2, Mr. Russell states that “This total amount and the annual amounts from the table for the alternative case are approximate estimates, but are based largely on similar estimates provided by Newport Water.” Please identify each and every estimate “provided by Newport” that you are referring to in this footnote.

Response: a. Please see the responses to NW 1-19.

NW 1-25: Regarding Mr. Russell's testimony on Pgs. 25 please state all facts upon which Mr. Russell bases his testimony that half of the balance in Newport's restricted Revenue Reserve Fund is unrestricted.

Response:

Mr. Russell did not state that, "half the balance in Newport's restricted Revenue Reserve Fund is unrestricted." He did state, "[h]owever, in this case because half of the balance is not restricted..." From the prior sentence, it is clear that the "balance" that Mr. Russell is referring to is the balance in "Revenue Reserve Fund," not just the restricted portion of that Fund.

- NW 1-26:** Regarding Mr. Russell's testimony on Pgs. 25 that "in this case because half of the balance is not restricted (see response to Midd 2-13); the impact to some customers is very high and possibly resulting in rate shock"
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.
 - c. Please identify the percentage of the overall revenue increase by Newport that is attributable to funding the Operating Revenue Allowance (\$155,952 in Newport's original filing).
 - d. Please identify which customers are highly impacted.

Response:

- a. For the portion of this request before the semi-colon, please see the response to number NW 1-25. For the portion of this request following the semi-colon, please see the response to NW 1-26. d. below.
- b. Please see responses to NW 1-25. a. and 26. d.
- c. It appears to be 1.5% (of approximately \$10.4 Mil.).
- d. The answer to this request is somewhat subjective. However, it is Mr. Russell's opinion that with respect to NW's proposed increases, the following customers would be "highly impacted:"
 - Public Fire Protection Customers
 - Private Fire Protection Customers with Connection Sizes 4 inch or greater
 - Wholesale Customers (Navy and PWFD)

- NW 1-27:** Regarding Mr. Russell's recommendation on page 25 of this testimony that \$216,000 be withdrawn from the restricted Revenue Reserve Fund be withdrawn to offset Newport's proposed rate increase.
- a. Please state how Newport will deal with the shortfall in revenue of \$216,000 beyond the rate year.
 - b. Please state how Newport will make up for this withdrawal from the restricted Revenue Reserve Fund with annual contributions of \$155,000 starting in FY 2020 and how the balance will exceed the test year balance by \$94,000 in FY 2021.

Response:

a. and b. Prior to receiving NW's response to MIDD 3-9 and Mr. Bebyn's Testimony, it was not clear that the Balance in the "Reserve" (Attachment to MIDD 3-9) was only the restricted portion of the Revenue Reserve Fund (RRF); that the balance in the unrestricted portion of the RRF was zero ("There is no monthly balance in the unrestricted revenue reserve"); and that NW was no longer funding the restricted portion of the RRF (per an Order of the Commission in Docket 4595). Therefore, Mr. Russell withdraws his recommendation relative to use of funds in the restricted portion of the RRF. In place of that recommendation, and because NW has proposed to include an Operating Revenue Allowance of \$155,952 (funding of the unrestricted revenue reserve – 1.5% of O&M expenses) (as an increase to its total rate revenue requirements), Mr. Russell recommends that the Commission disallow this revenue requirement and lower the rate year revenue requirement by that amount.

NW 1-28: Regarding Mr. Russell's testimony on Pgs. 25 regarding the reserve fund, please indicate where in Newport's rate filing it proposed any funding for the restricted revenue reserve fund.

Response: Please see Response to NW 1-27.

- NW 1-29:** Regarding Mr. Russell’s testimony on Pgs. 27-28 that “Newport Water has indicated considerable level of uncertainty as to the exact timing and magnitude of the second step increase”:
- a. Please state all facts supporting this testimony.
 - b. Please provide supporting documentation relied upon by Mr. Russell in support of this testimony.

Response:

a. and b. First, in response to MIDD 1-22 NW indicated uncertainty relative to the timing of the construction of individual projects in its capital improvement program. Second, as noted in NW’s responses to MIDD 2-18 and MIDD 1-35 the second step increase is only designed to cover increased debt service costs associated with its system wide main improvement project. As is standard procedure NW will submit a proposal to justify its second step increase shortly before it is to be implemented for review and approval by the Commission. If project schedules change; if the date or cost of the second bond issue changes or if other costs (O&M) increase over the next two years, NW will have to modify its proposed step 2 increase. If NW didn’t explicitly state there is considerable uncertainty associated with its second step increase as proposed, in Mr. Russell opinion NW has at least implied that there is a “considerable level of uncertainty as to the exact timing and magnitude of the second step increase.”

NW 1-30: Regarding Mr. Russell's testimony on Pgs. 28-30, and in particular his six specific recommendations on Pg. 29, lines 20-30 and Pg. 30, lines 1-11, please provide the following schedules in the same format as HJS Schedule A-2A that shows the results of Mr. Russell's proposal regarding the Cost of Service for the rate year FY2020:

- a. The rates that result from Mr. Russell's proposal using Newport's rate year revenue requirement as set forth in the rate model provided in response to DIV. 1-1.
- b. The rates that result from Mr. Russell's rate year revenue requirement, which incorporates all of the changes set forth in his direct testimony.

Response:

- a. The requested schedule is enclosed and is labeled "Attachment NW 1-30. a."
- b. Not necessary if all of Mr. Russell's recommendations are accepted along with a small proportion (one quarter to one third) of the recommendations proposed by PWFD's and the Division's experts – the net result would be an average increase much less than 10%, and possibly less than 5%. Increases to wholesale customers and fire protection customers would be less than or close to 10%.
- b. Please see response to NW 1-37

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Rhode Island Public Utilities Commission

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Attachment 30. a.

FY 2020 Rate Filing

HJS Schedule A-2A

Cost of Service Rates and Charges

		Docket 4595 Rates	Cost of Service	Proposed Rates	% Change	Projected Revenues	
Base Charge (per bill)							
Monthly							
5/8		\$ 5.02	\$ 5.7536	\$ 5.76	15%	\$741,036	
3/4		\$ 5.27	6.0237	6.03	14%	183,360	
1		\$ 7.03	7.9507	7.96	13%	54,542	
1.5		\$ 11.33	12.6274	12.63	11%	58,047	
2		\$ 15.86	17.5724	17.58	11%	53,795	
3		\$ 41.71	45.8282	45.83	10%	32,998	
4		\$ 49.12	53.9323	53.94	10%	9,709	
5		\$ 58.99	64.7379	64.74	10%	0	
6		\$ 66.40	72.8421	72.85	10%	29,723	
8		\$ 86.15	94.4532	94.46	10%	4,534	
10		\$ 121.95	133.6234	133.63	10%	3,207	
Portsmouth Base Charge (4")		\$ 1.36	1.7539	1.76	29%	21	
						1,170,972	
Volume Charge (per 1,000 gallons)							
Retail							
Residential		\$ 10.02	\$ 11.2334	\$ 11.24	12%	6,810,316	
Non-Residential		\$ 11.22	\$ 12.1000	\$ 12.10	8%	5,346,990	
						\$ 12,157,306	
Wholesale							
Navy		\$ 6.5190	\$ 8.1735	\$ 8.1736	25%	1,540,724	
Portsmouth Water & Fire District		\$ 5.2920	\$ 6.7738	\$ 6.7738	28%	2,437,891	
						\$ 3,978,614	
Fire Protection							
Public (per hydrant)		\$ 944.22	\$ 1,142.51	\$ 1,142.51	21%	\$ 1,190,495	
Private (by Connection Size)							
	Connection Size	Existing Charge					
	<2		\$33.26	\$ 38.56	\$ 38.56	16%	
	2	6.19	\$139.26	\$ 161.44	\$ 161.44	16%	-
	4	38.32	\$468.22	\$ 569.42	\$ 569.43	22%	44,985
	6	111.31	\$1,055.81	\$ 1,322.52	\$ 1,322.52	25%	313,437
	8	237.21	\$2,069.28	\$ 2,621.45	\$ 2,621.46	27%	141,559
	10	426.58	\$3,593.75	\$ 4,575.32	\$ 4,575.32	27%	22,877
	12	689.04	\$5,706.61	\$ 7,283.30	\$ 7,283.31	28%	-
						\$ 522,858	

Total Projected Rate Revenues \$ 19,020,245

- NW 1-31:** Regarding Mr. Russell's testimony on Pgs. 31-32, that Newport adopt a two-block increasing rate structure:
- a. Please explain why an increasing block rate structure is needed.
 - b. Please identify what the different rates will be.
 - c. Please provide a schedule in the same format as HJS Schedule A-2A that shows the results of Mr. Russell's proposal for a two-block increasing rate structure including the revenues to be produced by each block using Newport's rate year revenue requirement as set forth in the rate model provided in response to DIV. 1-1.
 - d. Please provide a schedule in the same format as HJS Schedule A-2A that shows the results of Mr. Russell's proposal for a two-block increasing rate structure including the revenues to be produced by each block that result from Mr. Russell's rate year revenue requirement, which incorporates all of the changes set forth in his direct testimony.
 - e. Please explain in detail what adjustments Mr. Russell would make to Newport's rate year consumption to account for his proposed two-block increasing rate structure.

Response:

- a. First, please note that this recommendation is very flexible as to when it should be implemented (see Mr. Russell's testimony at page 32, lines 5 to 7). As it adds a significant complication to the current case, it is probably better handled during consideration of the second step increase or as part of the next base rate case. Mr. Russell's reasons for this recommendation are clearly stated in his Testimony on the pages cited in this Information Request.
- b. Mr. Russell also leaves considerable flexibility in that he outlined some criteria for the block rate but leaves it to NW to make specific recommendation and for the Commission to approve the magnitude of each block rate and the breakpoint between blocks. See his Testimony, Page 32, lines 5 to 7.
- c. Again because of the flexibility associated with this recommendation, NW should be responsible for developing and presenting the requested schedule.
- d. Please see response to NW 1-31. c.
- e. It is Mr. Russell's professional opinion that such an adjustment is not necessary due to this rate structure change, particularly because it only involves residential customers; the rate decrease below the break point and the rate increase above the break point should be relatively small (particularly with the first change); the price elasticity for residential water customers is fairly inelastic; and Mr. Russell expects continued growth in sales for at least a few years; and NW has reserves to

draw on in the short run and the ability to request emergency relief, if water sales to residential changes dramatically due to the proposed change to a two-block increasing rate structure.

- NW 1-32:** Regarding Mr. Russell's testimony on Pgs. 32-33 regarding a "lifeline rate or a discount percentage to low income customers":
- a. Please identify any Rhode Island State laws that would allow Newport to offer these discount rates.
 - b. Please identify any Rhode Island State laws that would prevent Newport from offering these discount rates.

Response:

- a. 39 R.I. Gen. Laws § 2-5 (2).
- b. *See* response to a.

- NW 1-33:** Regarding Mr. Russell’s testimony on Pgs. 32-33, regarding a “lifeline rate or a discount percentage to low income customers”:
- a. What is the “level of consumption approximated by the level of use needed for health and sanitation purposes” recommended by Mr. Russell.
 - b. What is the “reasonable mark-up (additional amount) to compensate for variability of household demographics and usage patterns” recommended by Mr. Russell?
 - c. For the “reasonable mark-up (additional amount) to compensate for variability of household demographics and usage patterns”, please provide a worksheet showing how Mr. Russell arrived at the markup including the household demographics and usage patterns he used.
 - d. What is the unit rate that will be charged to eligible customers?
 - e. Please provide a worksheet showing how Mr. Russell arrived at the unit rate identified in subsection d.
 - f. How many of Newport’s customers will qualify for the lifeline or low-income rate?
 - g. How will Newport determine which customers qualify for the rate?

Response:

a. First, please note that this recommendation is also very flexible as to when it should be implemented. As it adds a significant complication to the current case, it may be better handled during consideration of the second step increase or as part of the next base rate case. Mr. Russell also leaves considerable flexibility in that he outlines some criteria for the requested level of consumption, but leaves it to NW to make a specific recommendation as to the level of use needed for health and sanitation purposes, which could be approved as proposed or modified by the Commission in its Decision and Order. In particular, see Mr. Russell’s testimony at page 32, lines 5 to 7, which was meant to apply to both of Mr. Russell’s rate design proposals. Mr. Russell’s reasons for this recommendation are clearly stated in his Testimony on the pages 32 and 33. Mr. Russell also refers you to the following website (URL) for a document (Title – “Compendium of Drinking Water and Wastewater Customer Assistance Programs”) published by USEPA containing detailed information about low income assistance programs and numerous examples of such programs implemented by water systems across the US, including several in New England:

<https://www.epa.gov/waterfinancecenter/compendium-drinking-water-and-wastewater-customer-assistance-programs>

b. Please see response to NW 1-33. a.

- c. Please see response to NW 1-33. a.
- d. Please see response to NW 1-33. a.
- e. Please see response to NW 1-33. a.
- f. Please see response to NW 1-33. a. Also, as this is a volunteer program, it is not possible to estimate how many customers will qualify for this assistance. However, experience has shown that considerably fewer customers apply for the assistance than the number of customers that are eligible. It has also been Mr. Russell's experience that the number of customers that are eligible, apply for and are approved for assistance is relatively insignificant in that the total level of discounts or reduced charges is a very small percentage of total rate revenues.
- g. Please see response to NW 1-33. a. Also, the qualifications for determining eligibility are outlined in Mr. Russell's Testimony, page 32, lines 15 to 29. For additional information on this issue see the referenced USEPA documents in response to NW 1- 33.a.

- NW 1-34:** Regarding Mr. Russell's testimony on Pgs. 32-33, regarding a "lifeline rate or a discount percentage to low income customers":
- a. If Newport implemented a lifeline rate or a discount percentage to low income customers, does Mr. Russell agree that the rates charged to other classes of customers would have to increase to ensure that Newport recovers the overall revenue requirement ultimately approved by the Commission.
 - b. If Mr. Russell agrees that the rates charged to other classes of customers would have to increase if Newport implemented a lifeline rate or a discount percentage to low income customers to ensure that Newport recovers the overall revenue requirement ultimately approved, please provide a schedule in the same format as HJS Schedule A-2A that shows the results of Mr. Russell's proposal for a lifeline rate or a discount percentage to low income customers, including the revenues to be produced by each class of customers, using Newport's rate year revenue requirement as set forth in the rate model provided in response to DIV. 1-1
 - c. If Mr. Russell agrees that the rates charged to other classes of customers would have to increase if Newport implemented a lifeline rate or a discount percentage to low income customers to ensure that Newport recovers the overall revenue requirement ultimately approved, please provide a schedule in the same format as HJS Schedule A-2A that shows the results of Mr. Russell's proposal for a lifeline rate or a discount percentage to low income customers, including the revenues to be produced by each class of customers, that results from Mr. Russell's rate year revenue requirement, which incorporates all of the changes set forth in his direct testimony.
 - d. If Mr. Russell does not agree that the rates charged to other classes of customers would have to increase if Newport implemented a lifeline rate or a discount percentage to low income customers to ensure that Newport recovers the overall revenue requirement ultimately approved, please state in detail why he does not agree.

Response:

a. Mr. Russell agrees with this general proposition. However, as explained in the response to NW 1-33. f., the total of all such discounts or reduced revenues from a life line rate will in all likelihood be a relatively small percentage of total revenues. And, therefore, the increased rate to other customers to compensate for the reduction in revenues will likely be less than 1%, and possibly much less than 1%. Also see the compendium issued by the USEPA (provided in response NW 1-33.a.) for descriptions of alternative methods of compensating for the decreases in revenues due to implementation of customer assistance programs. In particular, on page 28 of that document five possible sources of funds and revenues that are available for utilities to support their CAPs are listed. These are repeated below:

- Building the costs into the rate structure (utilities can structure it so resources come from all ratepayers, or only from those ratepayers not receiving assistance).
- Give customers and employees an opportunity to make voluntary contributions (e.g., the popular “round up” bill option).
- Seek donations from outside partners, including charities and other assistance programs and agencies.
- Allocate a portion of the general tax revenues toward the program.
- Find innovative new revenue streams (e.g., some utilities have generated revenue by allowing ads and antennas on water towers and other utility structures).

b. It is impossible to estimate the total level of assistance that such a program would provide to low income customers until the specifics of the program are designed and implemented for at least six months. Furthermore, because the level of assistance is not expected to significantly increase rates to other customers, the analysis requested in this IR is not worthwhile or expository at this time.

c. Please see response to NW 1-34. b.

d. Please see response to NW 1-34. a.

- NW 1-35:** Regarding Mr. Russell’s testimony on Pgs. 32-33, that “the simplest and easiest to administer [a lifeline rate or a discount percentage to low income customers] would be to piggy-back on an existing program, like those administered by electric or gas utilities:
- a. Please explain in detail why this is the simplest and easiest way for Newport to administer such a program.
 - b. Please describe what steps you took to investigate whether Newport could “piggy-back” on existing programs administered by National Grid including any conversations or communications you had with employees or representatives of National Grid.
 - c. Please explain in detail how Newport would “piggy-back” on existing programs administered by National Grid.

Response:

a. It is Mr. Russell’s professional opinion that the determination of eligibility and verification of eligibility that uses an existing program administered by another utility is the simplest and easiest way to accomplish these key administrative requirements because most of the work required is already done, it is straight forward and easy to participate in. This position is also supported by the following paragraph contained in the compendium prepared by the USEPA (see the reference in the response to NW 1-33. a.):

“Many communities have experts with decades of experience designing and implementing CAPs for utilities. Electric and natural gas utilities likely have some type of program or a safety net to help their disadvantaged customers. These industries have been creatively addressing this issue for decades, largely driven by the policies, regulations, programs, and expectations of the federal government, state governments or public utility commissions who oversee rates and assess customer needs. All the CAP types discussed in this report might already be in use by your local electric and gas utilities. Not only can these utility staff help you understand the opportunities and challenges to successfully implement a program, but they might allow you to coordinate implementation of your program with their existing programs.”

b. Mr. Russell did not investigate which utilities in RI currently provide low income assistance to its customers. Obviously, if other utilities in NW’s service area do not offer such programs, the “piggy back” option would not be available.

c. See response to NW 1-35. a. and b. Also, you are referred to the Compendium document issued by the USEPA for additional and extensive information (including numerous examples nationally and regionally – one in Maine, 5 in Massachusetts and 1 in Connecticut) provided in response NW 1-33a.

NW 1-36: On Pgs. 33, Mr. Russell testifies that “The following Table summarizes my estimates of reductions to the proposed increase that would result from each of the recommendations provided above. 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 re-estimated as those variables become known.” Please list each of these variables.

Response:

a. Please see responses to all of the following Data Requests for many examples of the variables or assumed input values needed to closely calculate the amounts requested:

- Response to NW 1-15
- Response to NW 1-17 a.
- Response to NW 1-19 a.
- Response to NW 1-20 a.
- Response to NW 1-22 a.

NW 1-37: Regarding Mr. Russell's testimony on Pgs. 33-34, he summarized his recommendations to Newport's proposed changes to the Newport's revenue request, cost allocations and rate design. As such, please provide a schedule of the rates that result from all of Mr. Russell's recommendations in the same format as HJS Schedule A-2A, including an electronic copy of the spreadsheet (with any and all linked spreadsheets and all formulas intact).

Response:

a. Mr. Russell's approximate estimate of the requested Schedule is provided on Attachment NW 1-37. Rather than providing the electronic copy, the specific changes he made to the Supplemental model provided by NW are listed below. The electronic copy can be easily derived by making the same changes to that model.

- **Changes to the rate year sales to the increased levels recommended**
 - **Residential – 613,040 TG**
 - **Non-Residential – 456,218 TG**
 - **Navy – 200,548 TG**
 - **Portsmouth – 382,194 TG**
- **Reduced Contributions to the Capital Spending Account by \$500,000**
- **Reduced the Operating Revenue Allowance by \$155,952**
- **Reduced the Rate Case Expenses by \$90,000**

Docket 4399

Rhode Island Public Utilities Commission

Docket 4933

Attachment NW 1-37

FY 2020 Rate Filing

HJS Schedule A-2A

Cost of Service Rates and Charges

		Docket 4595					
		Rates	Cost of Service	Proposed Rates	% Change	Projected Revenues	
Base Charge (per bill)							
Monthly							
5/8		\$ 5.02	\$ 5.5556	\$ 5.56	11%	\$715,305	
3/4		\$ 5.27	5.8145	5.82	10%	176,975	
1		\$ 7.03	7.6667	7.67	9%	52,555	
1.5		\$ 11.33	12.1661	12.17	7%	55,933	
2		\$ 15.86	16.9151	16.92	7%	51,775	
3		\$ 41.71	44.0291	44.03	6%	31,702	
4		\$ 49.12	51.7975	51.80	5%	9,324	
5		\$ 58.99	62.1553	62.16	5%	0	
6		\$ 66.40	69.9236	69.93	5%	28,531	
8		\$ 86.15	90.6392	90.64	5%	4,351	
10		\$ 121.95	128.1863	128.19	5%	3,077	
Portsmouth Base Charge (4")		\$ 1.36	1.7157	1.72	26%	21	
						1,129,548	
Volume Charge (per 1,000 gallons)							
Retail							
Residential		\$ 10.02	\$ 10.4886	\$ 10.49	5%	6,430,790	
Non-Residential		\$ 11.22	\$ 10.9171	\$ 10.92	-3%	4,981,901	
						\$ 11,412,690	
Wholesale							
Navy		\$ 6.5190	\$ 7.6024	\$ 7.6025	17%	1,524,666	
Portsmouth Water & Fire District		\$ 5.2920	\$ 6.5671	\$ 6.5672	24%	2,509,944	
						\$ 4,034,611	
Fire Protection							
Public (per hydrant)		\$ 944.22	\$ 1,150.38	\$ 1,150.38	22%	\$ 1,198,696	
Private (by Connection Size)							
	Connection Size	Existing Charge					
	<2		\$33.26	\$ 36.89	\$ 36.90	11%	
	2	6.19	\$139.26	\$ 154.47	\$ 154.48	11%	-
	4	38.32	\$468.22	\$ 542.02	\$ 542.03	16%	42,820
	6	111.31	\$1,055.81	\$ 1,255.11	\$ 1,255.11	19%	297,461
	8	237.21	\$2,069.28	\$ 2,485.03	\$ 2,485.03	20%	134,192
	10	426.58	\$3,593.75	\$ 4,335.08	\$ 4,335.08	21%	21,675
	12	689.04	\$5,706.61	\$ 6,899.18	\$ 6,899.19	21%	-
						\$ 496,148	

Total Projected Rate Revenues \$ 18,271,693

- NW 1-38:** Regarding Mr. Russell’s testimony on Pg. 34, that “Responses to several information requests were not received prior to the required filing date of this testimony,”:
- a. Does Mr. Russell agree that the only outstanding data responses not received by Middletown are the responses to Middletown’s third set of data requests.
 - b. Does Mr. Russell agree that Middletown’s third set of data requests were not issued until June 28, 2019.

Response:

- a. Agreed with respect to responses received for Middletown’s Information Requests. However, responses to the following IRs issued by others, and not received prior to the due date for Testimonies by Interveners; and IRs that were issued after the due date for Testimonies by Interveners, are listed below:
- b. Agreed.

NW 1-39: In Mr. Russell's resume he indicates he has "authored several papers published in professional journals, and has presented his work at many professional seminars and industry conferences."

- a. Please provide a list of all papers and seminar presentations.
- b. Please state whether any of these papers and presentations addressed the relationship of economic indicators to water sales.

Response:

- a. See Attachment NW 1-39 for a partial list of the requested information.
- b. None on this list specifically address the relationship between economic indicators and water sales. However, a few do, and one in particular specifically addresses the relationship or correlation between economic indicators and electricity sales. This one is titled "An Econometric Model and Forecast of Jersey Central Power and Light Company's Residential Kwh sales, 1980-2000". My recollection of this paper I wrote nearly 35 years ago is this: there were very strong correlations between at least a few economic indicators and electric sales. This should not be surprising, since most goods and services that are relatively price elastic generally do have significant correlations with income, employment and GDP, to name a few. The one significant difference between water and most goods and services (and electricity to some degree), at least for residential water usage, is the fact that water is essential for health and sanitation. Thus, for many residential water customers a sizable portion of their usage is essential, or non-discretionary, which makes that portion of their usage relatively insensitive to price (price inelastic) and relatively (but not totally) insensitive to economic conditions. This does not mean that total water sales are not sensitive to economic conditions, because the discretionary portion of residential water use and most commercial and industrial water uses are sensitive to price and economic conditions. Furthermore, even the non-discretionary (essential) portion of residential water use has some sensitivity to price and economic conditions – it is not perfectly price inelastic.

Attachment NW 1-39

LIST OF PUBLICATIONS & PRESENTATIONS - DAVID F. RUSSELL, P.E.

- David F. Russell, P.E., "What is GASB-34 and How it Can Benefit Your Water Utility." Paper presented at the Annual Conference of the New England Water Works Association, held in Hyannis, MA, September, 2004.
- David F. Russell, "Revenue Impacts Resulting from Conservation and Mitigation Strategies." A Presentation given at a Water Conservation Seminar and Workshop sponsored by the New England Water Works Association through the Conservation Committee (Mr. Russell is a member) held in Boxborough, Ma., October, 1996.
- David F. Russell, P.E., "Evaluation of Privatization Alternatives for Municipal Water Services." Paper presented at a Joint Meeting of the Massachusetts Water Works Association and the New England Water Works Association, Hyannis, MA, April, 1991.
- David F. Russell, "Cost of Service Studies" A Presentation given at a Water Utility Ratemaking Seminar and Workshop sponsored by the New England Water Works Association through the Financial Management Committee (Mr. Russell is Co-Chairman) held at NEWWA's headquarters in Holliston, Ma., during the fourth quarter each year.
- David F. Russell, P.E., "Energy Conservation and Utilization - A Handbook For Wastewater Treatment Plants in Illinois." Report prepared for the Illinois Association of Wastewater Agencies, September 1991. Seven Chapters and Five Appendices.
- David F. Russell and Christopher P. N. Woodcock, "What Will Water Rates be like in the 1990s?" American Water Works Association Journal, Vol. 84, September 1992, pp. 68-72.
- Theodore C. Schlette and David F. Russell, P.E., "Issues in Peak Load Pricing: Can Water Be Priced Like Electricity." Paper presented at the Joint Management Conference of the American Water Works Association and the Water Environment Association, March 1993.
- David F. Russell and Daniel D. Lanning, "Evaluation of the Town's Electric Division, Town of Wallingford, Connecticut." A Report prepared for the Finance Committee of Wallingford's Town Council while employed by CDM, July 1991.
- David F. Russell, "Inventory and Appraisal Report" A systemwide inventory and asset evaluation report prepared for Executive Management of the Warwick (Rhode Island) Water Department while employed by CDM, October 1991.
- David F. Russell, P.E., "Fire Protection Charges." Paper presented at a New England Water Works Assoc. Seminar - Alternative Revenue Source Development for Water Utilities, 1989.
- David F. Russell, "An Econometric Model and forecast of Jersey Central Power and Light Company's Residential Kwh Sales, 1980 - 2000." Graduate Research paper, Fairleigh Dickinson University, Madison, NJ, Spring Semester 1981.

- David F. Russell, "Natural Gas-Fired Superheating of Steam From MSW Energy Recovery Facilities (Section 8 - Financial and Institutional Considerations)." A Report prepared for Executive Management of the New York State Energy Research and Development Authority while employed by CDM, Jl.1989.
- David F. Russell, "Management Audit Phase-One Report." A Management Audit Report Prepared for Executive Management of the Kent County (RI) Water Authority while employed by CDM, Feb., 1986.
- David F. Russell, "Economic Analysis of Public-Private Partnership projects." A Presentation given at a week-long training seminar sponsored by the Institute for Public-Private Partnerships (I3P) for utility managers from several countries, entitled, "Public-Private Partnerships in Water and Wastewater Infrastructure," held in Washington, D.C. in November 1995.
- David F. Russell, "Software, Handbook Designed to Help Systems Cut Energy Costs." Water World, Vol. 14, No. 1 January 1998, p. 10-15.
- David F. Russell, "Tariff Setting and Regulation for Russian Utilities," A Presentation given at a week-long training seminar sponsored by the Institute for Public-Private Partnerships (I3P) for utility managers from Russia. Mr. Russell introduced the technical sessions and had responsibility for covering the general topics of Regulation in the United States, and Principles and Practices of Tariff Setting. He also lead a workshop and case study, including development of total revenue requirements, a fully allocated cost of service study and both rate design and customer impact evaluations. This Seminar was held in Washington, D.C. in November 1997.
- David F. Russell, "Deregulation in the Electric Utility Industry." Graduate Research Paper, Master of Arts in Economics Program, Rutgers Univ., New Brunswick NJ, Spr. Semester 1983.
- David F. Russell, "An Empirical Examination of Economies of Scale of the Electric Utility Industry in New England." Graduate Research Paper, Master of Arts in Economics Program, Rutgers University, New Brunswick NJ, fall semester 1983.
- David F. Russell and Daniel D. Lanning, "The 'Value' of Appraising Municipal Water Systems: A Case Study." Journal of the New England Water Works Association, Vol. 107, No. 3 Sept. 1993, p.176-186.
- David F. Russell, P.E., "Energy Savings at Wastewater Treatment Plants." Proceedings of the Water Environment Federation, 65th Annual Conference & Exposition, New Orleans, LA, 1992.
- David F. Russell, "The Fuel Adjustment Clause in Rate Schedules of Electric Utilities. A Cost Benefit Analysis." Masters Thesis, Masters of Arts Graduate Program in Economics, Rutgers University, New Brunswick, NJ, October 1984.
- David F. Russell, "PASNY and Indian Point No. 3, A Descriptive Summary and Implications for GPU." Report prepared for Executive Management of General Public Utilities while employed as a Strategic Planner, January 1979.

- David F. Russell, "A Retrospective Analysis of Total Costs Associated with Oyster Creek, Three Mile Island 1 and Alternatives." Report prepared for Executive Management of General Public Utilities while employed as a Strategic Planner, March, 1980.
- David F. Russell, "Focused Management Audit - Logansport Municipal Utilities, Electric Generating Plant." Draft Report prepared for Executive Management of the Town's Municipal Electric Utility while employed by Camp Dresser & McKee Inc. (CDM), August 1993.
- David F. Russell and Mark Abrahams, "GASB-34: Friend or Foe?" A half day Seminar and Workshop sponsored by the New England Water Works Association through the Financial Management Committee (Mr. Russell is Co-Chairman) presented at NEWWA's headquarters in Holliston, Ma., two to three times a year.
- David F. Russell, Seminar entitled, "The Fundamentals of Accounting for the Non-Financial." A two-day training seminar for utility managers, related staff personnel, and board members. This seminar was specifically developed to assist non-financial managers and supervisors in water utilities and organizations in improving their financial expertise and developing a sound understanding of their organization's finance and accounting functions. It is offered two times a year—in the Spring and Fall—and is certified for 1.2 CEUs.
- David F. Russell, "Final Report – Evaluation of Capital Improvement Programs and Alternative Funding Options, August 2004." This was a comprehensive financial feasibility study prepared for the City of Groton and the management of the Water Department. Specific recommendations for the phasing of required capital improvement projects, funding options, and preferred rate increase options for the next five years were included.
- David F. Russell, "Guidelines for Preparation of Cost and Rate Studies," March 2000. Prepared for the Government of Egypt as one of the deliverables in a multi-year project sponsored by the United States Agency for International Development (USAID) known as the Legal and Institutional Regulatory Reform of the Water/Wastewater Sector in Egypt (LIRR). This report was prepared to establish the overall framework for preparation of rate studies in Egypt, to describe the process and steps involved, and to establish a baseline of generally accepted principals and practices for consideration in this country. Additionally, a base case was introduced for putting the principles and practices into operation in a developing community in Egypt – the Town of Beheira.
- David F. Russell and Anthony Stellato, "Beheira Water Supply Cost and Rates Study," November 2000. Prepared for the Government of Egypt as one of the deliverables in a multi-year project sponsored by the United States Agency for International Development (USAID) known as the Legal and Institutional Regulatory Reform of the Water/Wastewater Sector in Egypt (LIRR). This study and report illustrates the concepts and procedures set out in the associated "Guidelines" report listed above by applying them to develop a cost and rates study for an actual Egyptian Utility – the Beheira Water Company.
- David F. Russell, "FINAL REPORT - Feasibility Study Regarding the Acquisition of the Oxford District Water Utility, April 29, 2009," prepared for Town of Oxford, Massachusetts to evaluate the advantages and disadvantages of the Town acquiring all of the assets of the privately owned water company within the Town's borders. The Town subsequently voted by a

two-thirds margin to purchase those assets based at least in part on the findings and recommendations in this report.

- Stone and Webster Management Consultants, Inc. and **RUSSELL CONSULTING**, "Comprehensive Business Process Review and Audit - Final Report, December 24, 2007." Prepared for the Vermont Electric Cooperative, Inc., and the Vermont Department of Public Service (VDPS). **RUSSELL CONSULTING** provided considerable assistance and expertise throughout this management audit and took a lead role in the interview and analysis phases for several functional areas. These areas included; financial management and control, capital planning and asset management, risk management and insurance coverage, and employee health care and wellness programs. We also assisted in the review and assessment of organizational issues, strategic planning, and both the composition of the Board of Directors, its policies and procedures and overall effectiveness. This project resulted in numerous recommendations designed to improve the efficiency and effectiveness of most systems and processes within this utility, and was well received by both management of this utility and its regulators.

- David F. Russell, "FEASIBILITY STUDY – TOWN OF MILFORD, MASSACHUSETTS, JUNE 2, 2014," prepared for the Town of Milford, Massachusetts to evaluate the advantages and disadvantages of the Town acquiring all of the assets of the privately owned water company within the Town's borders. This included analysis of both the economic and non-economic impacts of this acquisition along with the financial capability of the Town, and to present a comparison of projected water rates under both private and public sector ownership. The evaluation focused on two key issues. First, what would the Town be required to pay the Company for the acquisition of its water system assets in Milford? The purchase price would likely be the primary factor impacting the future cost of water service in the Town if the system was acquired. Second, what would the likely impact be of municipal acquisition on the system's ratepayers. The analysis projected significant ratepayer savings. In 2016 the Town's Board of Selectmen decided to actively pursue the acquisition of the Milford Water Company (MWC). Mr. Russell was the Town's lead technical consultant throughout the extended negotiation process to agree on the purchase price of the entire water system. The parties agreed on the price and the Town began an extensive due diligence study, for which Mr. Russell played a key role as the Town's technical advisor. In the third quarter of 2017 a special Town Meeting was held for the purpose of voting on whether or not the Town should acquire all the assets of the MWC. The Town voted overwhelmingly in the affirmative to purchase all the assets of the MWC.

- David F. Russell, Instructor at a week-long training Seminar, entitled, "Auditing and Financial Review of Regulated Utilities; Cost Accounting Systems, Reporting Requirements, and Modeling Techniques," sponsored by the Institute for Public-Private Partnerships (I3P) in Association with the Regulated Industries Commission for the Islands of Trinidad and Tobago. This course focused on international best practices in technical and financial data preparation, analysis, auditing and enforcement of financial reporting regulations. Mr. Russell introduced the technical sessions and had responsibility for financial reporting, rate case preparation, and cost of service analysis and rate design. The course was held in March, 2010 in the City of Port-of-Spain, Trinidad.

CERTIFICATION

I hereby certify that on August 5, 2019, I sent a copy of the within to all parties set forth on the attached Service List by electronic mail and copies to Luly Massaro, Commission Clerk, by electronic mail and regular mail.

Andrea Richardson
Andrea Richardson, Paralegal

Parties/Address	E-mail Distribution	Phone
Joseph A. Keough, Jr., Esq. Keough & Sweeney 41 Mendon Ave. Pawtucket, RI 02861	jkeoughjr@keoughsweeney.com ;	401-724-3600
Julia Fogue, Director of Public Works Newport Water Department 70 Halsey St. Newport, RI 02840	jfogue@cityofnewport.com ;	401-845-5601
	lsitrin@CityofNewport.com ;	
	rschultz@CityofNewport.com ;	
	wyst@CityofNewport.com ;	
Harold Smith Raftelis Financial Consulting, PA 511 East Blvd. Charlotte, NC 28203	Hsmith@raftelis.com ;	704-373-1199
Tiffany Parenteau, Esq. Christy Hetherington, Esq. Dept. of Attorney General 150 South Main St. Providence, RI 02903	Chetherington@riag.ri.gov ;	401-222-2424
	TParenteau@riag.ri.gov ;	
	pat.smith@dpuc.ri.gov ;	
	John.bell@dpuc.ri.gov ;	
	al.mancini@dpuc.ri.gov ;	
	Mfolcarelli@riag.ri.gov ;	
	dmacrae@riag.ri.gov ;	
Jerome Mierzwa Lafayette Morgan Exeter Associates, Inc. 10480 Little Patuxent Parkway, Suite 300 Columbia, MD 21044	jmierzwa@exeterassociates.com ;	410-992-7500
	lmorgan@exeterassociates.com ;	
Dept. of Navy (DON) Kelsey A. Harrer, Assistant Counsel Department of the Navy, Office of the General Counsel 6506 Hampton Blvd.	Kelsey.a.harrer@navy.mil ;	757-322-4119

Norfolk, VA 23508-1278		
Dr. Kay Davoodi, Director Larry Allen, Public Utilities Specialist Utilities Rates and Studies Office NAVFAC HQ, Department of the Navy 1322 Patterson Avenue SE Suite 1000 Washington Navy Yard, D.C. 20374	Khojasteh.davoodi@navy.mil ;	
	Larry.r.allen@navy.mil ;	
Maurice Brubaker Brian Collins Brubaker and Associates, Inc. PO Box 412000 St. Louis, MO 63141-2000	mbrubaker@consultbai.com ;	401-724-3600
	bcollins@consultbai.com ;	
Portsmouth Water & Fire District (PWFD) Adam M. Ramos, Esq. Christine E. Dieter, Esq. Hinckley, Allen & Snyder 100 Westminster St., Suite 1500 Providence, RI 02903	aramos@haslaw.com ;	
	cdieter@hinckleyallen.com ;	
	cwhaley@hinckleyallen.com ;	
	stroke@hinckleyallen.com ;	
Jessica C. Lynch, PWFD	jlynch@portsmouthwater.org ;	
Christopher P.N. Woodcock	Woodcock@w-a.com ;	508-393-3337
David Bebyn	dbebyn@gmail.com ;	
Town of Middletown (Middletown) Peter Regan, Esq. Mark Boivin, Esq. Sayer Regan & Thayer, LLP 130 Bellevue Ave. Newport, RI 02840	Pregan@SRT-law.com ;	401-849-3040 x-233
	mboivin@srt-law.com ;	
	arichardson@srt-law.com ;	
David Russell, P.E. Russell Consulting LLC	Davidrussell015@comcast.net ;	
File an original and nine (9) copies w/: Luly E. Massaro, Commission Clerk John Harrington, Commission Counsel Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	Luly.massaro@puc.ri.gov ;	401-780-2107
	John.harrington@puc.ri.gov ;	
	Margaret.hogan@puc.ri.gov ;	
	Cynthia.WilsonFrias@puc.ri.gov ;	
	Alan.nault@puc.ri.gov ;	
	Sharon.ColbyCamara@puc.ri.gov ;	