# The Narragansett Electric Company

# d/b/a National Grid

INVESTIGATION AS TO THE PROPRIETY OF PROPOSED TARIFF CHANGES

## Rebuttal
Testimony and Schedules of:

Howard S. Gorman
Paul M. Normand
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Book 6 of 7

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# REBUTTAL TESTIMONY

# OF

# HOWARD S. GORMAN

**Dated: May 9, 2018**

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## I. <u>Introduction and Overview</u>

**Q. Please state your name and occupation.**

A. My name is Howard S. Gorman. I am the President of HSG Group, Inc.

**Q. Have you previously submitted testimony in this proceeding?**

A. Yes. I submitted direct testimony on behalf of Narragansett Electric[1] in this docket, including Schedules HSG-1 through HSG-5. I also prepared or supervised the preparation of Schedules HSG-1 (REV-1) through HSG-5 (REV-1) submitted to the Public Utilities Commission (PUC) on April 3, 2018.

**Q. Please provide an overview of your rebuttal testimony.**

A. In Section II of my rebuttal testimony, I address the direct testimony of intervenor witnesses regarding revenue allocation, fixed monthly charges, Narragansett Electric's proposed consolidation of Rates G-32 and G-62, and certain aspects of Rate G-32.

**Q. What intervenor direct testimony does your rebuttal testimony address?**

A. I am responding to portions of the direct testimony of John Athas (including supplemental direct testimony) and Roger Colton, submitted on behalf of the Division of Public Utilities and Carriers (Division); Ali Al-Jabir, on behalf of the United States

[1] The Narragansett Electric Company d/b/a National Grid constitutes the regulated operations that National Grid USA conducts in Rhode Island. In this case, I will refer to the regulated entity as the "Company," where the reference is to both gas and electric distribution operations on a collective basis. Where there is a need to refer to the "stand-alone" or individual electric or gas operations of The Narragansett Electric Company, I will use the terms "Narragansett Electric" or "Narragansett Gas," respectively, as appropriate.

Department of the Navy and The Federal Executive Agencies (Navy); Mark LeBel, on behalf of Acadia Center; Karl Rabago, on behalf of New Energy Rhode Island (NERI); and Gregory Tillman, on behalf of Walmart Stores East, L.P. and Sam's East, Inc. (Walmart), concerning the following:

1. Rate A-16 and Rate A-60 fixed monthly charges (Mssrs. Athas, Colton, LeBel, and Rabago);
2. Rate C-06 fixed monthly charges (Mr. Rabago);
3. Revenue allocation (Mssrs. Athas and Al-Jabir);
4. Consolidation of Rates G-32 and G-62 (Mssrs. Al-Jabir and Tillman);
5. Fox Point Hurricane Barrier (Mr. Al-Jabir); and
6. High Voltage Delivery Discount and Rate G-32 Rate Design.

**Q. Did any intervenor comment on the Allocated Cost of Service Studies (ACOSS) submitted as Schedule HSG-1 or Schedule HSG-1 (REV-1)?**

A. No intervenor raised any objection to either ACOSS that was presented in my direct testimony. Mr. Athas found that "[t]he ACOSS methodology is consistent with prior PUC-approved studies from past rate cases, with a few logical changes." (Athas supplemental testimony at 5). Mr. Athas and Mr. Tillman both requested that the PUC require Narragansett Electric to prepare an ACOSS with a combined Rate G-32 / G-62 class, but neither objected to any aspect of either ACOSS that was submitted.

## II. Schedules Submitted with Rebuttal

**Q. Are you presenting any schedules with your rebuttal testimony?**

A. Yes, I am presenting the following schedules:

| | |
|---|---|
| Schedule HSG-1A(R) | Updated ACOSS Summary, reflecting Revenue Requirement Updated for Tax Act, and updated for changes reflected on Schedule HSG-2O (R), Schedule HSG-2P (R), and Schedule HSG-2Q (R) |
| Schedule HSG-1A-1(R) | Pro Forma ACOSS Summary Reflecting a Combined G-32 / G-62 Rate Class, based on Schedule HSG-1A(R)) |
| Schedule HSG-1A-2(R) | ACOSS Summary, reflecting Revenue Requirement Updated for Tax Act (Filed April 3, 2018) |
| Schedule HSG-1C-1(R) | Unit Costs by Functional Classification, based on Schedule HSG-1A(R) |
| Schedule HSG-1C-4(R) | Updated Transformer Costs |
| Schedule HSG-1C-6(R) | Customer-Related Costs for Fixed Charge |
| Schedule HSG-2O(R) | Updated Rate Year 8/31/2019 Class Contributions to 1CP at Voltage Levels |
| Schedule HSG-2P(R) | Updated Rate Year Class 8/31/2019 NCP at Voltage Levels |
| Schedule HSG-2Q(R) | Updated Rate Year MWh Sales at Voltage Levels |
| Schedule HSG-3(R) | Updated Revenue Allocation |
| Schedule HSG-4-D(R) | Updated Rate Design for Large Demand - Rate G-32 / G-62 (includes Back-up Rate B-32 / B-62) |
| Schedule HSG-4-H(R) | Updated 2.4 kV Credit and Transmission Level Credit |
| Schedule HSG-4-K(R) | Updated Proof of Revenue at Proposed Rates |

**Q. What changes are reflected in these schedules?**

A. These schedules reflect the following changes:

- Schedule HSG-2O(R), Schedule HSG-2P(R), and Schedule HSG-2Q(R) reflect that Narragansett Electric serves a portion of Rate G-62 load at 69 kilovolts (kV), which has been determined to be transmission level voltage, and does not serve any Rate G-32 load at transmission level voltage. These changes carry through to Schedule HSG-1A(R), Schedule HSG-1C-1(R), Schedule HSG-1C-4(R), Schedule HSG-1C-6(R), Schedule HSG-3(R), Schedule HSG-4-D(R), Schedule HSG-4-H(R), and Schedule HSG-4-K(R).
- Schedule HSG-4-D(R) corrects an error (noted by Mr. Tillman on page 21 of his direct testimony) that excluded too many kW per customer-month when determining the demand billing units applicable to customers who will migrate from Rate G-62 to Rate G-32.
- Schedule HSG-4-H(R) calculates the Transmission Level Discount (a) using the Rate G-32 / Rate G-62 unitized revenue requirement and (b) converting unitized cost from non-coincident peak (NCP) demand units (the basis for computing the unitized revenue requirement) to billing demand units. These changes carry through to Schedule HSG-4-D(R).
- Schedule HSG-1C-6(R) presents Customer-Related Costs for Fixed Charge, with the removal of certain customer assistance costs (accounts 909, 912, and 916).

**Q. What was the basis for the Updated Revenue Allocation, Schedule HSG-3(R)?**

A. The Updated Revenue Allocation, Schedule HSG-3(R), reflects the Updated ACOSS

Summary presented on Schedule HSG-1A(R), which reflects the Revenue Requirement Updated for the Tax Act, as well as the changes reflected on Schedule HSG-2O(R), Schedule HSG-2P(R) and Schedule HSG-2Q(R), discussed above.

**Q. Was the Updated Revenue Allocation prepared using the same methodology as the original Revenue Allocation?**

A. The Updated Revenue Allocation (Schedule HSG-3(R)) reflects one change to the original Revenue Allocation (Schedule HSG-3). In the original revenue allocation, no class was given a decrease. In the Updated Revenue Allocation, decreases were given to Rate G-32, Lighting, and Rate X-01. This is because the overall distribution increase changed from 14.79 percent, reflecting a $41.3 million increase, on Schedule HSG-3, to a 9.83 percent, reflecting a $27.4 million increase, on Schedule HSG-3(R). As a result, classes that are producing above-average returns could be given decreases and moved closer to cost of service, while still adhering to the principle of gradualism for classes producing below-average returns and needing increases.

**Q. Did you compare the Updated Revenue Allocation to the original Revenue Allocation?**

A. Yes. The table below presents the comparison.

| $ millions | Proposed Increase Schedule HSG-3 | Proposed Increase (Decrease) Schedule HSG-3(R) |
|---|---|---|
| Rate A16-A60 | $31,263 | $23,705 |
| Rate C-06 | 5,002 | 3,583 |
| Rate G-02 | 3,407 | 1,209 |

| $ millions | Proposed Increase Schedule HSG-3 | Proposed Increase (Decrease) Schedule HSG-3(R) |
|---|---|---|
| Rate G32/G62 | 1,603 | (859) |
| Lighting | 0 | (202) |
| Rate X-01 | 0 | (14) |
| **Total** | **$41,275** | **$27,422** |

**Q. Is Narragansett Electric proposing any changes in the methodology used for rate design?**

A. Narragansett Electric is proposing changes in the methodology used to compute Rate G-32 rates. These changes are discussed below. Narragansett Electric is not proposing changes in the methodology used for rate design for any other rate classes.

## III. Responses to Division and Intervenors

1. *Rate A-16 and Rate A-60 Fixed Monthly Charges*

**Q. Please provide an overview of the Division's and Intervenors' positions regarding the fixed monthly charge for Rates A-16 and A-60.**

A. Mssr. Athas, Colton, LeBel, and Rabago object to Narragansett Electric's proposed $8.50 fixed monthly charge for Rate A-16 / A-60 customers. Their reasons and my responses are summarized below:

- Costs included in Fixed Charge – Mssrs. LeBel and Rabago claim that the calculation includes costs that are not appropriate. Narragansett Electric agrees to removing certain customer assistance costs (accounts 909, 912, and 916), and Schedule HSG-1C-6(R) reflects the changes to Narragansett Electric's calculation of the fixed charge, reflecting this removal. The rest of the costs that Mssrs. LeBel and Rabago would exclude, however, are either inseparable from salaries and wages (i.e., such as Employee Pensions and Benefits) or are necessary support costs (i.e., Administrative and General (A&G) and General Plant). Mr. Rabago's recommendation to exclude a portion of meter and billing costs is incorrect because it confuses benefits (a portion of the costs support efficiency and conservation) with cost causation (costs vary with the number of customers).

- Bill Impacts – Mssrs. Athas, Colton, and Rabago claim that the proposed fixed charges ($8.50 for Rate A-16 and a three-year phase-in to $8.50 for Rate A-60) are too great an increase over current charges ($5.00 for Rate A-16 and zero for Rate A-60) and that the impact would fall more on lower usage and lower income customers. Narragansett Electric disagrees. Narragansett Electric gave due consideration to the bill impacts across Rates A-16 / A-60 usage profiles. Its proposal reflects the concept of gradualism, while avoiding having higher usage customers subsidize lower usage customers. The dollar increases are modest, and Narragansett Electric has proposed changes to its low income discount and additional assistance programs for customers burdened by their electric bills.
- Effects on Efficiency and Conservation – Mssrs. LeBel and Rabago make various claims regarding the effects of higher fixed charges and the resulting lower volumetric charges. They claim that lower volumetric rates will

encourage customers to use more electricity and higher fixed charges will encourage them to disconnect. These arguments contradict one another and cannot both be true – customers cannot use more electricity if they disconnect. Mssrs. LeBel and Rabago also claim that higher fixed charges undermine conservation and efficiency efforts, because they claim that higher fixed charges (and correspondingly lower volumetric charges) reduce usage throughout the year. There is no evidence, however, that customers will reduce <u>peak demand</u> as a result of slightly higher volumetric distribution rates, and without a reduction in peak demand, there is no reduction in distribution costs.

- <u>Consideration of Demand Costs</u> – Although Narragansett Electric's proposed fixed charge is below the amount computed using only customer-related costs, Narragansett Electric asserts that a portion of demand costs should be considered for inclusion in a fixed charge. Mssrs. Athas, LeBel, and Rabago object to considering the inclusion of demand costs in a fixed charge. However, more than 90 percent of customers incur the 0.50 kW included for consideration in the fixed charge in any month, and virtually all customers incur that level of demand at least once per year. Therefore, the 0.50 kW demand cost that Narragansett Electric considered for inclusion in the fixed charge is appropriate and cost-based.

**Q. Please summarize your recommendation regarding Narragansett Electric's proposed fixed charge.**

A. I recommend that the PUC accept Narragansett Electric's proposed fixed monthly charge for Rates A-16 and A-60, which is cost-based, gives due consideration to gradualism, and includes only fixed costs that Narragansett Electric incurs each month on behalf of each customer.

*Testimony of Mr. Athas*

**Q. What specific criticisms did Mr. Athas have regarding the proposed fixed monthly charge for Rate A-16?**

A. Mr. Athas objected to the proposed Rate A-16 fixed monthly charge of $8.50, asserting that it is "too aggressive and too fast" a change. (Athas initial testimony at 7). He recommends that the current $5.00 fixed charge remain unchanged.

**Q. Why does Narragansett Electric disagree with Mr. Athas's recommendation and reasoning?**

A. Although Mr. Athas objects to Narragansett Electric's proposed increase to the Rate A-16 fixed charge, his analysis actually supports Narragansett Electric's proposal. Specifically, Mr. Athas acknowledged that "the increase in monthly fixed charges would be consistent with cost causation" (Athas initial testimony at 6). Narragansett Electric asserts that these costs should be paid by the customers that cause them, and to the extent the fixed monthly charge is below the cost, then higher usage customers would subsidize lower usage customers.

**Q. If Mr. Athas's analysis supports Narragansett Electric's proposal, why does he recommend against it?**

A. Mr. Athas cited the following reasons in support of his recommendation (Athas initial testimony at 7):

- The increase for the lowest usage customers would be a "discontinuity";
- The potential installation of Advanced Metering Initiative (AMI) will allow additional rate design options to be explored; and
- Narragansett Electric's "minimum demand concept" is imprecise because 10 percent of customers would be billed for a level of demand they did not use in the month.

**Q. Why does Narragansett Electric disagree with Mr. Athas's reasons?**

A. Narragansett Electric disagrees with these assertions for the reasons set forth below:

- Effect on low usage customers (Discontinuity) – Narragansett Electric gave due consideration to the bill impacts across Rate A-16 usage profiles. Although the percentage increases for lower usage customers are higher, the dollar increases are modest. In addition, Narragansett Electric has proposed a change to its low income discount for eligible customers, as discussed in the joint pre-filed direct and rebuttal testimonies of Company Witnesses Ann E. Leary and Scott M. McCabe.
- Future AMI opportunities – Although AMI may allow additional rate design opportunities, Narragansett Electric has an obligation to propose just and reasonable rates in this case and not wait for AMI, as Mr. Athas suggests.
- Minimum Demand level applies to almost all customers – Mr. Athas acknowledges that the demand level of 0.50 kW "is a level exceeded by nearly all residential customers" (Athas initial testimony at 8). Therefore, Narragansett Electric's proposal to include the related cost, $5.78 per month, when evaluating the fixed monthly charge, is cost-based and appropriate.

**Q. Did Mr. Athas find that the proposed Rate A-16 fixed monthly charge is supported by the ACOSS?**

A. Yes.

**Q. What is your recommendation regarding Mr. Athas's proposal?**

A. The PUC should reject Mr. Athas's recommendation and adopt Narragansett Electric's proposal. In fact, as I have shown, Mr. Athas's work supports Narragansett Electric's proposed Rate A-16 fixed monthly charge of $8.50.

*Testimony of Mr. Colton*

**Q. What specific criticisms did Mr. Colton have regarding the proposed fixed monthly charge for Rate A-16 and Rate A-60?**

A. Mr. Colton objected to the proposed Rate A-16 / Rate A-60 fixed monthly charge of $8.50, contending that the effect on low-usage customers would be too great, and low-usage customers tend to be low income customers. Mr. Colton takes the position that Narragansett Electric's low income discount proposal would not mitigate this effect adequately. He recommends no change to the current $5.00 customer charge. (Colton initial testimony at 86).

**Q. Why does Narragansett Electric disagree with Mr. Colton's positions?**

A. Mr. Colton supports Narragansett Electric's proposed change to its low income discount, a change which would provide a total-bill discount in place of the current discount structure, which has no fixed monthly charge and a discounted base distribution energy rate. An inevitable result of increasing any fixed monthly charge is a larger-than-average percentage bill increase for low usage customers; however, for low-usage customers on Rate A-60, that increase is offset by a lower energy rate and by the total-bill low income discount. Narragansett Electric gave due consideration to the bill impacts across Rate A-60 usage profiles and proposed a phased-in increase to the Rate A-60 fixed charge over three years.

As noted above, Narragansett Electric's proposed monthly Rate A-16/ Rate A-60 fixed charge is cost-based, and to the extent the fixed monthly charge is below the embedded cost represented by this charge, higher usage customers would be subsidizing lower usage customers.

**Q. What is your recommendation regarding Mr. Colton's proposal?**

A. The PUC should reject Mr. Colton's recommendations to keep the Rate A-16 monthly charge at $5.00 and to have the Rate A-60 charge also be $5.00, because they are not cost-based rates.

<u>*Testimony of Mr. LeBel*</u>

**Q. What specific criticisms did Mr. LeBel have regarding the proposed fixed monthly charge for Rate A-16 and Rate A-60?**

A. Mr. LeBel objected to the proposed Rate A-16 fixed monthly charge of $8.50 and listed the following reasons in support of his recommendation (LeBel testimony at 22):

- The fixed monthly charge should not include any demand-related costs;
- Narragansett Electric's calculation of the fixed monthly charge should not include general plant (account 390), miscellaneous distribution expenses (account 588), certain customer assistance costs (accounts 909, 910, 912, and 916), or any A&G costs (accounts 920-935); and

- The calculations of the fixed monthly charge should be updated to reflect the Tax Cuts and Jobs Act (Tax Act).

Mr. LeBel recommended that the fixed monthly charge be set no higher than cost, as computed using the components he recommends, adjusted to reflect the Tax Act. He computed a maximum charge of $7.28 based on Narragansett Electric's original filing, although he notes that Narragansett Electric's revised schedules reflecting the Tax Act will change that amount. He recommends that the charge remain at $5.00 until Narragansett Electric submits a computation that conforms to his recommendation.

In addition, Mr. LeBel claimed that because high fixed charges result in lower volumetric charges, they undermine conservation efforts because higher volumetric charges encourage conservation.

**Q. What is your response to Mr. LeBel's recommendation regarding calculation of the fixed monthly charge?**

A. My response to Mr. LeBel's objection to Narragansett Electric's proposal is as follows:

- <u>Inclusion of demand costs</u> – Narragansett Electric's calculation of the customer-related costs included in the fixed monthly charge presented on Schedule HSG-1C-6(R), showing $9.27 per month for Rate A-16 / A-60, <u>does not include any demand-related costs</u>. The proposed fixed monthly charge of $8.50 is below this amount.

- Removal of certain costs from the calculation – Narragansett Electric has removed certain costs (accounts 909, 912, and 916) from its fixed-charge calculation, as presented in Schedule HSG-1C-6(R). The resulting Rate A-16 / A-60 monthly cost is $9.27, still greater than Narragansett Electric's proposed $8.50 charge. The other items that Mr. LeBel proposes to remove from the calculation should not be removed because they are part of the cost to connect and serve customers. For example, Employee Pensions and Benefits (account 926) are inseparable from the salaries and wages in Distribution O&M (accounts 580-597) and in Customer accounts and service (accounts 901-905); without Employee Pensions and Benefits costs, it would not be possible to perform the functions of connecting, metering, billing, and servicing customers. Other A&G costs and General plant also are necessary for Narragansett Electric to perform these functions. Following Mr. LeBel's thinking, it would be like asking him (or me) to do our jobs without laptops or office space, and without any overhead or support. The definition that Mr. LeBel has chosen is far too narrow and does not reflect Narragansett Electric's costs to perform these functions.
- Update for the Tax Act – Schedule HSG-1C-6(R), submitted with this rebuttal testimony, also reflects the impact of the Tax Act.

**Q. What Rate A-16 / A-60 fixed monthly charge did Mr. LeBel compute?**

A. Mr. LeBel computed a rate of $7.28 before reflecting the Tax Act. His computation excludes Employee Pensions and Benefits (account 926) and all other A&G costs and

General plant. As discussed above, the excluded costs are directly related to Narragansett Electric connecting, metering, billing, and providing customer service, functions that Mr. LeBel agrees are appropriate to include in the fixed charge. Therefore his computation of the charge is not correct.

**Q. Why does Narragansett Electric disagree with Mr. LeBel's view that demand-related costs should not even be considered in the fixed monthly charge?**

A. The fixed monthly charge should include the costs incurred by Narragansett Electric each month; Mr. LeBel agrees that rates should be cost-based. Cost-based rates should include the costs related to the demand level that all (or almost all) customers reach each month. For Rate A-16 / A-60 customers, that demand level is at least 0.50 kW, and the associated cost is $5.50 ($11.03 per kW-month, per Schedule HSG-1C-1(R), times 0.50 kW-month). Therefore, Narragansett Electric incurs this cost nearly every month for all customers, and considering it for inclusion in the fixed charge reflects Narragansett Electric's costs to serve.

**Q. What is Narragansett Electric's position regarding whether lower fixed charges are necessary to promote conservation?**

A. Narragansett Electric's proposed fixed charges represent a cost-based rate design, and Mr. LeBel agrees that fixed charges should be cost-based (even though he disagrees about what costs to include). Mr. LeBel contradicts that position, however, by advocating for a lower fixed charge that is not cost-based, for policy reasons. This approach is flawed for multiple reasons.

First, it is incongruous to advocate for cost-based rates and for policy-based rates at the same time. It is not possible to both achieve the goal of developing a cost-based fixed charge while also artificially deflating fixed charges based on policy concerns.

Second, I disagree that lower fixed charges advance policy considerations in favor of conservation for the following reasons:

- Mr. LeBel presents no evidence that customers will reduce <u>peak demand</u> as a result of slightly higher volumetric distribution rates.
- Mr. LeBel's claim that "rates should be forward-looking" ignores the fact that the ACOSS is based on the future test year.
- Mr. LeBel argues both that lower volumetric rates will encourage customers to use more electricity, and higher fixed charges will encourage them to disconnect. These arguments contradict one another and cannot both be true-customers cannot use more electricity if they disconnect.
- Finally, Mr. LeBel incorrectly argues that Narragansett Electric can recover large capital investments through volumetric charges, and he draws a comparison to oil refineries and apple farms that charge by the gallon / bushel to recover their capital costs. This is a false analogy. Oil refiners and apple farmers can store their products, and their capital investment is not driven by peak demand for their products. Electric utilities currently cannot store their

products, and their capital investments are driven in part by peak demand requirements. This difference means that electric utilities have a greater need for revenue stability mechanisms in addition to volumetric charges to ensure continuous safe and reliable service.

**Q. What is your recommendation regarding Mr. LeBel's proposal?**

A. The PUC should reject Mr. LeBel's recommendations. His definition of which costs to recover in the fixed monthly charge excludes most of the necessary costs for connecting, metering, billing, and providing customer service to a customer. His reasoning for excluding demand-based costs is contrary to his contention that the charge be cost-based. Even if the PUC accepts Mr. LeBel's definition of included costs, there is no reason to keep the Rate A-16 charge at $5.00, when even his own computation is a charge of $7.28. The PUC should accept Narragansett Electric's proposal.

*Testimony of Mr. Rabago*

**Q. What specific additional criticisms did Mr. Rabago have regarding the proposed fixed monthly charge for Rate A-16 and Rate A-60?**

A. Mr. Rabago objects to the proposed Rate A-16 / A-60 fixed monthly charge of $8.50 for the following reasons (Rabago testimony at 28):

- Mr. Rabago claims that because the percentage increase for lower usage customers on Rate A-16 / A-60 would be greater than for other customers, and lower usage customers tend to be lower income customers, they would be less able to afford an increase.

- Mr. Rabago claims that the calculation of the monthly charge should not include General Plant (account 390) or A&G costs (accounts 920-935), in part because those costs are not primarily a function of the number of customers served.
- Mr. Rabago claims that a portion of meter costs and billing costs are not customer-related because they support programs such as energy efficiency, demand response, and scheduling, and should be excluded from the calculation.

Overall Mr. Rabago recommended that the fixed monthly charge be set no higher than cost, as computed using the components he recommends. He computed a maximum charge of $5.90 based on the data from Narragansett Electric's original filing.

**Q. Does Narragansett Electric agree with Mr. Rabago's recommendation? Why or why not?**

A. No. Regarding the specific reasons that Mr. Rabago listed for objecting to Narragansett Electric's proposal, Narragansett Electric responds as follows:

- <u>Higher percentage increase for lower usage customers</u> – This matter is discussed above in my discussion of Mr. Athas' testimony.
- <u>Removal of General plant and A&G costs</u> – I disagree that General Plant (account 390) and A&G costs (accounts 920-935) should be excluded from the calculation, for the reasons discussed above regarding Mr. LeBel's testimony.
- <u>Removal of a portion of Meter and Billing costs</u> – Mr. Rabago is incorrect in his assertion that portions of meter costs and billing costs are not customer-related

> because metering and billing efforts support programs such as energy efficiency, demand response, and scheduling. Supporting these programs is the <u>benefit</u> provided by the metering and billing functions; however, the <u>cost</u> is clearly driven by the number of customers.

Schedule HSG-1C-6(R) presents the calculation of the maximum fixed monthly charge with certain costs (accounts 909, 912, and 916) removed from the calculation. The resulting Rate A-16 / A-60 monthly cost is $9.27, still greater than Narragansett Electric's proposed $8.50. The other items that Mr. Rabago proposes to remove should not be removed, as discussed above.

**Q. Did Mr. Rabago correctly compute the effect of removing General Plant and A&G?**

A. No. Mr. Rabago's calculation is incorrect and materially understates the fixed charge, even allowing for the adjustments for which he advocates. Mr. Rabago deducts the General Plant rate base asset <u>at cost</u> from the computation of the fixed customer charge. The correct way to remove General Plant is to remove from rate base the asset and accumulated depreciation, and to remove from the revenue requirement the associated return and income taxes, as well as depreciation expense. The PUC should ignore his computation.

**Q. Did Mr. Rabago discuss the inclusion of demand-related costs and other fixed costs in the fixed charge?**

A. Yes. Mr. Rabago states that only customer-related costs should be recovered in the fixed charge (above, I address which customer-related costs to include), and that even fixed costs should not necessarily be recovered in the fixed charge. His reasons are as follows:

- Mr. Rabago claims that higher fixed charges should be avoided because low usage customers are disproportionately impacted.
- Mr. Rabago claims that if utilities are "guaranteed" cost recovery through fixed charges, they have incentives to overbuild the system. He states there is no evidence that recovering fixed costs through fixed charges improves efficiency.
- Mr. Rabago claims that higher fixed charges have adverse effects on energy efficiency, conservation, and renewables, based on his claim that higher volumetric rates provide incentives to reduce peak demand. He claims also that higher volumetric charges for on-peak usage can support demand response programs and storage.

**Q. Do you agree with Mr. Rabago's opinions regarding the impact of fixed charges? Why or why not?**

A. No. The policy considerations raised by Mr. Rabago do not align with lower fixed charges for the following reasons:

- <u>Effect on lower usage customers</u> – My response to Mr. Rabago's claim regarding the impact of higher fixed charges on low usage customers is discussed above.
- <u>Incentive to overbuild and efficiency</u> – Mr. Rabago is incorrect in claiming that utilities have an incentive to overbuild because fixed charges "guarantee" cost

recovery. Every utility investment must be prudently incurred to be eligible for cost recovery.

- Conservation – Mr. Rabago's claim that higher volumetric rates provide incentives to reduce peak demand is unsupported. In fact, it is just as plausible that customers will engage in efficiency and conservation during the year, but still set the air-conditioner to maximum on the hottest days. In this low-load-factor scenario, the utility still needs to build the distribution system to meet peak demand, but will not have the revenue to pay for it if customers reduce their year-round usage.

**Q. What is your recommendation regarding Mr. Rabago's proposal?**

A. The PUC should reject Mr. Rabago's proposal. He excludes necessary costs, such as metering and customer accounting, that are nearly universally accepted as appropriate for the fixed charge. His arguments regarding the adverse effects of higher customer charges / lower volumetric charges rely on unsupported assumptions (e.g., that customers will reduce peak demand and maintain the same load factors in response to higher volumetric charges). His claim that it is not necessary to recover fixed costs on a fixed basis would add uncertainty to investment planning. His claim that lower usage customers would be disproportionately affected assumes that gradualism outweighs alignment with costs. The PUC should accept Narragansett Electric's proposal, which is cost-based, gives due consideration to gradualism, and includes only fixed costs that Narragansett Electric incurs each month on behalf of each customer.

2. *Rate C-06 Fixed Monthly Charge*

*Testimony of Mr. Rabago*

**Q. What is Mr. Rabago's position on Narragansett Electric's proposed Rate C-06 fixed monthly charge?**

A. Mr. Rabago objected to the proposed Rate C-06 fixed monthly charge of $13.00. He proposes that Narragansett Electric reduce the charge from the present $10.00 to $7.48 (Rabago testimony at 32), based on his exclusion of General Plant (account 390) and A&G costs (accounts 920-935). His arguments are the same as he presented for Rates A-16 / A-60. He computes a fixed charge of $7.48 for Rate C-06.

**Q. Please comment on Mr. Rabago's recommendation on the fixed monthly charge for Rate C-06.**

A. Mr. Rabago's proposal to exclude General Plant (account 390) and A&G costs (accounts 920-935) from the calculation is incorrect, for the reasons presented above with regard to Rates A-16 / A-60. Even if the costs do not vary directly and linearly with the number of customers, without these costs it would not be possible to perform the functions of connecting, metering, billing, and servicing customers.

**Q. Did Mr. Rabago correctly compute the effect of removing General Plant and A&G?**

A. No. Mr. Rabago's calculation is incorrect and materially understates the fixed charge, even allowing for the adjustments for which he advocates. Just as for Rates A-16 / A-60, Mr. Rabago deducts the General Plant rate base asset at cost, not at net book value, from the computation of the fixed monthly charge. The PUC should ignore his computation.

**Q. What is your recommendation regarding Mr. Rabago's proposal for Rate C-06?**

A. The PUC should reject Mr. Rabago's proposal regarding Rate C-06, for the same reasons as stated above with regard to Rates A-16 / A-60. The PUC should accept Narragansett Electric's proposal, which is cost-based, gives due consideration to gradualism, and includes only fixed costs Narragansett Electric incurs each month on behalf of each customer.

3. *Revenue Allocation*

*Supplemental Testimony of Mr. Athas*

**Q. What is Mr. Athas' position on Narragansett Electric's proposed revenue allocation?**

A. Mr. Athas believes that the revenue increase to Rate A-16 / Rate A-60 proposed in Schedule HSG-3 (REV-1) does not meet the test of gradualism. (Athas supplemental testimony at 9). He recommends that given a company-average increase of 10.1 percent, the increase for Rate A-16 / Rate A-60 should be limited to 14.8 percent, which he described as 1.5 times the average increase.

**Q. Did Mr. Athas have general recommendation on revenue allocation?**

A. Yes. He believes that class-relative increases should be considered in the context of the size of the overall (average) increase. He gave an example where if the overall increase is 3.3 percent, even 2 times the average increase would be acceptable, because 6.6 percent is a modest increase.

**Q. Did Mr. Athas have a specific revenue allocation proposal?**

A. No. Consistent with his belief that class relative increases should be considered in the context of the size of the overall increase, he deferred making a specific proposal until the overall increase is known.

**Q. Do you agree with Mr. Athas' recommendation that class relative increases should be considered in the context of the magnitude of the overall increase?**

A. Yes. I strongly agree that class increases must be evaluated not based on a single factor such as relative increases, but based on the overall picture including the overall increase and bill impacts.

**Q. Do you agree with Mr. Athas's finding that the proposed increase for Rate A-16 / Rate A-60 does not meet the test of gradualism?**

A. No. I disagree with Mr. Athas. I believe that Narragansett Electric's proposed 16.4 percent increase (Schedule HSG-3(R) at 2, line 42) for Rate A-16 / Rate A-60 is a reasonable balance of moving the classes closer to cost of service, and gradualism. I also note that the proposed increase, $23.7 million(Schedule HSG-3(R) at 2, line 41), is well below the $31.2 million increase on Schedule HSG-3 (original filing) and very close to the $23.0 million increase proposed on Schedule HSG 3 (REV-1) (Tax Act update).

*Testimony of Mr. Al-Jabir*

**Q. What does Mr. Al-Jabir propose with respect to Narragansett Electric's proposed revenue allocation?**

A. Mr. Al-Jabir recommends that the Rate G-62 increase be capped at 1.5 times the system average increase, instead of the 1.62 times reflected on Schedule HSG-3 or the 1.75 times reflected on Schedule HSG-3 (REV-1). (Al-Jabir testimony at 3). Mr. Al-Jabir asserted that Narragansett Electric's proposal violated the principle of gradualism and was not consistent with the rate increase cap applied in RIPUC Docket No. 4065.

**Q. What is Narragansett Electric's position regarding Mr. Al-Jabir's concerns?**

A. Narragansett Electric's original proposal, presented on Schedule HSG-3, was a reasonable balance of moving the classes closer to cost of service, and it reflected the concept of gradualism. In any event, the revenue allocation submitted herein, Schedule HSG-3(R), proposes an increase for Rate G-62 that is much smaller, and I believe Mr. Al-Jabir's concerns have been addressed.

4. *Consolidation of Rates G-32 and G-62*

*Supplemental Testimony of Mr. Althas*

**Q. Did Mr. Athas support Narragansett Electric's proposed consolidation of Rates G-32 and G-62?**

A. Yes. Mr. Athas found that consolidation of the two rate classes into one rate class for large demand customers with over 200 kW demand was "reasonable," and would not unreasonably violate cost of service principles. (Athas supplemental testimony at 9). He requested Narragansett Electric prepare an ACOSS that presents Rates G-32 and G-62 as a single class, but does not expect this to cause a large deviation from the existing ACOSS, and "would not affect my support for consolidation of the two rate classes," although he noted it could affect revenue allocation.

**Q. Has Narragansett Electric prepared an ACOSS using that approach?**

A. Yes. Schedule HSG-1A-1(R) presents the ACOSS prepared with Rates G-32 and G-62 as a single class. It indicates that a <u>decrease</u> of $1,189,000 is needed for the combined class to produce the system average rate of return. This is very close to the ACOSS submitted by Narragansett Electric as Schedule HSG-1A(R), which indicated that a <u>net decrease</u> of $1,136,000 is needed. Therefore, Narragansett Electric recommends relying on the ACOSS study with the two classes shown separately (Schedule HSG-1A(R)) for revenue allocation and rate design, instead of introducing a new set of schedules for a very small change. This will demonstrate that, without this consolidation, customers on Rate G-62 would migrate to Rate G-32, resulting in revenue loss for Narragansett Electric that would be paid for by all customers under Narragansett Electric's Revenue Decoupling Mechanism.

<u>*Testimony of Mr. Al-Jabir*</u>

**Q. What did Mr. Al-Jabir propose in response to Narragansett Electric's proposed consolidation of Rates G-32 and G-62?**

A. Mr. Al-Jabir objects to the consolidation, because it would cause the Navy an increase greater than 1.50 times the system average, which he contends would be inconsistent with gradualism.

**Q. Does the Company agree with Mr. Al-Jabir's position on the proposed consolidation? Why or why not?**

A. Mr. Al-Jabir objects to the proposed consolidation only because it would cause the Navy an increase which he believes is too high. Based on the revenue allocation (Schedule HSG-3(R)) and rate design (Schedule HSG-4-D(R)) submitted with this rebuttal testimony, the Navy would have very nearly the same result under the proposed Rate G-32 rates as under a hypothetical Rate G-62 rate design (if Narragansett Electric were not proposing to eliminate Rate G-62), and, therefore, I believe that Mr. Al-Jabir's concerns have been addressed.

*Testimony of Mr. Tillman*

**Q. What comments did Mr. Tillman have on Narragansett Electric's proposed consolidation of Rates G-32 and G-62?**

A. Mr. Tillman recommended that the PUC reject the method used by Narragansett Electric to combine the rates and require Narragansett Electric to prepare an ACOSS that represents Rates G-32 and G-62 as a single class. As discussed above, Narragansett Electric prepared an ACOSS with Rates G-32 and G-62 as a single class, with results presented in Schedule HSG-1A-1(R), which shows only a very small change.

**Q. Please comment on Mr. Tillman's position.**

A. Although, in principle, Mr. Tillman's position is logical, as discussed above, the ACOSS with Rates G-32 and G-62 as a single class is only slightly different than the ACOSS presented in Schedule HSG-1A-1(R). Therefore, Narragansett Electric recommends relying on the ACOSS with the two classes shown separately (Schedule HSG-1A(R)) for revenue allocation and rate design, instead of introducing a new set of schedules for a very small change.

**Q. Please summarize the discussion of the consolidation of Rates G-32 and G-62.**

A. No party has raised valid objections to Narragansett Electric's proposal. Mr. Al-Jabir objected because it gave the Navy a large increase. Mr. Tillman did not object in principle. Narragansett Electric has prepared the ACOSS requested by Mr. Athas and Mr. Tillman and it produced very nearly the same result as Narragansett Electric's ACOSS (Schedule HSG-1A(R)). I recommend the PUC accept Narragansett Electric's proposal to consolidate Rate G-32 and Rate G-62.

5. *Fox Point Hurricane Barrier*

*Testimony of Mr. Al-Jabir*

**Q. What is the Fox Point Hurricane Barrier?**

A. The Fox Point Hurricane Barrier (Hurricane Barrier) is designed to protect the City of Providence from flooding. It is tested periodically. Operation of the Hurricane Barrier requires a power surge, which means the demand will spike. The Hurricane Barrier takes service under Rate G-32, which includes a fixed charge, a volumetric charge, and a demand charge assessed to a billing demand based on on-peak metered demand with the application of a ratchet. The customer can avoid the ratchet by managing its operations such that their maximum energy needs occur during the off-peak period and/or paying the optional determination of demand pursuant to the Rate G-32 tariff, which is a 20 percent premium on the demand rate.

**Q. What did Mr. Al-Jabir propose regarding the proposed rate for the Fox Point Hurricane Barrier?**

A. Mr. Al-Jabir requested that a special rate be developed for the Hurricane Barrier due to its unique operating characteristics. (Al-Jabir testimony at 14).

**Q. Does the Company agree with Mr. Al-Jabir's proposal? Why or why not?**

A. The Company does not agree with Mr. Al-Jabir's proposal. The Barrier represents a significant electrical load, and Narragansett Electric has distribution assets in place to serve that load regardless of when it occurs and cannot use those assets to serve other load. Therefore, Narragansett Electric should be compensated for the distribution system assets that have been constructed to serve the Hurricane Barrier.

The United States Army Corps of Engineers (USACE), which operates the Hurricane Barrier, has begun conducting its periodic testing during off-peak periods. This will avoid demand charges based on the Hurricane Barrier's testing load, in response to the price signal of Rate G-32. Therefore, there is no need for a special rate for the Hurricane Barrier.[2]

6. *Rate Design for High Voltage Delivery Discounts and Rate G-32*

**Q. Is Narragansett Electric proposing any changes in approach in its rate design?**

A. Yes. Narragansett Electric is proposing to revise the design for the High Voltage Delivery (HVD) discount for customers that take service at transmission voltage.

**Q. Why is Narragansett Electric proposing to make this change in the calculation of the HVD discount?**

A. The present HVD discount is available to customers taking service at 115 kV. In fact, very little of Narragansett Electric's system is operated at 115 kV, and Narragansett Electric considers transmission voltage to be 69 kV and up. Therefore, Narragansett Electric is proposing to establish 69 kV as the appropriate voltage level to determine eligibility for the HVD discount.

**Q. What schedules are affected by this change in defining service at transmission voltage?**

A. The updated HVD is computed on Schedule HSG-4D(R), and the result is used in the Rate G-32 rate design shown on Schedule HSG-4D(R).

[2] If the Hurricane Barrier is required to be operated during on-peak hours as a result of a weather event, the tariff includes a provision for the USACE to request from the Company a waiver of the demand ratchet for months 2 through 12.

**Q. Were there any other considerations in making this change?**

A. Yes. First, Narragansett Electric modified the billing determinants in the Rate G-32 rate design to reflect customers connected to transmission voltage at 69 kV. Second, Narragansett Electric proposes to revise its Rate G-32 tariff to clarify that transmission voltage is 69 kV and that customers are eligible for the additional HVD discount if they are receiving service at transmission voltage. The revision to the Rate G-32 tariff is presented in the rebuttal testimony of Mr. McCabe.

## IV. Conclusion

**Q. Does this conclude your rebuttal testimony today?**

A. Yes.

## Index of Schedules

| | |
|---|---|
| Schedule HSG-1A(R) | Updated ACOSS Summary, reflecting Revenue Requirement Updated for Tax Act, and updated for changes reflected on Schedule HSG-2O (R), Schedule HSG-2P (R), and Schedule HSG-2Q (R) |
| Schedule HSG-1A-1(R) | Pro Forma ACOSS Summary Reflecting a Combined G-32 / G-62 Rate Class, based on Schedule HSG-1A(R)) |
| Schedule HSG-1A-2(R) | ACOSS Summary, reflecting Revenue Requirement Updated for Tax Act (Filed April 3, 2018) |
| Schedule HSG-1C-1(R) | Unit Costs by Functional Classification, based on Schedule HSG-1A(R) |
| Schedule HSG-1C-4(R) | Updated Transformer Costs |
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| Schedule HSG-2O(R) | Updated Rate Year 8/31/2019 Class Contributions to 1CP at Voltage Levels |
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| Schedule HSG-4D(R) | Updated Rate Design for Large Demand - Rate G-32 / G-62 (includes Back-up Rate B-32 / B-62) |
| Schedule HSG-4H(R) | Updated 2.4 kV Credit and Transmission Level Credit |
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Schedule __ HSG-1A(R)

Updated ACOSS Summary, reflecting Revenue Requirement Updated for

Tax Act, and updated for changes reflected on Schedule HSG-2O (R),

Schedule HSG-2P (R), and Schedule HSG-2Q (R)

Sum
Sch. HSG-1A(R)
Tot
Summary

Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Summary of Results**

| Line | Account | Balance | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Distribution revenue | 270,662 | 144,451 | 28,729 | 42,965 | 38,950 | 6,584 | 8,291 | 692 |
| 2 | Late Payments Charges | 1,657 | 884 | 176 | 263 | 238 | 40 | 51 | 4 |
| 3 | Other revenue | 6,873 | 3,837 | 759 | 1,150 | 811 | 146 | 163 | 7 |
| 4 | Total Revenue | 279,192 | 149,173 | 29,664 | 44,378 | 39,999 | 6,770 | 8,505 | 703 |
| 5 | | | | | | | | | |
| 6 | Expenses | 246,609 | 138,924 | 27,085 | 36,591 | 30,851 | 5,458 | 7,514 | 187 |
| 7 | Net income | 32,583 | 10,249 | 2,579 | 7,787 | 9,148 | 1,313 | 990 | 516 |
| 8 | | | | | | | | | |
| 9 | Rate Base | 726,440 | 403,293 | 74,680 | 116,666 | 104,940 | 18,411 | 8,244 | 207 |
| 10 | | | | | | | | | |
| 11 | Return on Rate Base | 4.4853% | 2.54% | 3.45% | 6.68% | 8.72% | 7.13% | 12.01% | 249.83% |
| 12 | *Relative Return* | *1.00* | *0.57* | *0.77* | *1.49* | *1.94* | *1.59* | *2.68* | *55.70* |
| 13 | Revenue Requirement | 306,626 | 173,621 | 33,390 | 45,783 | 38,740 | 6,893 | 8,085 | 115 |
| 14 | | | | | | | | | |
| 15 | Operating expenses | 150,755 | 85,546 | 16,584 | 21,932 | 17,466 | 3,277 | 5,879 | 71 |
| 16 | Uncollectibles- Delivery | 4,479 | 2,536 | 488 | 669 | 566 | 101 | 118 | 2 |
| 17 | Depreciation expense | 50,933 | 30,019 | 5,796 | 6,955 | 6,314 | 995 | 840 | 14 |
| 18 | General tax / Other | 35,648 | 19,539 | 3,859 | 5,819 | 5,031 | 877 | 512 | 10 |
| 19 | GRT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | | 241,815 | 137,640 | 26,727 | 35,374 | 29,377 | 5,251 | 7,350 | 96 |
| 21 | Pre-tax income | 64,811 | 35,981 | 6,663 | 10,409 | 9,363 | 1,643 | 735 | 18 |
| 22 | Income taxes | 10,837 | 6,016 | 1,114 | 1,740 | 1,565 | 275 | 123 | 3 |
| 23 | Net income | 53,974 | 29,965 | 5,549 | 8,668 | 7,797 | 1,368 | 613 | 15 |
| 24 | | | | | | | | | |
| 25 | Return on Rate Base | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% |
| 26 | | | | | | | | | |
| 27 | Revenue increase (decrease) | 27,434 | 24,448 | 3,726 | 1,405 | (1,259) | 123 | (419) | (589) |
| 28 | Revenue increase (decrease) % | 9.83% | 16.39% | 12.6% | 3.16% | (3.1%) | 1.82% | (4.9%) | (83.7%) |
| 29 | Relative incr (decr) | *1.00* | *1.67* | *1.28* | *0.32* | *(0.32)* | *0.18* | *(0.50)* | *(8.52)* |

THE NARRAGANSETT ELECTRIC COMPANY
d/b/a NATIONAL GRID
RIPUC Docket No. 4770
Schedule HSG-1A(R)
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Schedule __ HSG-1A-1(R)

Pro Forma ACOSS Summary Reflecting a Combined

G-32 / G-62 Rate Class, based on Schedule HSG-1A(R))

Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R- Pro Forma Combined)
**Summary of Results**



| Line | Account | Balance | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Distribution revenue | 270,662 | 144,451 | 28,729 | 42,965 | 45,534 | 0 | 8,291 | 692 |
| 2 | Late Payments Charges | 1,657 | 884 | 176 | 263 | 279 | 0 | 51 | 4 |
| 3 | Other revenue | 6,873 | 3,839 | 759 | 1,150 | 955 | 0 | 163 | 7 |
| 4 | Total Revenue | 279,192 | 149,174 | 29,664 | 44,378 | 46,767 | 0 | 8,505 | 703 |
| 5 | | | | | | | | | |
| 6 | Expenses | 246,609 | 139,005 | 27,086 | 36,553 | 36,263 | 0 | 7,516 | 187 |
| 7 | Net income | 32,583 | 10,170 | 2,578 | 7,826 | 10,505 | (0) | 989 | 516 |
| 8 | | | | | | | | | |
| 9 | Rate Base | 726,440 | 403,527 | 74,667 | 116,449 | 123,342 | 0 | 8,248 | 207 |
| 10 | | | | | | | | | |
| 11 | Return on Rate Base | 4.4853% | 2.52% | 3.45% | 6.72% | 8.52% | - | 11.99% | 249.32% |
| 12 | *Relative Return* | *1.00* | *0.56* | *0.77* | *1.50* | *1.90* | | *2.67* | *55.59* |
| 13 | Revenue Requirement | 306,626 | 173,737 | 33,391 | 45,718 | 45,579 | 0 | 8,087 | 115 |
| 14 | | | | | | | | | |
| 15 | Operating expenses | 150,755 | 85,617 | 16,591 | 21,931 | 20,665 | 0 | 5,880 | 71 |
| 16 | Uncollectibles- Delivery | 4,479 | 2,538 | 488 | 668 | 666 | 0 | 118 | 2 |
| 17 | Depreciation expense | 50,933 | 30,030 | 5,791 | 6,921 | 7,338 | 0 | 840 | 14 |
| 18 | General tax / Other | 35,648 | 19,551 | 3,859 | 5,809 | 5,906 | 0 | 513 | 10 |
| 19 | GRT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | | 241,815 | 137,735 | 26,729 | 35,329 | 34,575 | 0 | 7,351 | 96 |
| 21 | Pre-tax income | 64,811 | 36,002 | 6,662 | 10,389 | 11,004 | 0 | 736 | 18 |
| 22 | Income taxes | 10,837 | 6,020 | 1,114 | 1,737 | 1,840 | 0 | 123 | 3 |
| 23 | Net income | 53,974 | 29,982 | 5,548 | 8,652 | 9,164 | 0 | 613 | 15 |
| 24 | | | | | | | | | |
| 25 | Return on Rate Base | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% |
| 26 | | | | | | | | | |
| 27 | Revenue increase (decrease) | 27,434 | 24,562 | 3,727 | 1,340 | (1,189) | | (418) | (588) |
| 28 | Revenue increase (decrease) % | 9.83% | 16.47% | 12.6% | 3.02% | (2.5%) | | (4.9%) | (83.7%) |
| 29 | Relative incr (decr) | *1.00* | *1.68* | *1.28* | *0.31* | *(0.26)* | | *(0.50)* | *(8.51)* |



THE NARRAGANSETT ELECTRIC COMPANY
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Schedule __ HSG-1A-2(R)

ACOSS Summary, reflecting Revenue Requirement Updated

for Tax Act (Filed April 3, 2018)

Sum
Sch. HSG-1A-2(R)
Tot
Summary

Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (REV-1)
**Summary of Results**

| Line | Account | Balance | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Distribution revenue | 270,662 | 144,451 | 28,729 | 42,965 | 38,950 | 6,584 | 8,291 | 692 |
| 2 | Late Payments Charges | 1,657 | 884 | 176 | 263 | 238 | 40 | 51 | 4 |
| 3 | Other revenue | 6,873 | 3,833 | 758 | 1,148 | 802 | 162 | 163 | 7 |
| 4 | Total Revenue | 279,192 | 149,168 | 29,663 | 44,377 | 39,991 | 6,786 | 8,504 | 703 |
| 5 | | | | | | | | | |
| 6 | Expenses | 246,609 | 138,729 | 27,047 | 36,531 | 30,458 | 6,145 | 7,511 | 187 |
| 7 | Net income | 32,583 | 10,439 | 2,616 | 7,845 | 9,533 | 641 | 993 | 517 |
| 8 | | | | | | | | | |
| 9 | Rate Base | 726,440 | 402,348 | 74,498 | 116,382 | 103,024 | 21,752 | 8,229 | 207 |
| 10 | | | | | | | | | |
| 11 | Return on Rate Base | 4.4853% | 2.59% | 3.51% | 6.74% | 9.25% | 2.95% | 12.07% | 249.87% |
| 12 | *Relative Return* | *1.00* | *0.58* | *0.78* | *1.50* | *2.06* | *0.66* | *2.69* | *55.71* |
| 13 | Revenue Requirement | 306,626 | 173,307 | 33,330 | 45,688 | 38,106 | 8,001 | 8,080 | 115 |
| 14 | | | | | | | | | |
| 15 | Operating expenses | 150,755 | 85,415 | 16,558 | 21,889 | 17,209 | 3,736 | 5,877 | 71 |
| 16 | Uncollectibles- Delivery | 4,479 | 2,532 | 487 | 667 | 557 | 117 | 118 | 2 |
| 17 | Depreciation expense | 50,933 | 29,970 | 5,787 | 6,943 | 6,207 | 1,173 | 839 | 14 |
| 18 | General tax / Other | 35,648 | 19,494 | 3,851 | 5,805 | 4,941 | 1,034 | 512 | 10 |
| 19 | GRT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | | 241,815 | 137,411 | 26,683 | 35,304 | 28,914 | 6,060 | 7,346 | 96 |
| 21 | Pre-tax income | 64,811 | 35,897 | 6,647 | 10,383 | 9,192 | 1,941 | 734 | 18 |
| 22 | Income taxes | 10,837 | 6,002 | 1,111 | 1,736 | 1,537 | 325 | 123 | 3 |
| 23 | Net income | 53,974 | 29,894 | 5,535 | 8,647 | 7,655 | 1,616 | 611 | 15 |
| 24 | | | | | | | | | |
| 25 | Return on Rate Base | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% | 7.43% |
| 26 | | | | | | | | | |
| 27 | Revenue increase (decrease) | 27,434 | 24,139 | 3,667 | 1,311 | (1,885) | 1,215 | (424) | (589) |
| 28 | Revenue increase (decrease) % | 9.83% | 16.18% | 12.4% | 2.95% | (4.7%) | 17.90% | (5.0%) | (83.7%) |
| 29 | Relative incr (decr) | *1.00* | *1.65* | *1.26* | *0.30* | *(0.48)* | *1.82* | *(0.51)* | *(8.52)* |

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Schedule __ HSG-1C-1(R)

Unit Costs by Functional Classification, based on Schedule HSG-1A(R)

FuncClass
Sch. HSG-1C-1(R)
Tot
Unit Cost

Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Unit Costs By Functional Classification**

| | Account Description | Total | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Demand-related | | | | | | | | |
| 2 | SubTransmission | 21,642 | 9,842 | 1,975 | 3,675 | 4,825 | 1,043 | 185 | 96 |
| 3 | Primary Dist | 142,923 | 70,419 | 14,028 | 23,585 | 28,476 | 5,219 | 1,194 | 2 |
| 4 | Secondary Dist | 72,870 | 43,786 | 8,891 | 15,535 | 3,748 | 311 | 597 | 2 |
| 5 | | 237,435 | 124,048 | 24,894 | 42,795 | 37,049 | 6,573 | 1,976 | 100 |
| 6 | Per kW / month-Transmission Level | | | | | | | | |
| 7 | SubTransmission | $0.93 | $0.87 | $0.88 | $0.97 | $1.04 | $1.03 | $1.00 | $0.72 |
| 8 | Primary Dist | $6.15 | $6.26 | $6.24 | $6.22 | $6.16 | $5.13 | $6.49 | $0.02 |
| 9 | Secondary Dist | $3.13 | $3.89 | $3.96 | $4.09 | $0.81 | $0.31 | $3.25 | $0.01 |
| 10 | Total Per kW / month | $10.21 | $11.03 | $11.08 | $11.28 | $8.01 | $6.46 | $10.75 | $0.76 |
| 11 | | | | | | | | | |
| 12 | NCP_at_115 | 1,938 | 938 | 187 | 316 | 385 | 85 | 15 | 11 |
| 14 | Customer-related | | | | | | | | |
| 15 | Primary Dist | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Secondary Dist | 25,512 | 17,241 | 1,965 | 356 | 111 | 19 | 5,819 | 0 |
| 17 | Billing | 43,679 | 32,332 | 6,531 | 2,631 | 1,579 | 301 | 291 | 14 |
| 18 | | 69,191 | 49,573 | 8,496 | 2,988 | 1,691 | 320 | 6,110 | 14 |
| 19 | Per monthly bill | | | | | | | | |
| 20 | Primary Dist | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 21 | Secondary Dist | $4.19 | $3.26 | $3.14 | $3.40 | $8.37 | $120.72 | $96.57 | $20.63 |
| 22 | Billing | $7.17 | $6.12 | $10.42 | $25.07 | $118.69 | $1,926.41 | $4.82 | $1,147.80 |
| 23 | **Per bill** | $11.36 | $9.38 | $13.56 | $28.47 | $127.06 | $2,047.13 | $101.40 | $1,168.43 |
| 24 | | | $7.80 | $12.20 | $53.72 | $318.41 | $2,909.22 | $2.55 | $1,075.89 |
| 25 | Number of Bills | 6,089,923 | 5,284,666 | 626,592 | 104,935 | 13,307 | 156 | 60,254 | 12 |
| 27 | Regulatory Asset Amortization | | | | | | | | |
| 28 | Billing | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 29 | Per MWh | - | - | - | - | - | - | - | - |
| 30 | Number of MWh | 7,772,456 | 3,186,181 | 647,655 | 1,394,628 | 2,020,572 | 432,365 | 67,092 | 23,963 |
| 32 | Competitive | | | | | | | | |
| 33 | Competitive | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 34 | Open | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 36 | Per monthly bill | | | | | | | | |
| 37 | Competitive | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 38 | Open | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 39 | | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 | $0.00 |
| 41 | Total revenue requirement | 306,626 | 173,621 | 33,390 | 45,783 | 38,740 | 6,893 | 8,085 | 115 |

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Updated Transformer Costs

Xfmr
HSG-1C-4(R)
Inp
Transformer Cc

Narragansett Electric Company d/b/a National Gri
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Transformer Costs**

| | Account Description | Total |
|---|---|---|
| 1 | Line Transformer cost, net | 72,402 |
| 2 | Other Rate Base items, net | (8,662) |
| 3 | Line Transfomer-Related Rate Base | 63,740 |
| 4 | Rate of return on rate base | 7.43% |
| 5 | Return on Service / Meter rate base | 4,736 |
| 6 | Income tax gross-up | 951 |
| 7 | **Return component** | **5,687** |
| 8 | | |
| 9 | Maintenence-Line Transformers | 392 |
| 10 | Line Transformers share of A&G costs | 512 |
| 11 | Line Transformers Depreciation Expense | 7,052 |
| 12 | **Expense component** | **7,956** |
| 13 | | |
| 14 | **Revenue requirement-total** | **13,643** |
| 15 | | |
| 16 | Demand units | 1,341,258 |
| 17 | | |
| 18 | **Transformer Cost per Month** | **$0.85** |
| 19 | | |
| 20 | Annual Demand Units- B32/G32/B62/G62 | 3,442,070 |
| 21 | Annual Billing Demand Units- B32/G32/B62/G62 | 7,608,765 |
| 22 | **Convert NCP to Billing Units** | **$0.38** |
| 23 | | |
| 24 | Distribution Plant in Service, net | 825,165 |
| 25 | Transformers % of Plant | 8.8% |
| 26 | Other Rate Base items, net | (98,725) |
| 27 | | |
| 28 | Distribution O&M | 45,024 |
| 29 | Customer Accounts | 22,124 |
| 30 | | 67,148 |
| 31 | Line Transformers % of Operating Costs | 0.6% |
| 32 | A&G Costs | 87,729 |
| 33 | | |
| 34 | Income tax gross-up | 20.1% |



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Customer-Related Costs for Fixed Charge

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Tot
Customer

Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Customer-Related Costs for Fixed Charge**

| Line | Account | No. | Balance | Check | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | I. ELECTRIC PLANT IN SERVICE | | | | | | | | | | |
| 2 | A. HYDRO PRODUCTION PL/ | | | | | | | | | | |
| 3 | Production Plant | 302 | - | | - | - | - | - | - | - | - |
| 4 | Hydro Production Plant | | - | | - | - | - | - | - | - | - |
| 5 | | | | | | | | | | | |
| 6 | C. TRANSMISSION PLANT | | | | | | | | | | |
| 7 | Transmission Plant | 361 | - | | - | - | - | - | - | - | - |
| 8 | Transmission Plant | 350-359 | - | | - | - | - | - | - | - | - |
| 9 | | | | | | | | | | | |
| 10 | D. DISTRIBUTION PLANT | | | | | | | | | | |
| 11 | Land and Land Rights | 360 | - | | - | - | - | - | - | - | - |
| 12 | Structures and Improvements | 361 | - | | - | - | - | - | - | - | - |
| 13 | Station Equipment | 362 | - | | - | - | - | - | - | - | - |
| 14 | Poles, Towers and Fixtures | 364 | - | | - | - | - | - | - | - | - |
| 15 | OH Conductors and Devices | 365 | - | | - | - | - | - | - | - | - |
| 16 | UG Conduit | 366 | - | | - | - | - | - | - | - | - |
| 17 | UG Conductors & Devices | 367 | - | | - | - | - | - | - | - | - |
| 18 | Line Transformers | 368 | - | | - | - | - | - | - | - | - |
| 19 | Services | 369 | 107,009 | | 95,006 | 10,647 | 1,328 | 27 | 0 | - | - |
| 20 | Meters | 370 | 57,072 | | 32,234 | 16,965 | 6,034 | 1,825 | 7 | - | 7 |
| 21 | Install on Cust Premises | 371 | 120 | | 104 | 12 | 2 | 0 | 0 | 1 | 0 |
| 22 | Street Light & Signal | 373 | 39,684 | | - | - | - | - | - | 39,684 | - |
| 23 | Electric Plant ARO | 374 | - | | - | - | - | - | - | - | - |
| 24 | Distribution Plant | 360-373 | 203,885 | | 127,344 | 27,624 | 7,364 | 1,853 | 8 | 39,685 | 7 |
| 25 | | | | | | | | | | | |
| 26 | E. GENERAL PLANT | | | | | | | | | | |
| 27 | Land and Land Rights | 389 | - | | - | - | - | - | - | - | - |
| 28 | General Plant | 390 | 12,064 | | 7,951 | 1,607 | 530 | 137 | 18 | 1,821 | 0 |
| 29 | General Plant | 389-399 | 12,064 | | 7,951 | 1,607 | 530 | 137 | 18 | 1,821 | 0 |
| 30 | | | | | | | | | | | |
| 31 | TOTAL UTILITY PLANT | | 215,949 | | 135,295 | 29,232 | 7,894 | 1,989 | 26 | 41,507 | 7 |
| 32 | | | | | | | | | | | |

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Customer

Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Customer-Related Costs for Fixed Charge**

| Line | Account | No. | Balance | Check | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 33 | II. DEPRECIATION RESERVE | | | | | | | | | | |
| 34 | Production Plant | 108.3 | - | | - | - | - | - | - | - | - |
| 35 | Structures and Improvements | 108.5 | - | | - | - | - | - | - | - | - |
| 36 | Station Equipment | 108.5 | - | | - | - | - | - | - | - | - |
| 37 | Poles, Towers and Fixtures | 108.5 | - | | - | - | - | - | - | - | - |
| 38 | OH Conductors and Devices | 108.5 | - | | - | - | - | - | - | - | - |
| 39 | UG Conduit | 108.5 | - | | - | - | - | - | - | - | - |
| 40 | UG Conductors & Devices | 108.5 | - | | - | - | - | - | - | - | - |
| 41 | Line Transformers | 108.5 | - | | - | - | - | - | - | - | - |
| 42 | Services | 108.5 | 41,311 | | 36,677 | 4,110 | 513 | 11 | 0 | - | - |
| 43 | Meters | 108.5 | 46,003 | | 25,983 | 13,675 | 4,864 | 1,471 | 6 | - | 5 |
| 44 | Install on Cust Premises | 108.5 | 10 | | 9 | 1 | 0 | 0 | 0 | 0 | 0 |
| 45 | Street Light & Signal | 108.5 | 37,190 | | - | - | - | - | - | 37,190 | - |
| 46 | General Plant | 108.5 | 3,710 | | 2,445 | 494 | 163 | 42 | 6 | 560 | 0 |
| 47 | Net Additions / Retirements | 108.6 | 5,183 | | 3,247 | 702 | 189 | 48 | 1 | 996 | 0 |
| 48 | Depreciation Reserve | 108 | 133,407 | | 68,361 | 18,982 | 5,729 | 1,571 | 12 | 38,746 | 6 |
| 49 | | | | | | | | | | | |
| 50 | III. OTHER RATE BASE ITEMS | | | | | | | | | | |
| 51 | Property Held for Future Use | | 356 | | 219 | 51 | 14 | 4 | 0 | 68 | 0 |
| 52 | Unamortized Debt costs | | 485 | | 269 | 50 | 78 | 70 | 12 | 6 | 0 |
| 53 | Materials and Supp / Prepay | | 1,044 | | 704 | 128 | 57 | 36 | 7 | 112 | 0 |
| 54 | Injuries & Damages Reserve | | - | | - | - | - | - | - | - | - |
| 55 | Cash Working Capital | | 5,183 | | 3,494 | 636 | 282 | 178 | 36 | 556 | 2 |
| 56 | Accumulated Deferred FIT | | (20,601) | | (16,706) | (2,558) | (540) | (104) | (3) | (689) | (0) |
| 57 | Customer Deposits | | (8,889) | | (400) | (3,692) | (3,778) | (1,017) | - | (2) | - |
| 58 | Net Additions / Retirements | | 8,768 | | 7,110 | 1,089 | 230 | 44 | 1 | 293 | 0 |
| 59 | Other Rate Base | 131-283 | (13,654) | | (5,309) | (4,298) | (3,657) | (789) | 53 | 344 | 2 |
| 60 | | | | | | | | | | | |
| 61 | TOTAL RATE BASE | | 68,888 | | 61,625 | 5,952 | (1,492) | (371) | 67 | 3,104 | 3 |
| 62 | | | | | | | | | | | |

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**Customer-Related Costs for Fixed Charge**

| Line | Account | No. | Balance | Check | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 63 | I. OPERATING AND MAINTENANCE EXPENSES | | | | | | | | | | |
| 64 | B. TRANSMISSION EXPENSE | | | | | | | | | | |
| 65 | Transmission Expense | | - | | - | - | - | - | - | - | - |
| 66 | Transmission Expense | | - | | - | - | - | - | - | - | - |
| 67 | | | | | | | | | | | |
| 68 | C. DISTRIBUTION EXPENSE | | | | | | | | | | |
| 69 | Purchased Power- Borderline | 555 | - | | - | - | - | - | - | - | - |
| 70 | Dist Oper-Supervision & Eng | 580 | 255 | | 85 | 45 | 16 | 5 | 0 | 104 | 0 |
| 71 | Dist Oper-Load Dispatching | 581 | - | | - | - | - | - | - | - | - |
| 72 | Dist Oper-Substations | 582 | - | | - | - | - | - | - | - | - |
| 73 | Dist Oper-Overhead Lines | 583 | - | | - | - | - | - | - | - | - |
| 74 | Dist Oper-Underground Lines | 584 | - | | - | - | - | - | - | - | - |
| 75 | Dist Oper-Outdoor Lighting | 585 | 318 | | - | - | - | - | - | 318 | - |
| 76 | Dist Oper-Electric Meters | 586 | 1,420 | | 802 | 422 | 150 | 45 | 0 | - | 0 |
| 77 | Dist Oper-Cust Install | 587 | - | | - | - | - | - | - | - | - |
| 78 | Dist Oper-Misc Expenses | 588 | 792 | | 264 | 139 | 50 | 15 | 0 | 324 | 0 |
| 79 | Dist Oper-Rents | 589 | 42 | | 26 | 6 | 2 | 0 | 0 | 8 | 0 |
| 80 | Dist Maint-Supervision & Eng | 590 | 111 | | 37 | 20 | 7 | 2 | 0 | 45 | 0 |
| 81 | Dist Maint-Structures | 591 | - | | - | - | - | - | - | - | - |
| 82 | Dist Maint-Substations | 592 | - | | - | - | - | - | - | - | - |
| 83 | Dist Maint-Overhead Lines | 593 | - | | - | - | - | - | - | - | - |
| 84 | Dist Maint-Underground Lines | 594 | - | | - | - | - | - | - | - | - |
| 85 | Dist Maint-Line Transformers | 595 | - | | - | - | - | - | - | - | - |
| 86 | Dist Maint-Outdoor Lighting | 596 | 916 | | - | - | - | - | - | 916 | - |
| 87 | Dist Maint-Electric Meters | 597 | 57 | | 32 | 17 | 6 | 2 | 0 | - | 0 |
| 88 | Oper. & Maint. Exp. | 500-599 | 3,911 | | 1,247 | 648 | 230 | 70 | 0 | 1,715 | 0 |
| 89 | | | | | | | | | | | |
| 90 | D. CUSTOMER ACCOUNTS AND SERVICE | | | | | | | | | | |
| 91 | Supervision | 901 | 707 | | 604 | 69 | 22 | 4 | 2 | 6 | 0 |
| 92 | Meter Reading Exp- Comp | 902 | 383 | | 216 | 114 | 40 | 12 | 0 | - | 0 |
| 93 | Cust Recs & Coll | 903 | 12,306 | | 10,511 | 1,192 | 385 | 76 | 35 | 107 | 0 |
| 94 | Uncollectible- Delivery | 904 | 4,122 | | 2,200 | 438 | 654 | 593 | 100 | 126 | 11 |
| 95 | Misc Cust Acct | 905 | 920 | | 798 | 95 | 16 | 2 | 0 | 9 | 0 |
| 96 | Customer Accts. Exp. | 901-905 | 18,438 | | 14,329 | 1,907 | 1,118 | 688 | 137 | 248 | 11 |
| 97 | | | | | | | | | | | |

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Tot
Customer

Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Customer-Related Costs for Fixed Charge**

| Line | Account | No. | Balance | Check | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 98 | Cust Service-Supervision | 907 | 62 | | 25 | 5 | 11 | 17 | 4 | 1 | 0 |
| 99 | Cust Assistance Expenses | 908 | 1,138 | | 460 | 93 | 201 | 305 | 66 | 10 | 4 |
| 100 | Info&Instruct Advertising Exp | 9090 | - | | | | | | | | |
| 101 | Cust Service-Misc Expenses | 910 | 1,102 | | 445 | 90 | 195 | 295 | 63 | 9 | 4 |
| 102 | Demo & Selling Expenses | 912 | - | | | | | | | | |
| 103 | Sales-Misc Expenses | 916 | - | | | | | | | | |
| 104 | Customer Serv. Exp. | | 2,302 | | 930 | 189 | 407 | 616 | 133 | 20 | 8 |
| 105 | Customer Accts. & Serv. Exp. | 901-919 | 20,740 | | 15,259 | 2,096 | 1,525 | 1,304 | 270 | 268 | 18 |
| 106 | | | | | | | | | | | |
| 107 | E. ADMINISTRATIVE AND GENERAL | | | | | | | | | | |
| 108 | A&G-Salaries | 920 | 4,752 | | 3,132 | 633 | 209 | 54 | 7 | 717 | 0 |
| 109 | A&G-Office Supplies | 921 | 1,617 | | 1,066 | 215 | 71 | 18 | 2 | 244 | 0 |
| 110 | A&G-Outside Services | 923 | 1,381 | | 910 | 184 | 61 | 16 | 2 | 209 | 0 |
| 111 | Property Insurance | 924 | 1,171 | | 734 | 159 | 43 | 11 | 0 | 225 | 0 |
| 112 | Injuries & Damages Insurance | 925 | 493 | | 309 | 67 | 18 | 5 | 0 | 95 | 0 |
| 113 | Employee Pensions & Benefits | 926 | 6,246 | | 4,117 | 832 | 274 | 71 | 9 | 943 | 0 |
| 114 | Regulatory Comm Expenses | 928 | 407 | | 226 | 42 | 65 | 59 | 10 | 5 | 0 |
| 115 | A&G-Misc Expenses | 930200 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 116 | A&G-Rents | 931 | 4,110 | | 2,709 | 548 | 180 | 47 | 6 | 621 | 0 |
| 117 | A&G Maint-Gen Plant-Elec | 935 | 51 | | 34 | 7 | 2 | 1 | 0 | 8 | 0 |
| 118 | Admin & Genl. Exp. | 920-932 | 20,230 | | 13,236 | 2,687 | 924 | 280 | 37 | 3,066 | 1 |
| 119 | Total Operating Expenses | | 44,881 | | 29,742 | 5,431 | 2,679 | 1,653 | 308 | 5,049 | 19 |
| 120 | | | | | | | | | | | |
| 121 | II. DEPRECIATION EXPENSE | | | | | | | | | | |
| 122 | Structures and Improvements | | - | | - | - | - | - | - | - | - |
| 123 | Station Equipment | | - | | - | - | - | - | - | - | - |
| 124 | Poles, Towers and Fixtures | | - | | - | - | - | - | - | - | - |
| 125 | OH Conductors and Devices | | - | | - | - | - | - | - | - | - |
| 126 | UG Conduit | | - | | - | - | - | - | - | - | - |
| 127 | UG Conductors & Devices | | - | | - | - | - | - | - | - | - |
| 128 | Line Transformers | | - | | - | - | - | - | - | - | - |
| 129 | Services | | 10,572 | | 9,386 | 1,052 | 131 | 3 | 0 | - | - |
| 130 | Meters | | 3,223 | | 1,820 | 958 | 341 | 103 | 0 | - | 0 |
| 131 | Install on Cust Premises | | 654 | | 568 | 67 | 11 | 1 | 0 | 6 | 0 |
| 132 | Street Light & Signal | | 476 | | - | - | - | - | - | 476 | - |
| 133 | General Plant | | - | | - | - | - | - | - | - | - |
| 134 | Net Additions / Retirements | | 653 | | 409 | 88 | 24 | 6 | 0 | 126 | 0 |
| 135 | Depreciation Expense | 403 | 15,578 | | 12,183 | 2,166 | 507 | 113 | 1 | 608 | 0 |
| 136 | | | | | | | | | | | |

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Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Customer-Related Costs for Fixed Charge**

| Line | Account | No. | Balance | Check | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 137 | III. TAXES and OTHER | | | | | | | | | | |
| 138 | A. GENERAL TAXES | | | | | | | | | | |
| 139 | Municipal property tax | 408140 | 3,054 | | 2,476 | 379 | 80 | 15 | 0 | 102 | 0 |
| 140 | Payroll related | 408110 | 1,062 | | 700 | 142 | 47 | 12 | 2 | 160 | 0 |
| 141 | Other tax, Reg deferrals | 408170 | 75 | | 41 | 8 | 12 | 11 | 2 | 1 | 0 |
| 142 | General Taxes | | 4,191 | | 3,218 | 528 | 139 | 38 | 4 | 263 | 0 |
| 143 | | | | | | | | | | | |
| 144 | B. FEDERAL / STATE INCOME TAXES | | | | | | | | | | |
| 145 | Income Tax Exp | | (116) | | (1,470) | (185) | 912 | 976 | 162 | (531) | 19 |
| 146 | Income Taxes | 409-411 | (116) | | (1,470) | (185) | 912 | 976 | 162 | (531) | 19 |
| 147 | Total Taxes | 408-411 | 4,074 | | 1,748 | 344 | 1,051 | 1,014 | 166 | (267) | 19 |
| 148 | | | | | | | | | | | |
| 149 | Interest on Customer deposits | | 132 | | 6 | 55 | 56 | 15 | - | 0 | - |
| 150 | TOTAL EXPENSES | | 64,666 | | 43,679 | 7,995 | 4,293 | 2,796 | 474 | 5,390 | 39 |
| 151 | | | | | 0 | | | | | | |
| 152 | IV. OPERATING REVENUES at Present Rates | | | | | | | | | | |
| 153 | Distribution charge revenue | | 61,558 | | 32,853 | 6,534 | 9,772 | 8,859 | 1,497 | 1,886 | 157 |
| 154 | Forfeited discounts | | 1,657 | | 884 | 176 | 263 | 238 | 40 | 51 | 4 |
| 155 | Rent from Utility Property | | - | | - | - | - | - | - | - | - |
| 156 | Misc Service Revenue | | 1,368 | | 730 | 145 | 217 | 197 | 33 | 42 | 3 |
| 157 | Other revenue | | 135 | | 72 | 14 | 21 | 19 | 3 | 4 | 0 |
| 158 | CIAC / Cost Recovery | | 562 | | 379 | 69 | 31 | 19 | 4 | 60 | 0 |
| 159 | M1 Revenue | | 32 | | 17 | 3 | 5 | 5 | 1 | 1 | 0 |
| 160 | Operating Revenues | | 65,313 | | 34,936 | 6,942 | 10,309 | 9,337 | 1,579 | 2,044 | 166 |
| 161 | | | | | | | | | | | |
| 162 | TOTAL EXPENSES | | 64,666 | | 43,679 | 7,995 | 4,293 | 2,796 | 474 | 5,390 | 39 |
| 163 | V. NET INCOME at Present Rates | | 647 | | (8,742) | (1,054) | 6,016 | 6,542 | 1,105 | (3,346) | 127 |
| 164 | | | 36,148 | | 14,801 | 3,075 | 7,380 | 9,306 | 764 | 940 | (118) |

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Narragansett Electric Company d/b/a National Grid
Class Cost of Service Study ($000s)
Rate Year Ending August 31, 2019 (R)
**Customer-Related Costs for Fixed Charge**

| Line | Account | No. | Balance | Check | Residential | Small C&I | General C&I | 200 kW Demand | 5000 kW Demand | Lighting | Propulsion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 165 | SUMMARY REPORT | | | | | | | | | | |
| 166 | Utility Revenues | 440-446 | 61,558 | | 32,853 | 6,534 | 9,772 | 8,859 | 1,497 | 1,886 | 157 |
| 167 | Other Operating Revenues | 450-456 | 3,755 | | 2,083 | 408 | 537 | 479 | 82 | 158 | 8 |
| 168 | Total Operating Revenues | | 65,313 | | 34,936 | 6,942 | 10,309 | 9,337 | 1,579 | 2,044 | 166 |
| 169 | | | | | | | | | | | |
| 170 | Distribution / Transmission | 580-599 | 3,911 | | 1,247 | 648 | 230 | 70 | 0 | 1,715 | 0 |
| 171 | Customer Acctg & Service | 901-919 | 20,740 | | 15,259 | 2,096 | 1,525 | 1,304 | 270 | 268 | 18 |
| 172 | Admin & General | 920-932 | 20,230 | | 13,236 | 2,687 | 924 | 280 | 37 | 3,066 | 1 |
| 173 | Total Operating Expenses | | 44,881 | | 29,742 | 5,431 | 2,679 | 1,653 | 308 | 5,049 | 19 |
| 174 | | | | | | | | | | | |
| 175 | Depreciation Expense | 403 | 15,578 | | 12,183 | 2,166 | 507 | 113 | 1 | 608 | 0 |
| 176 | Taxes Other Than Inc / Other | 408 | 4,323 | | 3,224 | 583 | 195 | 53 | 4 | 263 | 0 |
| 177 | Income before Income tax | | 531 | | (10,213) | (1,238) | 6,929 | 7,517 | 1,267 | (3,877) | 146 |
| 178 | Income Taxes | 409-411 | (116) | | (1,470) | (185) | 912 | 976 | 162 | (531) | 19 |
| 179 | NET INCOME | | 647 | | (8,742) | (1,054) | 6,016 | 6,542 | 1,105 | (3,346) | 127 |
| 180 | | | | | | | | | | | |
| 181 | RATE BASE | | 68,888 | | 61,625 | 5,952 | (1,492) | (371) | 67 | 3,104 | 3 |
| 182 | Return on Rate Base | | 0.94% | | -14.19% | -17.70% | -403.19% | -1761.44% | 1655.48% | -107.81% | 3861.79% |
| 183 | | | | | | | | | | | |
| 184 | REVENUE REQUIREMENTS | | | | | | | | | | |
| 185 | Target Rate of Return | | 7.4300% | | 7.4300% | 7.4300% | 7.4300% | 7.4300% | 7.4300% | 7.4300% | 7.4300% |
| 186 | Rate Base | | 68,888 | | 61,625 | 5,952 | (1,492) | (371) | 67 | 3,104 | 3 |
| 187 | | | | | | | | | | | |
| 188 | Operating expenses | | 40,759 | | 27,542 | 4,993 | 2,024 | 1,060 | 207 | 4,923 | 9 |
| 189 | Uncollectibles- Delivery | | 1,001 | | 567 | 109 | 149 | 127 | 23 | 26 | 0 |
| 190 | Depreciation expense | | 15,578 | | 12,183 | 2,166 | 507 | 113 | 1 | 608 | 0 |
| 191 | General taxes / Other | | 4,323 | | 3,224 | 583 | 195 | 53 | 4 | 263 | 0 |
| 192 | Subtotal- Operating Costs to reco | | 61,661 | | 43,516 | 7,851 | 2,876 | 1,353 | 234 | 5,821 | 9 |
| 193 | | | | | | | | | | | |
| 194 | Target Return on Rate Base- Aft | | 5,118 | | 4,579 | 442 | (111) | (28) | 5 | 231 | 0 |
| 195 | Income taxes to recover | | 1,028 | | 919 | 89 | (22) | (6) | 1 | 46 | 0 |
| 196 | | | | | | | | | | | |
| 197 | Subtotal- Rev Req before GRT | | 67,807 | | 49,014 | 8,382 | 2,743 | 1,320 | 240 | 6,098 | 10 |
| 198 | GRT needed | | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 199 | TOTAL REVENUE REQ. | | 67,807 | | 49,014 | 8,382 | 2,743 | 1,320 | 240 | 6,098 | 10 |
| 200 | | | | | | | | | | | |
| 201 | Revenue at Present rates | | 65,313 | | 34,936 | 6,942 | 10,309 | 9,337 | 1,579 | 2,044 | 166 |
| 202 | Revenue Excess (Deficiency) | | (2,494) | | (14,078) | (1,441) | 7,567 | 8,017 | 1,339 | (4,054) | 156 |
| 203 | | | | | | | | | | | |
| 204 | Number of Bills | | 6,089,923 | | 5,284,666 | 626,592 | 104,935 | 13,307 | 156 | 60,254 | 12 |
| 205 | Per Monthly Bill | | | | $9.27 | $13.38 | $26.14 | $99.22 | $1,537.32 | $101.20 | $796.93 |
| 206 | | | | | | | | | | | |

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Updated Rate Year 8/31/2019 Class Contributions

to 1CP at Voltage Levels

Demand-3
HSG-2O(R)

## Updated Rate Year 8/31/2019 Class Contributions to 1CP at Voltage Levels

| Line | Rate Class | Includes | 1<br>Rate Year 1CP at Customer | 2<br>% at Trans-mission | 3<br>% at Primary | 4<br>% at Secondary | 5<br>Rate Year 1CP at Secondary | 8<br>Rate Year 1CP at Primary Before Losses | 10<br>Rate Year 1CP at Transmission Before Losses |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Residential | A-16,A-60 | 797,973 | | | 100% | 797,973 | 833,882 | 862,818 |
| 2 | Small C&I | C-06,C-08 | 160,781 | | | 100% | 160,781 | 168,016 | 173,847 |
| 3 | General C&I | G-02 | 280,886 | | 2% | 98% | 275,269 | 293,273 | 303,450 |
| 4 | 200 kW Demand | B-32,G-32 | 350,818 | 0.0% | 100.0% | 0% | 0 | 350,818 | 362,991 |
| 5 | 5000 kW Demand | B-62,G-62 | 65,390 | 17.1% | 82.9% | 0% | 0 | 54,232 | 67,272 |
| 6 | Lighting | S-05/06/10/14 | 92 | | | 100% | 92 | 97 | 100 |
| 7 | Propulsion | X-01 | 4,927 | 100% | 0% | 0% | 0 | 0 | 4,927 |
| 8 | **Total** | | **1,660,868** | | | | **1,234,116** | **1,700,318** | **1,775,405** |
| | | *Check=* | *1,660,868* | | | | | | |
| 9 | | | Loss Multipliers | | | | | 1.0450 | 1.0347 |

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Schedule__HSG-2P(R)

Updated Rate Year Class 8/31/2019 NCP at Voltage Levels

Demand-4
HSG-2P(R)

## Updated Rate Year 8/31/2019 Class NCP at Voltage Levels

| | | | 1 | 2 | 3 | 4 | 5 | 8 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| **Line** | **Rate Class** | **Includes** | **Rate Year Class NCP at Customer** | **% at Trans-mission** | **% at Primary** | **% at Secondary** | **Rate Year Class NCP at Secondary** | **Rate Year Class NCP at Primary Before Losses** | **Rate Year Class NCP at Trans-mission Before Losses** |
| 1 | Residential | A-16,A-60 | 867,094 | 0% | 0% | 100% | 867,094 | 906,113 | 937,555 |
| 2 | Small C&I | C-06,C-08 | 173,159 | 0% | 0% | 100% | 173,159 | 180,951 | 187,230 |
| 3 | General C&I | G-02 | 292,693 | 0% | 2% | 98% | 286,839 | 305,601 | 316,205 |
| 4 | 200 kW Demand | B-32,G-32 | 372,512 | 0% | 100% | 0% | 0 | 372,512 | 385,438 |
| 5 | 5000 kW Demand | B-62,G-62 | 82,368 | 17% | 83% | 0% | 0 | 68,312 | 84,739 |
| 6 | Lighting | S-05/06/10/14 | 14,167 | 0% | 0% | 100% | 14,167 | 14,804 | 15,318 |
| 7 | Propulsion | X-01 | 11,091 | 100% | 0% | 0% | 0 | 0 | 11,091 |
| 8 | **Total** | | **1,813,084** | | | | **1,341,258** | **1,848,293** | **1,937,576** |
| | | *Check=* | *1,813,084* | | | | | | |
| 9 | | | Loss Multipliers | | | | | 1.0450 | 1.0347 |

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Updated Rate Year MWh Sales at Voltage Levels

Demand-5
HSG-2Q(R)

## Updated Rate Year 8/31/2019 MWh Sales at Voltage Levels

| | | | 1 | 2 | 3 | 4 | 5 | 8 | 10 |
|---|---|---|---|---|---|---|---|---|---|
| Line | Rate Class | Includes | Rate Year MWh at Customer | % at Trans-mission | % at Primary | % at Secondary | Rate Year MWh at Secondary | Rate Year MWh at Primary Before Losses | Rate Year MWh at Transmission Before Losses |
| 1 | Residential | A-16,A-60 | 2,946,725 | 0.0% | 0.0% | 100.0% | 2,946,725 | 3,079,328 | 3,186,181 |
| 2 | Small C&I | C-06,C-08 | 598,981 | 0.0% | 0.0% | 100.0% | 598,981 | 625,935 | 647,655 |
| 3 | General C&I | G-02 | 1,290,927 | 0.0% | 2.0% | 98.0% | 1,265,109 | 1,347,857 | 1,394,628 |
| 4 | 200 kW Demand | B-32,G-32 | 1,952,810 | 0.0% | 100.0% | 0.0% | - | 1,952,810 | 2,020,572 |
| 5 | 5000 kW Demand | B-62,G-62 | 420,270 | 17.1% | 82.9% | 0.0% | - | 348,552 | 432,365 |
| 6 | Lighting | S-05/06/10/14 | 62,050 | 0.0% | 0.0% | 100.0% | 62,050 | 64,842 | 67,092 |
| 7 | Propulsion | X-01 | 23,963 | 100.0% | 0.0% | 0.0% | - | - | 23,963 |
| 8 | **Total** | | **7,295,727** | | | | **4,872,865** | **7,419,324** | **7,772,456** |
| | | | | | | | | **7** | **9** |
| 9 | | Loss Multipliers | | | | | | 1.0450 | 1.0347 |

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Schedule__HSG-3(R)

Updated Revenue Allocation

The Narragansett Electric Company

RESULTS OF ALLOCATED COST OF SERVICE STUDY AND REVENUE ALLOCATION

| Line | From ACOS Rate Year Ending August 31, 2019 (R) | Source | Total | Residential Rate A-16/ A-60 | Small C&I Rate C-06 | General C&I Rate G-02 | 200 kW Demand Rate G-32 | 5000 kW Demand Rate G-62 | Lighting Rates S-05/S-06/ S-10/S-14 | Propulsion Rate X-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) |
| 1 | **SECTION 1. SUMMARY OF RESULTS OF ALLOCATED COST OF SERVICE STUDY** | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | Distribution Revenue at Present Rates | Sch HSG 1-A (REV-1) | 270,662 | 144,451 | 28,729 | 42,965 | 38,950 | 6,584 | 8,291 | 692 |
| 4 | Late Payment Charges | Sch HSG 1-A (REV-1) | 1,657 | 884 | 176 | 263 | 238 | 40 | 51 | 4 |
| 5 | Other Revenue | Sch HSG 1-A (REV-1) | 6,873 | 3,837 | 759 | 1,150 | 811 | 146 | 163 | 7 |
| 6 | **Total Revenue at Present Rates** | | 279,192 | 149,173 | 29,664 | 44,378 | 39,999 | 6,770 | 8,505 | 703 |
| 7 | Expenses | Sch HSG 1-A (REV-1) | 246,609 | 138,924 | 27,085 | 36,591 | 30,851 | 5,458 | 7,514 | 187 |
| 8 | Net Income | | 32,583 | 10,249 | 2,579 | 7,787 | 9,148 | 1,313 | 990 | 516 |
| 9 | | | | | | | | | | |
| 10 | Rate Base | Sch HSG 1-A (REV-1) | 726,440 | 403,293 | 74,680 | 116,666 | 104,940 | 18,411 | 8,244 | 207 |
| 11 | | | | | | | | | | |
| 12 | Return at Present rates | Sch HSG 1-A (REV-1) | 4.49% | 2.54% | 3.45% | 6.68% | 8.72% | 7.13% | 12.01% | 249.83% |
| 13 | Relative Return | Class/ Total | 1.00 X | 0.57 X | 0.77 X | 1.49 X | 1.94 X | 1.59 X | 2.68 X | 55.70 X |
| 14 | | | | | | | | | | |
| 15 | Return on Rate Base at System Return | 7.43% | 53,974 | 29,965 | 5,549 | 8,668 | 7,797 | 1,368 | 613 | 15 |
| 16 | Operating Expenses | Sch HSG 1-A (REV-1) | 237,336 | 135,104 | 26,239 | 34,705 | 28,812 | 5,150 | 7,232 | 95 |
| 17 | Uncollectibles | Sch HSG 1-A (REV-1) | 4,479 | 2,536 | 488 | 669 | 566 | 101 | 118 | 2 |
| 18 | Income Tax Expense | 16.72% | 10,837 | 6,016 | 1,114 | 1,740 | 1,565 | 275 | 123 | 3 |
| 19 | Total Distribution Revenue Requirement | 20.08% | 306,626 | 173,621 | 33,390 | 45,783 | 38,740 | 6,893 | 8,085 | 115 |
| 20 | Less: Other revenue | Sum Lns 4-5 | 8,530 | 4,722 | 935 | 1,413 | 1,050 | 186 | 214 | 11 |
| 21 | Distribution Rates Revenue Requirement | | 298,096 | 168,899 | 32,455 | 44,370 | 37,690 | 6,707 | 7,871 | 104 |
| 22 | **Increase/(Decrease) - Total Dist Revenue** | | **27,434** | **24,448** | **3,726** | **1,405** | **(1,259)** | **123** | **(419)** | **(589)** |
| 23 | M1 Increase | 0.005% | (14) | (8) | (2) | (2) | (2) | 0 | 0 | 0 |
| 24 | **Increase/(Decrease) - Total Dist Revenue** | | 27,420 | 24,440 | 3,724 | 1,403 | (1,261) | 123 | (419) | (589) |
| 25 | **Percentage Increase/(Decrease) to Full COS** | Ln 22 / Ln 3 | **10.1%** | | | | | | | |
| 26 | **Percentage Increase/(Decrease) excl M-01** | Ln 24 / Ln 3 | **10.1%** | **16.9%** | **13.0%** | **3.3%** | **(3.2%)** | **1.9%** | **(5.1%)** | **(85.0%)** |
| 27 | | | | | | | | | | |

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The Narragansett Electric Company

RESULTS OF ALLOCATED COST OF SERVICE STUDY AND REVENUE ALLOCATION

| Line | From ACOS Rate Year Ending August 31, 2019 (R) | Source | Total | Residential Rate A-16/ A-60 | Small C&I Rate C-06 | General C&I Rate G-02 | 200 kW Demand Rate G-32 | 5000 kW Demand Rate G-62 | Lighting Rates S-05/S-06/ S-10/S-14 | Propulsion Rate X-01 |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) |
| 28 | | | **SECTION 2. PROPOSED REVENUE ALLOCATION** | | | | | | | |
| 29 | **Percentage Increase/(Decrease) to Full COS** | Line 26 | **10.1%** | **16.9%** | **13.0%** | **3.3%** | **(3.2%)** | **1.9%** | **(5.1%)** | **(85.0%)** |
| 30 | Relative Increase (Decrease) | Class/ Total | 1.00 X | 1.67 X | 1.28 X | 0.32 X | (0.32)X | 0.18 X | (0.50)X | (8.39)X |
| 31 | | Input | | Max Rel Incr | 2.00 X | 20.3% | Min Rel Incr | (0.20)X | (2.0%) | |
| 32 | | | | | | | | | | |
| 33 | Increase / (Decrease) for Full COS | Line 24 | 27,420 | 24,440 | 3,724 | 1,403 | (1,261) | 123 | (419) | (589) |
| 34 | Reduce classes over maximum increase 2.00X average | | 0 | - | - | - | - | - | - | - |
| 35 | Increase classes under minimum increase -0.20X average | | 1,298 | - | - | - | 472 | - | 251 | 575 |
| 36 | | | 28,719 | 24,440 | 3,724 | 1,403 | (789) | 123 | (168) | (14) |
| 37 | Re-allocation of Surplus on Rev Req | Alloc Ln 34-35 | (1,298) | (735) | (141) | (193) | (164) | (29) | (34) | (0) |
| 38 | Subtotal | | 27,420 | 23,705 | 3,583 | 1,209 | (953) | 94 | (202) | (14) |
| 39 | Increase classes under minimum increase -0.20X average | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40 | | | 0 | | | | | | | |
| 41 | **Increase/(Decrease) - Total Dist Revenue** | | **27,420** | **23,705** | **3,583** | **1,209** | **(953)** | **94** | **(202)** | **(14)** |
| 42 | **Percentage Increase/(Decrease)** | Ln 41 / Ln 3 | **10.1%** | **16.4%** | **12.5%** | **2.8%** | **(2.4%)** | **1.4%** | **(2.4%)** | **(2.1%)** |
| 43 | Relative Increase (Decrease) | Class/ Total | 1.00 X | 1.62 X | 1.23 X | 0.28 X | (0.24)X | 0.14 X | (0.24)X | (0.21)X |
| 44 | | | | | | | | | | |
| 45 | Distribution Rates Revenue at Present | Ln 3 | 270,662 | 144,451 | 28,729 | 42,965 | 38,950 | 6,584 | 8,291 | 692 |
| 46 | Increase/(Decrease) - Total Dist Revenue | Ln 41 | 27,420 | 23,705 | 3,583 | 1,209 | (953) | 94 | (202) | (14) |
| 47 | **Distribution Rates Revenue at Proposed** | | **298,082** | **168,156** | **32,312** | **44,175** | **37,996** | **6,678** | **8,088** | **678** |
| 48 | Other Revenue | Ln 20 - Ln23 | 8,544 | 4,730 | 937 | 1,415 | 1,052 | 186 | 214 | 11 |
| 49 | Total Revenue | | 306,626 | 172,885 | 33,249 | 45,589 | 39,048 | 6,864 | 8,302 | 689 |
| 50 | Operating Expenses | Ln 16 | (237,336) | (135,104) | (26,239) | (34,705) | (28,812) | (5,150) | (7,232) | (95) |
| 51 | Uncollectibles | Alloc Ln 17 | (4,479) | (2,527) | (486) | (664) | (571) | (100) | (122) | (10) |
| 52 | Income Tax Expense | Sum Ln 49-51 X 16.7% | (10,837) | (5,895) | (1,091) | (1,709) | (1,616) | (270) | (159) | (98) |
| 53 | **Return on Rate Base at Proposed Rates** | | **53,974** | **29,360** | **5,433** | **8,512** | **8,049** | **1,344** | **790** | **486** |
| 54 | | | | | | | | | | |
| 55 | **Return on Rate Base at Proposed Rates** | | **7.43%** | **7.28%** | **7.27%** | **7.30%** | **7.67%** | **7.30%** | **9.59%** | **235.26%** |
| 56 | **Relative return** | | **1.00 X** | **0.98 X** | **0.98 X** | **0.98 X** | **1.03 X** | **0.98 X** | **1.29 X** | **31.66 X** |
| 57 | **Progress Toward Unity** | | | **95%** | **91%** | **104%** | **97%** | **103%** | **83%** | **44%** |

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Schedule__HSG-4D(R)

Updated Rate Design for Large Demand –

Rate G-32 / G-62 (includes Back-up Rate B-32 / B-62)

## The Narragansett Electric Company
## Rate Design for Large Demand - Rate G-32 / G-62 (includes Back-up Rate B-32 / B-62)

| Line | | | Billing Units | Proposed Rates | Revenue |
|---|---|---|---|---|---|
| | | | (a) | (b) | (c) |
| 1 | Revenue Allocation- G-32 | $37,996,487 | | | **$44,674,064** |
| 2 | Revenue Allocation- G-62 | $6,677,577 | | | |
| 3 | Customer Charge: | | | | |
| 4 | Monthly Bills | B-32 | 60 | $1,100.00 | $66,172 |
| 5 | | G-32 / G-62 | 13,403 | $1,100.00 | $14,743,034 |
| 6 | **Customer Charge Revenue** | | 13,463 | | **$14,809,206** |
| 7 | | | | | |
| 8 | Energy-based Charge: | | | | |
| 9 | kWh Sales | B-32 Supplemental | 13,230,918 | $0.00469 | $62,053 |
| 10 | kWh Sales | G-32 / G-62 | 2,359,849,091 | $0.00469 | $11,067,692 |
| 11 | | | 2,373,080,009 | | $11,129,745 |
| 12 | Demand Charge (Over 200 kW) | | | | |
| 13 | Demand Billing Units | B-32 Back-up | 95,646 | $0.78 | $74,604 |
| 14 | | B-32 Supplemental | 31,317 | $5.00 | $156,586 |
| 15 | | G-32 | 3,856,449 | $5.00 | $19,282,246 |
| 16 | | | 3,983,413 | | $19,513,436 |
| 17 | | | | | |
| 18 | HVD Billing Credit Units | Transmission | 176,161 | ($4.42) | ($778,632) |
| 19 | | 2.4 kV | 2,286,043 | ($0.38) | ($868,696) |
| 20 | | | 2,462,204 | | ($1,647,328) |
| 21 | | | | | |
| 22 | HVM Discount | | $46,759,239 | (0.942%) | ($440,290) |
| 23 | Second Feeder Service | | 295,668 | $4.42 | $1,306,853 |
| 24 | **Distribution Charge Revenue** | | | | **$29,862,416** |
| 25 | | | | | |
| 26 | **Total Revenue** | | | | **$44,671,622** |
| 27 | | | | | |
| 28 | **Design of Back-up Demand Charge** | | | | |
| 29 | Revenue Requirement (Demand and Energy Based Charges) | | | | $30,568,577 |
| 30 | Demand billing Units (Supplemental and G-32 Demands in excess of 200 kW) | | | | 3,887,766 |
| 31 | Back-up Demand Charge before Discount | | | | $7.86 |
| 32 | Back-up Demand Charge after Discount of | | 90.0% | | $0.78 |
| 33 | | | | | |
| 34 | Difference | | | | ($2,442) |
| 35 | | | | G-32 | G-62 |
| 36 | Customer costs per month | Sch. HSG-1C-1(R), Line 23 | | $127.06 | $2,047.13 |
| 37 | Demand costs per kW-month | Sch. HSG-1C-1(R), Line 10 | | $8.01 | $6.46 |
| 38 | Demand costs included | | 200 | $1,602.04 | |
| 39 | Fixed charge indicated | | | $1,729.10 | $2,047.13 |
| 40 | Use | | | $1,100.00 | |
| 41 | | | | | |

| Line | Item | Source |
|---|---|---|
| 42 | Item | Source |
| 43 | Line 1 | Schedule HSG-3(R), Line 47 |
| 44 | Lines 4-5, 9-10, 18-19 and 23, Column (a) | Schedule HSG-4L(R), Line 12 and Line 17 |
| 45 | Lines 13-15, Column (a) | Schedule HSG-4L(R), Line 26-Line 27, Line 17 |
| 46 | Lines 4-5, 14-15, Column (b) | Proposed |
| 47 | Lines 18-19 and Line 23, Column (b) | Schedule HSG-1C-4(R) |
| 48 | Lines 9-10, Column (b) | Proposed, to produce revenue allocation |
| 49 | Line 13, Column (b) | Line 32 |

Schedule__HSG-4H(R)

Updated 2.4 kV Credit and Transmission Level Credit

## The Narragansett Electric Company
## 2.4 kV Discount and Transmission Level Discount

| | | Source | Rate |
|---|---|---|---|
| 1 | 2.4 kV Discount | | |
| 2 | Transformer Billing Credit per kW-month | Sch. HSG-1C-4(R) | **($0.38)** |
| 3 | | | |
| 4 | Tranmission Level Discount | | |
| 5 | Incremental Discount - Transmission Level Discount per kW-month | Line 6- Line 2 | ($4.04) |
| 6 | Total Discount for Transmission- Rate G32 kW Charge | - Line 12 | **($4.42)** |
| 7 | | | |
| 8 | Second Feeder Service | | |
| 9 | Primary Distribution Revenue Requirement per kW-Month, Rates G-32/ G-62 | Sch. HSG-1C-1(R) | $5.97 |
| 10 | Annual Transmission Level NCP Demand Units- B32/G32/B62/G62 | | 5,642,124 |
| 11 | Annual Billing Demand Units- B32/G32/B62/G62 | | 7,608,765 |
| 12 | Convert NCP to Billing Units- Additional Charge- Second Feeder Service Rate per kW-month | | **$4.42** |
| 13 | | | |

Schedule__HSG-4K(R)

Updated Proof of Revenue at Proposed Rates

## The Narragansett Electric Company
## Rate Year Proof of Revenue at PROPOSED Rates

| Line | Code | Description | Includes | Annual Bills/Fixtures | Customer /Fixture Charge per Month | Customer Charge Revenue | Billing Demand | Demand Charge | Demand Charge Revenue | kWh Deliveries | kWh Charge | kWh Charge Revenue |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (a) | (b) | (c) | (e) | (f) | (g) | (h) | (i) | (j) |
| 1 | A-16 | Residential | A-16,A-60 | 5,284,666 | | $44,919,663 | | | | 2,946,725,332 | | $123,232,053 |
| 2 | C-06 | Small C&I | C-06,C-08 | 626,592 | | $8,103,598 | | | | 598,981,304 | | $24,205,455 |
| 3 | G-02 | General C&I | G-02 | 104,935 | | $15,215,642 | 3,594,077 | | $23,361,497 | 1,290,927,306 | | $5,641,352 |
| 4 | G-32 | 200 kW Demand | B-32,G-32 | 13,463 | | $14,809,206 | 3,983,413 | | $19,513,436 | 2,373,080,009 | | $11,129,745 |
| 5 | G-62 | 5000 kW Demand | B-62,G-62 | | | | | | | | | |
| 6 | SL | Lighting | S-05,S-06,S-10,S-14 | 60,254 | | $6,982,098 | | | | 62,049,950 | | $1,106,690 |
| 7 | X-01 | Propulsion | X-01 | 12 | | $256,954 | | | | 23,962,704 | | $420,785 |
| 8 | | | | 6,089,923 | | $90,287,161 | 7,577,489 | | $42,874,933 | 7,295,726,605 | | $165,736,081 |
| 9 | | | | 6,089,923 | | | 7,608,765 | 156 | | 7,295,726,605 | | |
| 10 | A-16 | Residential Basic | | 4,847,495 | $8.50 | $41,203,708 | | | $0 | 2,723,228,532 | $0.04182 | $113,885,417 |
| 11 | A-60 | Resid. Low Income | | 437,171 | $8.50 | $3,715,955 | | | $0 | 223,496,800 | $0.04182 | $9,346,636 |
| 12 | B-32 | C&I Back-up | | 60 | $1,100.00 | $66,172 | 126,964 | See below | 231,190 | 13,230,918 | $0.00469 | $62,053 |
| 13 | B-32 | 5000 kW Back-up | Was B-62 | - | $1,100.00 | $0 | | | | - | $0.00469 | $0 |
| 14 | C-06 | Small C&I | | 616,686 | $13.00 | $8,016,920 | | | $0 | 595,486,038 | See below | $24,048,246 |
| 15 | C-06 | Small C&I Unmetrd | | 9,906 | $8.75 | $86,678 | | | $0 | 3,495,266 | See below | $157,208 |
| 16 | G-02 | General C&I | | 104,935 | $145.00 | $15,215,642 | 3,594,077 | $6.50 | $23,361,497 | 1,290,927,306 | $0.00437 | $5,641,352 |
| 17 | G-32 | 200 kW Demand | | 13,246 | $1,100.00 | $14,571,015 | 2,869,062 | $5.00 | $14,345,311 | 1,939,578,858 | $0.00469 | $9,096,625 |
| 18 | G-32 | 5000 kW Demand | Was G-62 | 156 | $1,100.00 | $172,019 | 987,387 | See below | $4,936,935 | 420,270,233 | $0.00469 | $1,971,067 |
| 19 | S-05 | SL Customer-owned | | - | | $0 | | | $0 | 30,303,659 | $0.03652 | $1,106,690 |
| 20 | S-06 | SL Decorative | | 14 | $524.61 | $7,345 | | | $0 | 3,451 | | $0 |
| 21 | S-10 | SL Private | | 5,124 | $184.27 | $944,186 | | | $0 | 7,793,834 | | $0 |
| 22 | S-14 | SL Street | | 55,116 | $109.42 | $6,030,568 | | | $0 | 23,949,006 | | $0 |
| 23 | X-01 | X-01 | | 12 | $21,000.00 | $256,954 | | | $0 | 23,962,704 | $0.01756 | $420,785 |
| 24 | | | | 6,089,923 | | $90,287,161 | 7,577,489 | | $42,874,933 | 7,295,726,605 | | $165,736,081 |
| 25 | | | | | | | | | | | | |
| 26 | | B-32 C&I Back-up | Back-up | | | | 95,646 | $0.78 | $74,604 | | | |
| 27 | | | Supplemental | | | | 31,317 | $5.00 | $156,586 | | | |
| 28 | | | | | | | 126,964 | | $231,190 | | | |
| 29 | | B-62 3000 kW Back- | Back-up | | | | | $0.78 | $0 | | | |
| 30 | | | Supplemental | | | | 987,387 | $5.00 | $4,936,935 | | | |
| 31 | | | | | | | 987,387 | | $4,936,935 | | | |
| 32 | | C-06 Small C&I | kWh | | | | | | | 595,486,038 | $0.04036 | $24,033,816 |
| 33 | | | Over 25 kVA | | | | | | | 7,800 | $1.85 | $14,430 |
| 34 | | | | | | | | | | 595,493,838 | | $24,048,246 |
| 35 | | | | | | | | | | | | |
| 36 | | C-08 Small C&I Unn | kWh | | | | | | | 3,495,266 | $0.04036 | $141,069 |
| 37 | | | Over 25 kVA | | | | | | | 8,724 | $1.85 | $16,139 |
| 38 | | | | | | | | | | 3,503,990 | | $157,208 |
| 39 | M-1 | Station Power | | 36 | $4,360.18 | 156,966 | | | | | | |

THE NARRAGANSETT ELECTRIC COMPANY
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**The Narragansett Electric Company**
**Rate Year Proof of Revenue at PROPOSED Rates**

| Line | Code | Description | Includes | HVD Billing Units | HVD Credit Revenue | HVM Billing Units | HVM Credit Revenue | 2nd Feeder Service Billing Units | 2nd Feeder Service Revenue | Rate Year Revenue | Revenue Targets | Difference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | (k) | (l) | (m) | (n) | (o) | (p) | (q) | (r) | (s) |
| 1 | A-16 | Residential | A-16,A-60 | | | | | | | $168,151,717 | $168,155,553 | ($3,837) |
| 2 | C-06 | Small C&I | C-06,C-08 | | | | | | | $32,309,053 | $32,312,002 | ($2,949) |
| 3 | G-02 | General C&I | G-02 | 64,848 | ($24,642) | 44,218,491 | ($22,089) | | | $44,171,760 | $44,174,539 | ($2,779) |
| 4 | G-32 | 200 kW Demand | B-32,G-32 | 2,462,204 | ($1,647,328) | 46,759,239 | ($440,290) | 295,668 | $1,306,853 | $44,671,622 | $44,674,064 | ($2,442) |
| 5 | G-62 | 5000 kW Demand | B-62,G-62 | | | | | | | | | $0 |
| 6 | SL | Lighting | S-05,S-06,S-10,S-14 | | | | | | | $8,088,788 | $8,088,468 | $320 |
| 7 | X-01 | Propulsion | X-01 | | | | | | | $677,739 | $677,864 | ($125) |
| 8 | | | | 2,527,052 | ($1,671,970) | 90,977,731 | ($462,379) | 295,668 | $1,306,853 | $298,070,679 | $298,082,491 | ($11,812) |
| 9 | | | | *2,350,891* | *(176,161)* | *76,692,698* | | *295,668* | | | $298,082,491 | ($11,812) |
| 10 | A-16 | Residential Basic | | | | | | | | $155,089,126 | | |
| 11 | A-60 | Resid. Low Income | | | | | | | | $13,062,591 | | |
| 12 | B-32 | C&I Back-up | | | | 359,415 | ($3,384) | | | $356,031 | | |
| 13 | B-32 | 5000 kW Back-up | Was B-62 | | | - | $0 | | | $0 | | |
| 14 | C-06 | Small C&I | | | | | | | | $32,065,166 | | |
| 15 | C-06 | Small C&I Unmetrd | | | | | | | | $243,887 | | |
| 16 | G-02 | General C&I | | 64,848 | ($24,642) | 44,218,491 | ($22,089) | | | $44,171,760 | | |
| 17 | G-32 | 200 kW Demand | | 1,392,345 | ($529,091) | 39,319,803 | ($370,239) | 295,668 | $1,306,853 | $38,420,473 | | |
| 18 | G-32 | 5000 kW Demand | Was G-62 | 1,069,859 | ($1,118,237) | 7,080,021 | ($66,666) | | | $5,895,118 | | |
| 19 | S-05 | SL Customer-owned | | | | | | | | $1,106,690 | | |
| 20 | S-06 | SL Decorative | | | | | | | | $7,345 | | |
| 21 | S-10 | SL Private | | | | | | | | $944,186 | | |
| 22 | S-14 | SL Street | | | | | | | | $6,030,568 | | |
| 23 | X-01 | X-01 | | | | | | | | $677,739 | | |
| 24 | | | | 2,527,052 | ($1,671,970) | 90,977,731 | ($462,379) | 295,668 | $1,306,853 | $298,070,679 | | |
| 25 | | | | Rate | | | | Rate | $4.42 | | | |
| 26 | | B-32 C&I Back-up | Back-up | | | | | | | $298,096,491 | Requirement | |
| 27 | | | Supplemental | 893,698 | ($339,605) | ($0.38) | | | | ($14,000) | M1 Increase | |
| 28 | | | | 176,161 | ($778,632) | ($4.42) | | | | $298,082,491 | | |
| 29 | | B-62 3000 kW Back- | Back-up | 1,069,859 | ($1,118,237) | | | | | | | |
| 30 | | | Supplemental | | | | | | | | | |
| 31 | | | | | | | | | | | | |
| 32 | | C-06 Small C&I | kWh | | | | | | | | | |
| 33 | | | Over 25 kVA | | | | | | | | | |
| 34 | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | |
| 36 | | C-08 Small C&I Unn | kWh | | | | | | | | | |
| 37 | | | Over 25 kVA | | | | | | | | | |
| 38 | | | | | | | | | | | | |
| 39 | M-1 | Station Power | | | | | | | | | | |

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# REBUTTAL TESTIMONY

# OF

# PAUL M. NORMAND

**Dated: May 9, 2018**

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## I. Introduction

**Q. Please state your name, position, and address.**

A. My name is Paul M. Normand. I am a management consultant and President of Management Applications Consulting, Inc., (MAC) located at 1103 Rocky Drive, Suite 201, Reading, Pennsylvania 19609.

**Q. Have you previously submitted direct testimony in this proceeding?**

A. Yes. On November 27, 2017, I submitted direct testimony in this proceeding in support of the Allocated Cost of Service Study submitted on behalf of The Narragansett Electric Company d/b/a National Grid (the Company) for its gas operations (Narragansett Gas) and the class revenue targets and rate design for each of Narragansett Gas' proposed rates.

## II. Purpose of Testimony

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

A. The purpose of my rebuttal testimony is to respond to the direct testimony of Bruce R. Oliver submitted on behalf of the Rhode Island Division of Public Utilities and Carriers (Division) in this proceeding. Specifically, I will respond to Mr. Oliver's testimony regarding firm and non-firm class costs of service and rate structure changes.

**Q. Are you sponsoring any schedules with your rebuttal testimony?**

A. Yes, I am sponsoring the following rebuttal schedules:

- Schedule PMN-1R: Income Tax Allocation Comparisons
- Schedule PMN-2R: Schedule PMN-5(REV-1) Revised Cost of Service for Tax Change
- Schedule PMN-3R –Cost of Service (COS) Model Verification of Allocation Formulas

**Q. Please summarize your rebuttal testimony.**

A. In summary, I support the following conclusions:

- The Public Utilities Commission (PUC) should reject Mr. Oliver's recommendation that income taxes be allocated on rate base. Income taxes are a function of taxable income, not rate base. Thus, Narragansett Gas' method for addressing income taxes reflects cost causation, whereas Mr. Oliver's method over-allocates income taxes to the smaller users at existing revenue levels.
- Narragansett Gas has demonstrated that the existing level of discount to its Non-Firm customers is appropriate given the non-firm service levels, with its class increases related directly to the increase of the comparable firm service large customers.
- Narragansett Gas has provided the Division with a detailed non-firm allocated cost of service study (the Study) in its filed work papers, along with a thorough discussion in direct testimony as to the appropriateness of the results and the underlying cost support for a continued discount as currently approved. The detail for the non-firm class was provided in the work papers, Schedule PMN-9. I excluded the more detailed unbundled costs similar to Schedules PMN-4 through 6 provided for firm service costs as voluminous and not directly related to non-firm service customers.

- Narragansett Gas disagrees with Mr. Oliver's proposal to maintain existing customer monthly charges. Maintaining the existing monthly customer charges would result in the continuation of high levels of intra class subsidies, which are not economic and therefore not efficient.

## III. Class Costs of Service

### 1. Income Tax Allocations

**Q. Do you agree with Mr. Oliver's recommended use of rate base to allocate Narragansett Gas' income taxes?**

A. No. Income taxes are a direct function of taxable income – not rate base. A properly prepared allocated cost of service study (ACOSS) calculates the various elements of a service class' revenue requirement, such as rate of return and income taxes, in the same manner as it is calculated for Narragansett Gas overall. Using a rate base allocator for income taxes would distort the results of the ACOSS at existing and uniform revenue levels. As shown on Schedule PMN-1R, Lines 6 and 7, Mr. Oliver's method produces widely different income tax rates for each class. Mr. Oliver's method also ignores the two items that directly and proportionately affect income tax expense – revenues and costs – which results in taxable income.

Narragansett Gas' methodology properly reflects the fact that income tax expense is higher for classes with higher revenue and/or lower costs, and lower for classes with lower revenue and/or higher costs. Rate classes with lower revenue and negative taxable income and corresponding returns do, in fact, produce a tax benefit, which Narragansett Gas' methodology reflects. Narragansett Gas' approach reflects this by customer class in deriving the class revenue requirements at Narragansett Gas' overall claimed rate of return using a uniform rate for each class of service in the ACOSS. However, total class revenue requirements and proposed revenue targets are the key parameters to support any recommendations, which are not directly calculated in Mr. Oliver's proposal.

**Q. If a rate base allocator for income taxes is used, can the revenue requirement for each rate class at equalized rates of return be correctly calculated?**

A. No. This is shown on Schedule PMN-1R Page 1, which compares the calculated Revenue Deficiency As Filed at equalized rate of return of 7.67 percent for each rate class (Line 18) and the calculated Revenue Deficiency with Allocation of Income Taxes on Rate Base at equalized rate of return of 7.67 percent (Line 19). Line 19 was calculated using the same model used to calculate Line 18, with only the income tax allocator changed to rate base. This change also had the effect of changing other allocators in the ACOSS, such as the Claimed Revenue allocator (REVCLAIM), which resulted in the differences in the Revenue Deficiencies at equalized rate of return, as shown on Line 20.

**2. <u>Firm Service Rate Design</u>**

**Q. At Pages 31-34 of his testimony, Mr. Oliver recommends retaining the current customer charges for the residential rate class. Do you agree with his recommendations?**

A. No. The current customer charges may substantially deviate from costs for a variety of historical and jurisdictional public policy reasons. The attached Schedule PMN-2R demonstrates that the Company's present and proposed Residential customer charges at cost of service should be considerably more than what the Company has proposed (<u>see</u> Pages 5-8, Line 20) from ' its revised ACOSS. As shown in Schedule PMN-5 (REV-1), Page 5, the proper customer charges for Residential rates at equalized rate of return (7.67 percent) are $29.45 for Residential Non-Heating customers and $29.65 for Residential Heating customers. Although Mr. Oliver is correct in his assertion that customer-related costs of service for both the Heating and Non-Heating rate classes are nearly the same, Mr. Oliver ignores the significant difference between the present customer charges and the calculated customer charge service levels. Present customer charges would need to be doubled to approach cost of service levels. Narragansett Gas' proposed customer charge increases for Residential Non-Heating from $13.00 to $16.00, and for Residential Heating from $13.00 to $16.00, are appropriate and move both customer charges closer to the true customer, costs which essentially are the same for both. Mr. Oliver's recommendation to maintain the existing levels would move the customer charges further away from the true customer costs. <u>See</u> Oliver Testimony at 33. Narragansett Gas recommends that the proposed customer charges be approved and that any reduction to class revenue requirement be applied to the volumetric charges.

**Q. Does maintaining the existing customer charges support economic efficiency?**

A. No. In fact, the initial and revised ACOSS results clearly show that the customer costs far exceed Narragansett Gas' proposed fixed charge levels. Narragansett Gas' proposal to increase the customer charges is a move in the right direction as opposed to Mr. Oliver's recommendations to retain the current customer charges. Economic efficiency can be achieved only if prices are set equal to costs and the results of the Study clearly show that this relationship currently is somewhat removed. In fact, as a result of the cost disparity, it will take many future rate proposals to eliminate the shortfall in cost recovery. Finally, Mr. Oliver's proposal to retain the current customer charges only magnifies the existing subsidies by further increasing the volumetric charge by reducing fixed cost recovery, which promotes a larger discount in cost recovery for customers with average use and below, at the expense of larger volume customers. Such a result should not be encouraged in regulatory pricing. Distribution costs are primarily fixed in nature and volumetric recovery of most of these costs simply burdens larger users of all classes.

**Q. Is the cost to serve residential customers similar for heating and non-heating service?**

A. No. As noted on Schedule PMN-2R, at Pages 7 and 8, although the customer costs component is virtually identical (Line 18), the remaining costs are somewhat different, as indicated on Line 17 at the uniform rate of return of 7.67 percent. As a result, it is paramount that existing monthly fixed customer charges be increased to mitigate these costs differences over time. The vast majority of costs are fixed in a distribution cost study primarily driven by costs associated with meters and services, which are required by customers to receive service from Narragansett Gas. In establishing price levels, it is critical to recognize that large portions of fixed costs will be recovered on a volumetric basis where Residential Heating customers use four times the level of Non-Heating customers (see Schedule PMN-2R, Page 5 of 8, Lines 21 and 22).

**3. Non-Firm Rate Issues**

**Q. Mr. Oliver recommends that Narragansett Gas' non-firm service classes should be included in Narragansett Gas' allocation of costs among the rate classes. Do you agree?**

A. No. Narragansett Gas disagrees that an embedded ACOSS is an appropriate basis for setting non-firm rates. In fact, it is my experience that a gas utility generally does not include a non-firm service class in its ACOSS. Gas distribution systems are built to serve peak day demand. By definition, non-firm customers do not contribute to the peak because they can be called to curtail during peak days. Therefore, they do not contribute towards the peak and would receive no allocation of these costs as discussed in my's direct testimony on Bates Stamp Page 29, Lines 5-11.

Narragansett Gas provided a detailed Study in Schedule PMN-9 to my direct testimony, along with a thorough discussion of the issue on Pages 28-31 of my direct testimony. An embedded cost study for non-firm customers requires judgment in developing the capacity allocators to reflect curtailment/interruptible capability in establishing cost responsibility. In a prior Decision and Order in prior Narragansett Gas general rate case, RIPUC Docket No. 3943, the PUC determined ". . . that setting the price of non-firm service as a fixed percentage of the price of firm service is a fair and reasonable methodology."[1]

Non-Firm service is a benefit to firm customers by providing enhanced backup to Narragansett Gas' infrastructure in the event of any possible conditions that may require interruption or curtailment of service to ensure service to firm customers over the course of the year. Non-firm customers have use of Narragansett Gas' infrastructure after firm service deliveries. As a result, Narragansett Gas' cost of service recognizes this benefit by crediting all firm customers with their (non-firm) revenue margins as an offset or reduction to the firm cost of service revenue requirements. This revenue credit to all firm customers is very important in that the facilities required for service to these customers are allocated to all firm classes, but the margins from the Non-Firm customers are a direct offset, with the result that firm customers pay no cost associated with non-firm customers.

[1] Docket No. 3943, *Decision and Order* (2009) at 86.

**4. <u>Head Block and Tail Block Charges</u>**

**Q. Mr. Oliver disagrees with Narragansett Gas' proposed equalization of head block and tail block charges through a one-step adjustment in this proceeding. What is your response?**

A. It is appropriate to reduce or remove the block structure, when the fixed cost recovery is increased. Eliminating the seasonality of the volumetric charge is primarily driven by the improper recovery of large proportion fixed costs in volumetric charges, which is an uneconomic approach to pricing that currently exits and is proposed by the Division.

**Q. As Narragansett Gas has eliminated head block and tail block charges, does Narragansett Gas agree that the differences between Narragansett Gas' distribution charges for on-peak and off-peak gas use should be retained?**

A. Yes. Because Narragansett Gas has eliminated Head Block and Tail Block charges, Narragansett Gas agrees that it should have further differentiation between distribution charges for peak and off-peak gas use.

**Q. Mr. Oliver claims that flattening the distribution charges for residential heating customers is not appropriate and will place substantial rate burdens on larger gas users within the residential heating class. Do you agree?**

A. No. Flattening the distribution charge for Residential heating customers will not place substantial rate burdens on larger residential heating gas users. In fact, in Schedule PMN-8 (REV-1) Narragansett Gas demonstrates that, the total annual bill impacts for residential heating customers will range from 2.9 percent to 3.7 percent, depending on annual usage. More importantly, maintaining the current customer charges has a greater impact by continuing the existing subsidies which inflates the volumetric charges.

**5. <u>Miscellaneous</u>**

**Q. Why are many of the formulas and inputs in your model hidden and/or not documented or explained?**

A. The ACOSS model I use is a proprietary model that is not intended to be disseminated to third parties. Nonetheless, I have provided the model to the Division where they can verify the allocators and the costs assignment to each class. For example, Schedule PMN-3R provides a detailed discussion on this subject with an example that can easily be replicated and verified, especially by an expert on these matters.

## IV. Conclusion

**Q. Does this conclude your testimony?**

A. Yes.

Rebuttal Schedules of
Paul Normand

**SCHEDULE PMN-1R**

– Summary of Effect of Allocating Income Taxes on Rate Base (Pages 1)

– Incomes Taxes Filed Present & Claimed Revenues Rev-1 (Pages 2 and 3)

– Income Taxes Allocated on Rate Base Present & Claimed (Page 4 and 5)

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NATIONAL GRID - RHODE ISLAND
GAS COST OF SERVICE STUDY
12 MONTHS ENDED AUGUST 31, 2019

**SUMMARY OF ALLOC OF INCOME TAXES ON RATE BASE**

| | | TOTAL COMPANY (1)-1 | RESIDENTIAL NON-HEATING RATE 10,11 & 80 (2) | (3) | RESIDENTIAL HEATING RATE 12 & 13 (4) | TOTAL RESIDENTIAL (5) | COMM & IND SMALL RATE 21 (6)-2 | COMM & IND MEDIUM RATE 22 (7) | C & I LARGE LOW LOAD FAC RATE 33 (8) | C & I LARGE HIGH LOAD FAC RATE 23 (9) | C & I X LARGE LOW LOAD FAC RATE 34 (10) | C & I X LARGE HIGH LOAD FAC RATE 24 (11) | TOTAL COMM & IND (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | INCOME TAXES AS FILED (REV-1) | 6,723,273 | (238,530) | | 4,136,093 | 3,897,563 | 202,312 | 1,164,870 | 663,089 | 140,118 | 127,221 | 528,099 | 2,825,710 |
| 2 | INCOME TAXES ALLOCATED ON RATE BASE | 6,723,273 | 171,355 | | 4,303,848 | 4,475,203 | 540,586 | 822,684 | 374,975 | 151,348 | 65,595 | 292,882 | 2,248,070 |
| 3 | INCREASE (DECREASE) INCOME TAXES | (0) | 409,885 | | 167,755 | 577,640 | 338,274 | (342,186) | (288,115) | 11,230 | (61,627) | (235,217) | (577,640) |
| 4 | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | |
| 6 | INCOME TAX RATE AS FILED (REV-1) | 21.00% | 21.00% | | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% |
| 7 | INCOME TAX RATE ALLOC TAXES ON RATE BASE | 21.00% | -15.09% | | 21.85% | 24.11% | 56.09% | 14.83% | 11.88% | 22.68% | 10.83% | 11.65% | 16.71% |
| 8 | | | | | | | | | | | | | |
| 9 | RATE OF RETURN AS FILED (REV-1) | 5.81% | -2.08% | | 5.69% | 5.39% | 3.75% | 7.18% | 8.35% | 5.57% | 8.91% | 8.46% | 6.66% |
| 10 | RATE OF RETURN ALLOC INC TAXE RATE BASE | 5.81% | -4.17% | | 5.65% | 5.28% | 3.20% | 7.55% | 9.02% | 5.50% | 9.73% | 9.16% | 6.89% |
| 11 | | | | | | | | | | | | | |
| 12 | RELATIVE RATE OF RETURN AS FILED (REV-1) | 1.000 | -0.357 | | 0.978 | 0.927 | 0.645 | 1.236 | 1.435 | 0.958 | 1.532 | 1.455 | 1.146 |
| 13 | RELATIVE ROR ALLOC INCOME TAXE RATE BASE | 1.000 | -0.717 | | 0.972 | 0.907 | 0.551 | 1.299 | 1.551 | 0.947 | 1.674 | 1.576 | 1.184 |
| 14 | | | | | | | | | | | | | |
| 15 | PERCENT INCREASE (DECREASE) RELATIVE ROR | 0.00% | -100.52% | | -0.60% | -2.10% | -14.61% | 5.08% | 8.08% | -1.17% | 9.26% | 8.34% | 3.38% |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | REVENUE DEFICIENCY AS FILED (REV-1) | 18,408,488 | 2,461,136 | | 12,599,718 | 15,060,854 | 3,124,062 | 589,403 | (373,577) | 468,902 | (119,905) | (341,252) | 3,347,634 |
| 19 | REV DEFICIENCY ALLOC INC TAXES RATE BASE | 18,408,488 | 2,420,608 | | 12,583,035 | 15,003,643 | 3,090,621 | 623,277 | (345,069) | 467,807 | (113,809) | (317,981) | 3,404,846 |
| 20 | INCREASE (DECREASE) REVENUE DEFICIENCY | (0) | (40,528) | | (16,684) | (57,212) | (33,441) | 33,873 | 28,508 | (1,095) | 6,096 | 23,271 | 57,212 |
| 21 | | | | | | | | | | | | | |
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NATIONAL GRID - RHODE ISLAND
GAS COST OF SERVICE STUDY
12 MONTHS ENDED AUGUST 31, 2019

**PRESENT REVENUES SCHEDULE PMN-2 (REV-1)**

| | | TOTAL COMPANY (1)-1 | RESIDENTIAL NON-HEATING RATE 10,11 & 80 (2) | (3) | RESIDENTIAL HEATING RATE 12 & 13 (4) | TOTAL RESIDENTIAL (5) | COMM & IND SMALL RATE 21 (6)-2 | COMM & IND MEDIUM RATE 22 (7) | C & I LARGE LOW LOAD FAC RATE 33 (8) | C & I LARGE HIGH LOAD FAC RATE 23 (9) | C & I X LARGE LOW LOAD FAC RATE 34 (10) | C & I X LARGE HIGH LOAD FAC RATE 24 (11) | TOTAL COMM & IND (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RATE BASE | 767,169,688 | 19,530,779 | | 491,088,393 | 510,619,173 | 61,666,344 | 93,892,034 | 42,802,543 | 17,269,200 | 7,488,072 | 33,432,323 | 256,550,515 |
| 2 | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | |
| 4 | DEVELOPMENT OF RETURN | | | | | | | | | | | | |
| 5 | SALES OF GAS TO ULTIMATE CUST | 211,046,293 | 4,776,683 | | 139,501,957 | 144,278,640 | 17,038,091 | 24,856,177 | 10,692,334 | 3,668,219 | 1,990,735 | 8,522,097 | 66,767,653 |
| 6 | OTHER OPERATING REVENUES | 3,477,297 | 56,502 | | 1,775,472 | 1,831,974 | 352,309 | 549,056 | 241,958 | 93,743 | 83,209 | 325,048 | 1,645,323 |
| 7 | TOTAL GAS OPERATING REVENUES | 214,523,590 | 4,833,184 | | 141,277,429 | 146,110,614 | 17,390,400 | 25,405,233 | 10,934,292 | 3,761,962 | 2,073,944 | 8,847,146 | 68,412,977 |
| 8 | | | | | | | | | | | | | |
| 9 | LESS: | | | | | | | | | | | | |
| 10 | PURCHASED GAS COSTS | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | OTHER OPER & MAINT EXPENSE | 90,118,099 | 3,362,894 | | 61,285,618 | 64,648,512 | 8,834,953 | 9,189,031 | 3,025,297 | 1,182,043 | 630,096 | 2,608,167 | 25,469,587 |
| 12 | DEPRECIATION & AMORTIZATION EXP | 43,162,745 | 1,238,514 | | 28,292,154 | 29,530,668 | 3,541,902 | 4,908,737 | 2,192,480 | 882,833 | 386,528 | 1,719,598 | 13,632,077 |
| 13 | OTHER TAXES | 29,859,300 | 875,436 | | 19,625,987 | 20,501,424 | 2,479,293 | 3,382,894 | 1,477,696 | 593,594 | 262,734 | 1,161,666 | 9,357,876 |
| 14 | FEDERAL INCOME TAXES | 6,723,273 | (238,530) | | 4,136,093 | 3,897,563 | 202,312 | 1,164,870 | 663,089 | 140,118 | 127,221 | 528,099 | 2,825,710 |
| 15 | AFUDC AMORTIZATION | 23,070 | 665 | | 15,121 | 15,787 | 1,899 | 2,628 | 1,166 | 469 | 206 | 915 | 7,283 |
| 16 | INTEREST ON CUSTOMER DEPOSITS | 35,184 | 20 | | 2,563 | 2,583 | 16,870 | 11,490 | 2,626 | 1,080 | 69 | 465 | 32,601 |
| 17 | TOTAL OPERATING EXPENSE | 169,921,670 | 5,239,000 | | 113,357,536 | 118,596,536 | 15,077,229 | 18,659,650 | 7,362,354 | 2,800,137 | 1,406,855 | 6,018,909 | 51,325,134 |
| 18 | | | | | | | | | | | | | |
| 19 | OPERATING INCOME | 44,601,920 | (405,816) | | 27,919,893 | 27,514,078 | 2,313,172 | 6,745,583 | 3,571,938 | 961,826 | 667,088 | 2,828,237 | 17,087,842 |
| 20 | | | | | | | | | | | | | |
| 21 | RATE OF RETURN | 5.81% | -2.08% | | 5.69% | 5.39% | 3.75% | 7.18% | 8.35% | 5.57% | 8.91% | 8.46% | 6.66% |
| 22 | RELATIVE RATE OF RETURN | 1.000 | -0.357 | | 0.978 | 0.927 | 0.645 | 1.236 | 1.435 | 0.958 | 1.532 | 1.455 | 1.146 |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| 25 | TAXABLE INCOME | 32,015,587 | (1,135,855) | | 19,695,680 | 18,559,824 | 963,390 | 5,547,002 | 3,157,569 | 667,229 | 605,816 | 2,514,755 | 13,455,762 |
| 26 | INCOME TAXES | 6,723,273 | (238,530) | | 4,136,093 | 3,897,563 | 202,312 | 1,164,870 | 663,089 | 140,118 | 127,221 | 528,099 | 2,825,710 |
| 27 | TAX RATE | 21.00% | 21.00% | | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
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THE NARRAGANSETT ELECTRIC COMPANY
d/b/a NATIONAL GRID
RIPUC Docket No. 4770
Schedule PMN-1R
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NATIONAL GRID - RHODE ISLAND
GAS COST OF SERVICE STUDY
12 MONTHS ENDED AUGUST 31, 2019

**CLAIMED REVENUES SCHEDULE PMN-2 (REV-1)**

| | TOTAL COMPANY (1)-1 | RESIDENTIAL NON-HEATING RATE 10,11 & 80 (2) | (3) | RESIDENTIAL HEATING RATE 12 & 13 (4) | TOTAL RESIDENTIAL (5) | COMM & IND SMALL RATE 21 (6)-2 | COMM & IND MEDIUM RATE 22 (7) | C & I LARGE LOW LOAD FAC RATE 33 (8) | C & I LARGE HIGH LOAD FAC RATE 23 (9) | C & I X LARGE LOW LOAD FAC RATE 34 (10) | C & I X LARGE HIGH LOAD FAC RATE 24 (11) | TOTAL COMM & IND (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 RATE BASE | 767,169,688 | 19,530,779 | | 491,088,393 | 510,619,173 | 61,666,344 | 93,892,034 | 42,802,543 | 17,269,200 | 7,488,072 | 33,432,323 | 256,550,515 |
| 2 | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | |
| 4 DEVELOPMENT OF RETURN | | | | | | | | | | | | |
| 5 SALES OF GAS TO ULTIMATE CUST | 229,454,781 | 7,237,819 | | 152,101,675 | 159,339,494 | 20,162,153 | 25,445,580 | 10,318,757 | 4,137,121 | 1,870,830 | 8,180,845 | 70,115,287 |
| 6 OTHER OPERATING REVENUES | 3,477,297 | 56,502 | | 1,775,472 | 1,831,974 | 352,309 | 549,056 | 241,958 | 93,743 | 83,209 | 325,048 | 1,645,323 |
| 7 TOTAL GAS OPERATING REVENUES | 232,932,079 | 7,294,320 | | 153,877,148 | 161,171,468 | 20,514,463 | 25,994,636 | 10,560,715 | 4,230,865 | 1,954,039 | 8,505,894 | 71,760,610 |
| 8 | | | | | | | | | | | | |
| 9 LESS: | | | | | | | | | | | | |
| 10 PURCHASED GAS COSTS | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 OTHER OPER & MAINT EXPENSE | 90,118,099 | 3,362,894 | | 61,285,618 | 64,648,512 | 8,834,953 | 9,189,031 | 3,025,297 | 1,182,043 | 630,096 | 2,608,167 | 25,469,587 |
| 12 DEPRECIATION & AMORTIZATION EXP | 43,162,745 | 1,238,514 | | 28,292,154 | 29,530,668 | 3,541,902 | 4,908,737 | 2,192,480 | 882,833 | 386,528 | 1,719,598 | 13,632,077 |
| 13 OTHER TAXES | 29,859,300 | 875,436 | | 19,625,987 | 20,501,424 | 2,479,293 | 3,382,894 | 1,477,696 | 593,594 | 262,734 | 1,161,666 | 9,357,876 |
| 14 FEDERAL INCOME TAXES | 10,891,766 | 318,780 | | 6,989,224 | 7,308,004 | 909,737 | 1,298,337 | 578,495 | 246,298 | 100,070 | 450,824 | 3,583,762 |
| 15 AFUDC AMORTIZATION | 23,070 | 665 | | 15,121 | 15,787 | 1,899 | 2,628 | 1,166 | 469 | 206 | 915 | 7,283 |
| 16 INTEREST ON CUSTOMER DEPOSITS | 35,184 | 20 | | 2,563 | 2,583 | 16,870 | 11,490 | 2,626 | 1,080 | 69 | 465 | 32,601 |
| 17 TOTAL OPERATING EXPENSE | 174,090,164 | 5,796,310 | | 116,210,668 | 122,006,978 | 15,784,654 | 18,793,117 | 7,277,760 | 2,906,317 | 1,379,704 | 5,941,634 | 52,083,186 |
| 18 | | | | | | | | | | | | |
| 19 OPERATING INCOME | 58,841,915 | 1,498,011 | | 37,666,480 | 39,164,491 | 4,729,809 | 7,201,519 | 3,282,955 | 1,324,548 | 574,335 | 2,564,259 | 19,677,424 |
| 20 | | | | | | | | | | | | |
| 21 RATE OF RETURN | 7.67% | 7.67% | | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% |
| 22 RELATIVE RATE OF RETURN | 1.000 | 1.000 | | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 TAXABLE INCOME WITHOUT INCREASE | 32,015,587 | (1,135,855) | | 19,695,680 | 18,559,824 | 963,390 | 5,547,002 | 3,157,569 | 667,229 | 605,816 | 2,514,755 | 13,455,762 |
| 26 INCOME TAXES WITHOUT INCREASE | 6,723,273 | (238,530) | | 4,136,093 | 3,897,563 | 202,312 | 1,164,870 | 663,089 | 140,118 | 127,221 | 528,099 | 2,825,710 |
| 27 TAX RATE | 21.00% | 21.00% | | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% | 21.00% |
| 28 | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | |
| 30 TAXABLE INCOME INCREASE | 18,408,488 | 2,461,136 | | 12,599,718 | 15,060,854 | 3,124,062 | 589,403 | (373,577) | 468,902 | (119,905) | (341,252) | 3,347,634 |
| 31 INCOME TAXES ON INCREASE | 4,168,493 | 557,310 | | 2,853,132 | 3,410,441 | 707,425 | 133,467 | (84,594) | 106,180 | (27,152) | (77,274) | 758,052 |
| 32 TAX RATE NET OF UNCOLLECTIBLES | 22.64% | 22.64% | | 22.64% | 22.64% | 22.64% | 22.64% | 22.64% | 22.64% | 22.64% | 22.64% | 22.64% |
| 33 | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | |
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THE NARRAGANSETT ELECTRIC COMPANY
d/b/a NATIONAL GRID
RIPUC Docket No. 4770
Schedule PMN-1R
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NATIONAL GRID - RHODE ISLAND
GAS COST OF SERVICE STUDY
12 MONTHS ENDED AUGUST 31, 2019

**THE NARRAGANSETT ELECTRIC COMPANY**
**d/b/a NATIONAL GRID**
**RIPUC Docket No. 4770**
**Schedule PMN-1R**
**Page 4 of 5**

## PRESENT REVENUES TAXES RATE BASE

| | | TOTAL COMPANY (1)-1 | RESIDENTIAL NON-HEATING RATE 10,11 & 80 (2) | (3) | RESIDENTIAL HEATING RATE 12 & 13 (4) | TOTAL RESIDENTIAL (5) | COMM & IND SMALL RATE 21 (6)-2 | COMM & IND MEDIUM RATE 22 (7) | C & I LARGE LOW LOAD FAC RATE 33 (8) | C & I LARGE HIGH LOAD FAC RATE 23 (9) | C & I X LARGE LOW LOAD FAC RATE 34 (10) | C & I X LARGE HIGH LOAD FAC RATE 24 (11) | TOTAL COMM & IND (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RATE BASE | 767,169,688 | 19,552,744 | | 491,097,383 | 510,650,127 | 61,684,471 | 93,873,698 | 42,787,104 | 17,269,801 | 7,484,769 | 33,419,718 | 256,519,561 |
| 2 | RATE BASE ALLOCATOR | 1.0000 | 0.0255 | | 0.6401 | 0.6656 | 0.0804 | 0.1224 | 0.0558 | 0.0225 | 0.0098 | 0.0436 | 0.3344 |
| 3 | | | | | | | | | | | | | |
| 4 | DEVELOPMENT OF RETURN | | | | | | | | | | | | |
| 5 | SALES OF GAS TO ULTIMATE CUST | 211,046,293 | 4,776,683 | | 139,501,957 | 144,278,640 | 17,038,091 | 24,856,177 | 10,692,334 | 3,668,219 | 1,990,735 | 8,522,097 | 66,767,653 |
| 6 | OTHER OPERATING REVENUES | 3,477,297 | 56,502 | | 1,775,472 | 1,831,974 | 352,309 | 549,056 | 241,958 | 93,743 | 83,209 | 325,048 | 1,645,323 |
| 7 | TOTAL GAS OPERATING REVENUES | 214,523,590 | 4,833,184 | | 141,277,429 | 146,110,614 | 17,390,400 | 25,405,233 | 10,934,292 | 3,761,962 | 2,073,944 | 8,847,146 | 68,412,977 |
| 8 | | | | | | | | | | | | | |
| 9 | LESS: | | | | | | | | | | | | |
| 10 | PURCHASED GAS COSTS | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | OTHER OPER & MAINT EXPENSE | 90,118,099 | 3,361,902 | | 61,285,209 | 64,647,111 | 8,834,134 | 9,189,860 | 3,025,995 | 1,182,016 | 630,245 | 2,608,737 | 25,470,988 |
| 12 | DEPRECIATION & AMORTIZATION EXP | 43,162,745 | 1,238,477 | | 28,292,138 | 29,530,615 | 3,541,871 | 4,908,768 | 2,192,506 | 882,832 | 386,534 | 1,719,619 | 13,632,130 |
| 13 | OTHER TAXES | 29,859,300 | 875,436 | | 19,625,987 | 20,501,424 | 2,479,293 | 3,382,894 | 1,477,696 | 593,594 | 262,734 | 1,161,666 | 9,357,876 |
| 14 | FEDERAL INCOME TAXES | 6,723,273 | 171,355 | | 4,303,848 | 4,475,203 | 540,586 | 822,684 | 374,975 | 151,348 | 65,595 | 292,882 | 2,248,070 |
| 15 | AFUDC AMORTIZATION | 23,070 | 665 | | 15,121 | 15,787 | 1,899 | 2,628 | 1,166 | 469 | 206 | 915 | 7,283 |
| 16 | INTEREST ON CUSTOMER DEPOSITS | 35,184 | 20 | | 2,563 | 2,583 | 16,870 | 11,490 | 2,626 | 1,080 | 69 | 465 | 32,601 |
| 17 | TOTAL OPERATING EXPENSE | 169,921,670 | 5,647,855 | | 113,524,868 | 119,172,723 | 15,414,654 | 18,318,324 | 7,074,964 | 2,811,339 | 1,345,383 | 5,784,283 | 50,748,947 |
| 18 | | | | | | | | | | | | | |
| 19 | OPERATING INCOME | 44,601,920 | (814,671) | | 27,752,561 | 26,937,891 | 1,975,747 | 7,086,908 | 3,859,328 | 950,624 | 728,560 | 3,062,862 | 17,664,029 |
| 20 | | | | | | | | | | | | | |
| 21 | RATE OF RETURN | 5.81% | -4.17% | | 5.65% | 5.28% | 3.20% | 7.55% | 9.02% | 5.50% | 9.73% | 9.16% | 6.89% |
| 22 | RELATIVE RATE OF RETURN | 1.000 | -0.717 | | 0.972 | 0.907 | 0.551 | 1.299 | 1.551 | 0.947 | 1.674 | 1.576 | 1.184 |
| 23 | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | |
| 25 | TAXABLE INCOME | 32,015,587 | (1,135,379) | | 19,695,877 | 18,560,498 | 963,783 | 5,546,603 | 3,157,234 | 667,242 | 605,745 | 2,514,482 | 13,455,089 |
| 26 | INCOME TAXES | 6,723,273 | 171,355 | | 4,303,848 | 4,475,203 | 540,586 | 822,684 | 374,975 | 151,348 | 65,595 | 292,882 | 2,248,070 |
| 27 | TAX RATE | 21.00% | -15.09% | | 21.85% | 24.11% | 56.09% | 14.83% | 11.88% | 22.68% | 10.83% | 11.65% | 16.71% |
| 28 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | |
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| 31 | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | |

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NATIONAL GRID - RHODE ISLAND
GAS COST OF SERVICE STUDY
12 MONTHS ENDED AUGUST 31, 2019

**CLAIMED REVENUES TAXES RATE BASE**

| | | TOTAL COMPANY (1)-1 | RESIDENTIAL NON-HEATING RATE 10,11 & 80 (2) (3) | RESIDENTIAL HEATING RATE 12 & 13 (4) | TOTAL RESIDENTIAL (5) | COMM & IND SMALL RATE 21 (6)-2 | COMM & IND MEDIUM RATE 22 (7) | C & I LARGE LOW LOAD FAC RATE 33 (8) | C & I LARGE HIGH LOAD FAC RATE 23 (9) | C & I X LARGE LOW LOAD FAC RATE 34 (10) | C & I X LARGE HIGH LOAD FAC RATE 24 (11) | TOTAL COMM & IND (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | RATE BASE | 767,169,688 | 19,552,744 | 491,097,383 | 510,650,127 | 61,684,471 | 93,873,698 | 42,787,104 | 17,269,801 | 7,484,769 | 33,419,718 | 256,519,561 |
| 2 | RATE BASE ALLOCATOR | 1.0000 | 0.0255 | 0.6401 | 0.6656 | 0.0804 | 0.1224 | 0.0558 | 0.0225 | 0.0098 | 0.0436 | 0.3344 |
| 3 | | | | | | | | | | | | |
| 4 | DEVELOPMENT OF RETURN | | | | | | | | | | | |
| 5 | SALES OF GAS TO ULTIMATE CUST | 229,454,781 | 7,197,291 | 152,084,992 | 159,282,282 | 20,128,712 | 25,479,453 | 10,347,265 | 4,136,027 | 1,876,926 | 8,204,117 | 70,172,499 |
| 6 | OTHER OPERATING REVENUES | 3,477,297 | 56,502 | 1,775,472 | 1,831,974 | 352,309 | 549,056 | 241,958 | 93,743 | 83,209 | 325,048 | 1,645,323 |
| 7 | TOTAL GAS OPERATING REVENUES | 232,932,079 | 7,253,792 | 153,860,464 | 161,114,256 | 20,481,021 | 26,028,509 | 10,589,222 | 4,229,770 | 1,960,134 | 8,529,165 | 71,817,822 |
| 8 | | | | | | | | | | | | |
| 9 | LESS: | | | | | | | | | | | |
| 10 | PURCHASED GAS COSTS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | OTHER OPER & MAINT EXPENSE | 90,118,099 | 3,361,902 | 61,285,209 | 64,647,111 | 8,834,134 | 9,189,860 | 3,025,995 | 1,182,016 | 630,245 | 2,608,737 | 25,470,988 |
| 12 | DEPRECIATION & AMORTIZATION EXP | 43,162,745 | 1,238,477 | 28,292,138 | 29,530,615 | 3,541,871 | 4,908,768 | 2,192,506 | 882,832 | 386,534 | 1,719,619 | 13,632,130 |
| 13 | OTHER TAXES | 29,859,300 | 875,436 | 19,625,987 | 20,501,424 | 2,479,293 | 3,382,894 | 1,477,696 | 593,594 | 262,734 | 1,161,666 | 9,357,876 |
| 14 | FEDERAL INCOME TAXES | 10,891,766 | 277,597 | 6,972,275 | 7,249,872 | 875,755 | 1,332,757 | 607,463 | 245,185 | 106,264 | 474,471 | 3,641,895 |
| 15 | AFUDC AMORTIZATION | 23,070 | 665 | 15,121 | 15,787 | 1,899 | 2,628 | 1,166 | 469 | 206 | 915 | 7,283 |
| 16 | INTEREST ON CUSTOMER DEPOSITS | 35,184 | 20 | 2,563 | 2,583 | 16,870 | 11,490 | 2,626 | 1,080 | 69 | 465 | 32,601 |
| 17 | TOTAL OPERATING EXPENSE | 174,090,164 | 5,754,097 | 116,193,295 | 121,947,392 | 15,749,822 | 18,828,397 | 7,307,452 | 2,905,176 | 1,386,053 | 5,965,872 | 52,142,772 |
| 18 | | | | | | | | | | | | |
| 19 | OPERATING INCOME | 58,841,915 | 1,499,695 | 37,667,169 | 39,166,865 | 4,731,199 | 7,200,113 | 3,281,771 | 1,324,594 | 574,082 | 2,563,292 | 19,675,050 |
| 20 | | | | | | | | | | | | |
| 21 | RATE OF RETURN | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% |
| 22 | RELATIVE RATE OF RETURN | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| 23 | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | |
| 25 | TAXABLE INCOME | 50,424,075 | 1,285,229 | 32,278,912 | 33,564,140 | 4,054,404 | 6,169,880 | 2,812,165 | 1,135,049 | 491,935 | 2,196,501 | 16,859,935 |
| 26 | INCOME TAXES | 10,891,766 | 277,597 | 6,972,275 | 7,249,872 | 875,755 | 1,332,757 | 607,463 | 245,185 | 106,264 | 474,471 | 3,641,895 |
| 27 | TAX RATE | 21.60% | 21.60% | 21.60% | 21.60% | 21.60% | 21.60% | 21.60% | 21.60% | 21.60% | 21.60% | 21.60% |
| 28 | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | |

THE NARRAGANSETT ELECTRIC COMPANY
d/b/a NATIONAL GRID
RIPUC Docket No. 4770
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Schedule PMN-2R

**SCHEDULE PMN-2R**

**Revised Cost of Service Incorporating Updated Tax Rates**

SCHEDULE PMN-5 (REV-1)

Total Class Unbundled Revenue Requirements and Unit Cost Results

– Existing Rate of Return (Pages 1 through 4)

– Uniform Proposed Rate of Return (Pages 5 through 8)

NATIONAL GRID - RHODE ISLAND
GAS COST OF SERVICE STUDY
12 MONTHS ENDED AUGUST 31, 2019

PRESENT RATE OF RETURN SUMMARY SCHEDULE - COMPONENT FORMAT

| | | | TOTAL COMPANY | | RESIDENTIAL NON-HEATING RATE 10, 11 & 80 | RESIDENTIAL HEATING RATE 12 & 13 |
|---|---|---|---|---|---|---|
| | RATE OF RETURN | | 5.81% | | -2.08% | 5.69% |
| | REVENUES REQUIRED | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 111,587,108 | | 561,932 | 63,502,481 |
| 2 | DEMAND PRODUCTION | | 7,898,260 | | 52,948 | 5,957,393 |
| 3 | PRODUCTION LPG | | 0 | | 0 | 0 |
| 4 | PRODUCTION LNG | | 7,898,260 | | 52,948 | 5,957,393 |
| 5 | DEMAND DISTRIBUTION | | 103,688,848 | | 508,984 | 57,545,089 |
| 6 | DISTRIBUTION OTHER | | 48,514,531 | | 222,319 | 23,784,510 |
| 7 | LOCAL FACILITIES CHARGE | | 55,174,317 | | 286,665 | 33,760,579 |
| 8 | **COMMODITY COMPONENTS** | | 3,276 | | 48 | 2,410 |
| 9 | GAS COSTS | | 3,276 | | 48 | 2,410 |
| 10 | **CUSTOMER COMPONENTS** | | 99,455,908 | | 4,214,702 | 75,997,065 |
| 11 | CUSTOMER SERVICES | | 44,343,496 | | 1,860,093 | 37,130,634 |
| 12 | CUSTOMER METERS | | 41,277,732 | | 1,709,399 | 28,648,262 |
| 13 | CUSTOMER DEPOSITS | | (58,836) | | 45 | (4,605) |
| 14 | CUSTOMER METER READING | | 753,648 | | 41,301 | 554,870 |
| 15 | CUST RECORDS & COLLECT | | 9,912,334 | | 545,242 | 8,667,496 |
| 16 | CUSTOMER INFORMATION | | 3,227,533 | | 58,622 | 1,000,408 |
| | | 211,046,293 | | | | |
| 17 | **TOTAL COMPANY** | 211,046,293 | 211,046,293 | 4,776,683 | 4,776,683 | 139,501,957 |
| | | 211,046,293 | | | | |
| | | 211,046,293 | | | | |
| 18 | **TOTAL DELIVERY SERVICE** | | 211,046,293 | | 4,776,683 | 139,501,957 |
| 19 | **DISTRIBUTION COMPONENT $/THERM** | | $0.2813 | | $0.1488 | $0.3312 |
| 20 | **CUSTOMER COMPONENT $/MO/CUST** | | $30.77 | | $20.66 | $27.89 |
| 21 | **TOTAL THRUPUT THERM** | | 396,724,601 | | 3,775,348 | 191,758,293 |
| 22 | **TOTAL ANNUAL CUSTOMERS** | | 3,232,381 | | 204,033 | 2,725,184 |

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NATIONAL GRID - RHODE ISLAND
GAS COST OF SERVICE STUDY
12 MONTHS ENDED AUGUST 31, 2019

| | | | COMM & IND SMALL RATE 21 | COMM & IND MEDIUM RATE 22 | C & I LARGE LOW LOAD FAC RATE 33 | C & I LARGE HIGH LOAD FAC RATE 23 | C & I X LARGE LOW LOAD FAC RATE 34 | C & I X LARGE HIGH LOAD FAC RATE 24 |
|---|---|---|---|---|---|---|---|---|
| | PRESENT RATE OF RETURN SUMMARY SCHEDULE - | | | | | | | |
| | RATE OF RETURN | | 3.75% | 7.18% | 8.35% | 5.57% | 8.91% | 8.46% |
| | REVENUES REQUIRED | | | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 7,228,077 | 17,979,490 | 9,427,723 | 3,200,776 | 1,774,901 | 7,911,728 |
| 2 | DEMAND PRODUCTION | | 726,915 | 892,747 | 217,696 | 28,343 | 18,796 | 3,422 |
| 3 | PRODUCTION LPG | | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | PRODUCTION LNG | | 726,915 | 892,747 | 217,696 | 28,343 | 18,796 | 3,422 |
| 5 | DEMAND DISTRIBUTION | | 6,501,162 | 17,086,743 | 9,210,027 | 3,172,433 | 1,756,104 | 7,908,306 |
| 6 | DISTRIBUTION OTHER | | 2,707,829 | 7,038,919 | 3,777,551 | 1,318,992 | 1,756,104 | 7,908,306 |
| 7 | LOCAL FACILITIES CHARGE | | 3,793,333 | 10,047,823 | 5,432,476 | 1,853,441 | 0 | 0 |
| 8 | **COMMODITY COMPONENTS** | | 287 | 405 | 80 | 29 | 8 | 9 |
| 9 | GAS COSTS | | 287 | 405 | 80 | 29 | 8 | 9 |
| 10 | **CUSTOMER COMPONENTS** | | 9,809,727 | 6,876,282 | 1,264,531 | 467,415 | 215,826 | 610,360 |
| 11 | CUSTOMER SERVICES | | 3,700,412 | 1,228,512 | 254,537 | 101,017 | 18,658 | 49,633 |
| 12 | CUSTOMER METERS | | 4,114,687 | 4,965,808 | 895,082 | 322,312 | 175,057 | 447,126 |
| 13 | CUSTOMER DEPOSITS | | (12,761) | (29,535) | (8,368) | (1,860) | (240) | (1,512) |
| 14 | CUSTOMER METER READING | | 60,282 | 53,283 | 31,200 | 7,775 | 1,476 | 3,462 |
| 15 | CUST RECORDS & COLLECT | | 487,800 | 185,026 | 19,529 | 3,804 | 612 | 2,826 |
| 16 | CUSTOMER INFORMATION | | 1,459,307 | 473,189 | 72,552 | 34,367 | 20,264 | 108,825 |
| | | 211,046,293 | | | | | | |
| 17 | **TOTAL COMPANY** | 211,046,293 | 17,038,091 | 24,856,177 | 10,692,334 | 3,668,219 | 1,990,735 | 8,522,097 |
| | | 211,046,293 | | | | | | |
| | | 211,046,293 | | | | | | |
| 18 | **TOTAL DELIVERY SERVICE** | | 17,038,091 | 24,856,177 | 10,692,334 | 3,668,219 | 1,990,735 | 8,522,097 |
| 19 | **DISTRIBUTION COMPONENT $/THERM** | | $0.2934 | $0.3254 | $0.3576 | $0.2443 | $0.1451 | $0.1137 |
| 20 | **CUSTOMER COMPONENT $/MO/CUST** | | $42.41 | $110.17 | $231.05 | $191.88 | $528.99 | $546.92 |
| 21 | **TOTAL THRUPUT THERM** | | 24,631,759 | 55,246,850 | 26,367,153 | 13,102,776 | 12,231,334 | 69,611,089 |
| 22 | **TOTAL ANNUAL CUSTOMERS** | | 231,317 | 62,414 | 5,473 | 2,436 | 408 | 1,116 |

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NATIONAL GRID - RHODE ISLAND
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12 MONTHS ENDED AUGUST 31, 2019

PRESENT RATE OF RETURN SUMMARY SCHEDULE - FUNCTION FORMAT

| | | | TOTAL COMPANY | | RESIDENTIAL NON-HEATING RATE 10, 11 & 80 | RESIDENTIAL HEATING RATE 12 & 13 |
|---|---|---|---|---|---|---|
| | RATE OF RETURN | | 5.81% | | -2.08% | 5.69% |
| | $/THERM | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 0.2813 | | 0.1488 | 0.3312 |
| 2 | DEMAND PRODUCTION | | 0.0199 | | 0.0140 | 0.0311 |
| 3 | PRODUCTION LPG | | 0.0000 | | 0.0000 | 0.0000 |
| 4 | PRODUCTION LNG | | 0.0199 | | 0.0140 | 0.0311 |
| 5 | DEMAND DISTRIBUTION | | 0.2614 | | 0.1348 | 0.3001 |
| 6 | DISTRIBUTION OTHER | | 0.1223 | | 0.0589 | 0.1240 |
| 7 | LOCAL FACILITIES CHARGE | | 0.1391 | | 0.0759 | 0.1761 |
| 8 | **COMMODITY COMPONENTS** | | 0.0000 | | 0.0000 | 0.0000 |
| 9 | GAS COSTS | | 0.0000 | | 0.0000 | 0.0000 |
| 10 | **CUSTOMER COMPONENTS** | | 0.2507 | | 1.1164 | 0.3963 |
| 11 | CUSTOMER SERVICES | | 0.1118 | | 0.4927 | 0.1936 |
| 12 | CUSTOMER METERS | | 0.1040 | | 0.4528 | 0.1494 |
| 13 | CUSTOMER DEPOSITS | | (0.0001) | | 0.0000 | (0.0000) |
| 14 | CUSTOMER METER READING | | 0.0019 | | 0.0109 | 0.0029 |
| 15 | CUST RECORDS & COLLECT | | 0.0250 | | 0.1444 | 0.0452 |
| 16 | CUSTOMER INFORMATION | | 0.0081 | | 0.0155 | 0.0052 |
| | | 0.5320 | | | | |
| 17 | **TOTAL COMPANY** | 0.5320 | 0.5320 | 1.2652 | 1.2652 | 0.7275 |
| | | 0.5320 | | | | |
| | $/MO/CUST | | | | | |
| 18 | **CUSTOMER COMPONENTS** | | $30.77 | | $20.66 | $27.89 |
| 19 | CUSTOMER SERVICES | | $13.72 | | $9.12 | $13.63 |
| 20 | CUSTOMER METERS | | $12.77 | | $8.38 | $10.51 |
| 21 | CUSTOMER DEPOSITS | | -$0.02 | | $0.00 | $0.00 |
| 22 | CUSTOMER METER READING | | $0.23 | | $0.20 | $0.20 |
| 23 | CUST RECORDS & COLLECT | | $3.07 | | $2.67 | $3.18 |
| 24 | CUSTOMER INFORMATION | | $1.00 | | $0.29 | $0.37 |
| 25 | LOCAL FACILITIES CHARGE | | $17.07 | | $1.40 | $12.39 |

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12 MONTHS ENDED AUGUST 31, 2019

| | | | COMM & IND SMALL RATE 21 | COMM & IND MEDIUM RATE 22 | C & I LARGE LOW LOAD FAC RATE 33 | C & I LARGE HIGH LOAD FAC RATE 23 | C & I X LARGE LOW LOAD FAC RATE 34 | C & I X LARGE HIGH LOAD FAC RATE 24 |
|---|---|---|---|---|---|---|---|---|
| | PRESENT RATE OF RETURN SUMMARY SCHEDULE - | | | | | | | |
| | RATE OF RETURN | | 3.75% | 7.18% | 8.35% | 5.57% | 8.91% | 8.46% |
| | $/THERM | | | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 0.2934 | 0.3254 | 0.3576 | 0.2443 | 0.1451 | 0.1137 |
| 2 | DEMAND PRODUCTION | | 0.0295 | 0.0162 | 0.0083 | 0.0022 | 0.0015 | 0.0000 |
| 3 | PRODUCTION LPG | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 4 | PRODUCTION LNG | | 0.0295 | 0.0162 | 0.0083 | 0.0022 | 0.0015 | 0.0000 |
| 5 | DEMAND DISTRIBUTION | | 0.2639 | 0.3093 | 0.3493 | 0.2421 | 0.1436 | 0.1136 |
| 6 | DISTRIBUTION OTHER | | 0.1099 | 0.1274 | 0.1433 | 0.1007 | 0.1436 | 0.1136 |
| 7 | LOCAL FACILITIES CHARGE | | 0.1540 | 0.1819 | 0.2060 | 0.1415 | 0.0000 | 0.0000 |
| 8 | **COMMODITY COMPONENTS** | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 9 | GAS COSTS | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 10 | **CUSTOMER COMPONENTS** | | 0.3983 | 0.1245 | 0.0480 | 0.0357 | 0.0176 | 0.0088 |
| 11 | CUSTOMER SERVICES | | 0.1502 | 0.0222 | 0.0097 | 0.0077 | 0.0015 | 0.0007 |
| 12 | CUSTOMER METERS | | 0.1670 | 0.0899 | 0.0339 | 0.0246 | 0.0143 | 0.0064 |
| 13 | CUSTOMER DEPOSITS | | (0.0005) | (0.0005) | (0.0003) | (0.0001) | (0.0000) | (0.0000) |
| 14 | CUSTOMER METER READING | | 0.0024 | 0.0010 | 0.0012 | 0.0006 | 0.0001 | 0.0000 |
| 15 | CUST RECORDS & COLLECT | | 0.0198 | 0.0033 | 0.0007 | 0.0003 | 0.0001 | 0.0000 |
| 16 | CUSTOMER INFORMATION | | 0.0592 | 0.0086 | 0.0028 | 0.0026 | 0.0017 | 0.0016 |
| | | 0.5320 | | | | | | |
| 17 | **TOTAL COMPANY** | 0.5320 | 0.6917 | 0.4499 | 0.4055 | 0.2800 | 0.1628 | 0.1224 |
| | | 0.5320 | | | | | | |
| | $/MO/CUST | | | | | | | |
| 18 | **CUSTOMER COMPONENTS** | | $42.41 | $110.17 | $231.05 | $191.88 | $528.99 | $546.92 |
| 19 | CUSTOMER SERVICES | | $16.00 | $19.68 | $46.51 | $41.47 | $45.73 | $44.47 |
| 20 | CUSTOMER METERS | | $17.79 | $79.56 | $163.55 | $132.31 | $429.06 | $400.65 |
| 21 | CUSTOMER DEPOSITS | | -$0.06 | -$0.47 | -$1.53 | -$0.76 | -$0.59 | -$1.35 |
| 22 | CUSTOMER METER READING | | $0.26 | $0.85 | $5.70 | $3.19 | $3.62 | $3.10 |
| 23 | CUST RECORDS & COLLECT | | $2.11 | $2.96 | $3.57 | $1.56 | $1.50 | $2.53 |
| 24 | CUSTOMER INFORMATION | | $6.31 | $7.58 | $13.26 | $14.11 | $49.67 | $97.51 |
| 25 | LOCAL FACILITIES CHARGE | | $16.40 | $160.99 | $992.60 | $760.85 | $0.00 | $0.00 |

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CLAIMED RATE OF RETURN SUMMARY SCHEDULE - COMPONENT FORMAT

| | | | TOTAL COMPANY | | RESIDENTIAL NON-HEATING RATE 10, 11 & 80 | RESIDENTIAL HEATING RATE 12 & 13 |
|---|---|---|---|---|---|---|
| | RATE OF RETURN | | 7.67% | | 7.67% | 7.67% |
| | REVENUES REQUIRED | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 122,217,072 | | 1,228,008 | 71,308,472 |
| 2 | DEMAND PRODUCTION | | 8,303,119 | | 69,356 | 6,260,440 |
| 3 | PRODUCTION LPG | | (0) | | (0) | (0) |
| 4 | PRODUCTION LNG | | 8,303,119 | | 69,356 | 6,260,440 |
| 5 | DEMAND DISTRIBUTION | | 113,913,953 | | 1,158,652 | 65,048,032 |
| 6 | DISTRIBUTION OTHER | | 52,238,647 | | 476,739 | 26,715,903 |
| 7 | LOCAL FACILITIES CHARGE | | 61,675,306 | | 681,913 | 38,332,130 |
| 8 | **COMMODITY COMPONENTS** | | 3,281 | | 49 | 2,414 |
| 9 | GAS COSTS | | 3,281 | | 49 | 2,414 |
| 10 | **CUSTOMER COMPONENTS** | | 107,234,429 | | 6,009,762 | 80,790,789 |
| 11 | CUSTOMER SERVICES | | 49,864,901 | | 3,168,966 | 40,569,012 |
| 12 | CUSTOMER METERS | | 43,523,261 | | 2,185,768 | 29,974,559 |
| 13 | CUSTOMER DEPOSITS | | (100,370) | | (58) | (7,349) |
| 14 | CUSTOMER METER READING | | 756,264 | | 41,905 | 556,504 |
| 15 | CUST RECORDS & COLLECT | | 9,950,170 | | 553,509 | 8,693,970 |
| 16 | CUSTOMER INFORMATION | | 3,240,203 | | 59,672 | 1,004,093 |
| | | 229,454,781 | | | | |
| 17 | **TOTAL COMPANY** | 229,454,781 | 229,454,781 | 7,237,819 | 7,237,819 | 152,101,675 |
| | | 229,454,781 | | | | |
| | | 229,454,781 | | | | |
| 18 | **TOTAL DELIVERY SERVICE** | | 229,454,781 | | 7,237,819 | 152,101,675 |
| 19 | **DISTRIBUTION COMPONENT $/THERM** | | $0.3081 | | $0.3253 | $0.3719 |
| 20 | **CUSTOMER COMPONENT $/MO/CUST** | | $33.18 | | $29.45 | $29.65 |
| 21 | **TOTAL THRUPUT THERM** | | 396,724,601 | | 3,775,348 | 191,758,293 |
| 22 | **TOTAL ANNUAL CUSTOMERS** | | 3,232,381 | | 204,033 | 2,725,184 |

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| | | | COMM & IND SMALL RATE 21 | COMM & IND MEDIUM RATE 22 | C & I LARGE LOW LOAD FAC RATE 33 | C & I LARGE HIGH LOAD FAC RATE 23 | C & I X LARGE LOW LOAD FAC RATE 34 | C & I X LARGE HIGH LOAD FAC RATE 24 |
|---|---|---|---|---|---|---|---|---|
| | CLAIMED RATE OF RETURN SUMMARY SCHEDULE - | | | | | | | |
| | RATE OF RETURN | | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% |
| | REVENUES REQUIRED | | | | | | | |
| | ------------------------------------------------------------ | | | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 9,232,218 | 18,490,757 | 9,073,403 | 3,645,488 | 1,660,259 | 7,578,466 |
| 2 | DEMAND PRODUCTION | | 804,176 | 903,527 | 214,144 | 29,880 | 18,239 | 3,357 |
| 3 | PRODUCTION LPG | | (0) | (0) | (0) | (0) | (0) | (0) |
| 4 | PRODUCTION LNG | | 804,176 | 903,527 | 214,144 | 29,880 | 18,239 | 3,357 |
| 5 | DEMAND DISTRIBUTION | | 8,428,042 | 17,587,229 | 8,859,260 | 3,615,608 | 1,642,021 | 7,575,109 |
| 6 | DISTRIBUTION OTHER | | 3,460,531 | 7,234,764 | 3,640,456 | 1,493,124 | 1,642,021 | 7,575,109 |
| 7 | LOCAL FACILITIES CHARGE | | 4,967,510 | 10,352,465 | 5,218,804 | 2,122,483 | (0) | (0) |
| 8 | **COMMODITY COMPONENTS** | | 288 | 405 | 80 | 29 | 8 | 9 |
| 9 | GAS COSTS | | 288 | 405 | 80 | 29 | 8 | 9 |
| 10 | **CUSTOMER COMPONENTS** | | 10,929,648 | 6,954,419 | 1,245,274 | 491,605 | 210,562 | 602,370 |
| 11 | CUSTOMER SERVICES | | 4,448,108 | 1,254,738 | 247,347 | 111,018 | 17,708 | 48,003 |
| 12 | CUSTOMER METERS | | 4,511,466 | 5,020,218 | 882,193 | 337,564 | 170,749 | 440,745 |
| 13 | CUSTOMER DEPOSITS | | (48,415) | (32,545) | (7,411) | (3,084) | (194) | (1,314) |
| 14 | CUSTOMER METER READING | | 60,636 | 53,321 | 31,168 | 7,799 | 1,473 | 3,458 |
| 15 | CUST RECORDS & COLLECT | | 490,768 | 185,164 | 19,508 | 3,817 | 610 | 2,823 |
| 16 | CUSTOMER INFORMATION | | 1,467,085 | 473,523 | 72,468 | 34,491 | 20,216 | 108,655 |
| | | 229,454,781 | | | | | | |
| 17 | **TOTAL COMPANY** | 229,454,781 | 20,162,153 | 25,445,580 | 10,318,757 | 4,137,121 | 1,870,830 | 8,180,845 |
| | | 229,454,781 | | | | | | |
| | | 229,454,781 | | | | | | |
| 18 | **TOTAL DELIVERY SERVICE** | | 20,162,153 | 25,445,580 | 10,318,757 | 4,137,121 | 1,870,830 | 8,180,845 |
| 19 | **DISTRIBUTION COMPONENT $/THERM** | | $0.3748 | $0.3347 | $0.3441 | $0.2782 | $0.1357 | $0.1089 |
| 20 | **CUSTOMER COMPONENT $/MO/CUST** | | $47.25 | $111.42 | $227.53 | $201.81 | $516.08 | $539.76 |
| 21 | **TOTAL THRUPUT THERM** | | 24,631,759 | 55,246,850 | 26,367,153 | 13,102,776 | 12,231,334 | 69,611,089 |
| 22 | **TOTAL ANNUAL CUSTOMERS** | | 231,317 | 62,414 | 5,473 | 2,436 | 408 | 1,116 |

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CLAIMED RATE OF RETURN SUMMARY SCHEDULE - FUNCTION FORMAT

| | | | TOTAL COMPANY | | RESIDENTIAL NON-HEATING RATE 10, 11 & 80 | RESIDENTIAL HEATING RATE 12 & 13 |
|---|---|---|---|---|---|---|
| | RATE OF RETURN | | 7.67% | | 7.67% | 7.67% |
| | $/THERM | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 0.3081 | | 0.3253 | 0.3719 |
| 2 | DEMAND PRODUCTION | | 0.0209 | | 0.0184 | 0.0326 |
| 3 | PRODUCTION LPG | | (0.0000) | | (0.0000) | (0.0000) |
| 4 | PRODUCTION LNG | | 0.0209 | | 0.0184 | 0.0326 |
| 5 | DEMAND DISTRIBUTION | | 0.2871 | | 0.3069 | 0.3392 |
| 6 | DISTRIBUTION OTHER | | 0.1317 | | 0.1263 | 0.1393 |
| 7 | LOCAL FACILITIES CHARGE | | 0.1555 | | 0.1806 | 0.1999 |
| 8 | **COMMODITY COMPONENTS** | | 0.0000 | | 0.0000 | 0.0000 |
| 9 | GAS COSTS | | 0.0000 | | 0.0000 | 0.0000 |
| 10 | **CUSTOMER COMPONENTS** | | 0.2703 | | 1.5918 | 0.4213 |
| 11 | CUSTOMER SERVICES | | 0.1257 | | 0.8394 | 0.2116 |
| 12 | CUSTOMER METERS | | 0.1097 | | 0.5790 | 0.1563 |
| 13 | CUSTOMER DEPOSITS | | (0.0003) | | (0.0000) | (0.0000) |
| 14 | CUSTOMER METER READING | | 0.0019 | | 0.0111 | 0.0029 |
| 15 | CUST RECORDS & COLLECT | | 0.0251 | | 0.1466 | 0.0453 |
| 16 | CUSTOMER INFORMATION | | 0.0082 | | 0.0158 | 0.0052 |
| | | 0.5784 | | | | |
| 17 | **TOTAL COMPANY** | 0.5784 | 0.5784 | 1.9171 | 1.9171 | 0.7932 |
| | | 0.5784 | | | | |
| | $/MO/CUST | | | | | |
| 18 | **CUSTOMER COMPONENTS** | | $33.18 | | $29.45 | $29.65 |
| 19 | CUSTOMER SERVICES | | $15.43 | | $15.53 | $14.89 |
| 20 | CUSTOMER METERS | | $13.46 | | $10.71 | $11.00 |
| 21 | CUSTOMER DEPOSITS | | -$0.03 | | $0.00 | $0.00 |
| 22 | CUSTOMER METER READING | | $0.23 | | $0.21 | $0.20 |
| 23 | CUST RECORDS & COLLECT | | $3.08 | | $2.71 | $3.19 |
| 24 | CUSTOMER INFORMATION | | $1.00 | | $0.29 | $0.37 |
| 25 | LOCAL FACILITIES CHARGE | | $19.08 | | $3.34 | $14.07 |

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| | CLAIMED RATE OF RETURN SUMMARY SCHEDULE - | | COMM & IND SMALL RATE 21 | COMM & IND MEDIUM RATE 22 | C & I LARGE LOW LOAD FAC RATE 33 | C & I LARGE HIGH LOAD FAC RATE 23 | C & I X LARGE LOW LOAD FAC RATE 34 | C & I X LARGE HIGH LOAD FAC RATE 24 |
|---|---|---|---|---|---|---|---|---|
| | RATE OF RETURN | | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% | 7.67% |
| | $/THERM | | | | | | | |
| 1 | **CAPACITY COMPONENTS** | | 0.3748 | 0.3347 | 0.3441 | 0.2782 | 0.1357 | 0.1089 |
| 2 | DEMAND PRODUCTION | | 0.0326 | 0.0164 | 0.0081 | 0.0023 | 0.0015 | 0.0000 |
| 3 | PRODUCTION LPG | | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.0000) | (0.0000) |
| 4 | PRODUCTION LNG | | 0.0326 | 0.0164 | 0.0081 | 0.0023 | 0.0015 | 0.0000 |
| 5 | DEMAND DISTRIBUTION | | 0.3422 | 0.3183 | 0.3360 | 0.2759 | 0.1342 | 0.1088 |
| 6 | DISTRIBUTION OTHER | | 0.1405 | 0.1310 | 0.1381 | 0.1140 | 0.1342 | 0.1088 |
| 7 | LOCAL FACILITIES CHARGE | | 0.2017 | 0.1874 | 0.1979 | 0.1620 | (0.0000) | (0.0000) |
| 8 | **COMMODITY COMPONENTS** | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 9 | GAS COSTS | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| 10 | **CUSTOMER COMPONENTS** | | 0.4437 | 0.1259 | 0.0472 | 0.0375 | 0.0172 | 0.0087 |
| 11 | CUSTOMER SERVICES | | 0.1806 | 0.0227 | 0.0094 | 0.0085 | 0.0014 | 0.0007 |
| 12 | CUSTOMER METERS | | 0.1832 | 0.0909 | 0.0335 | 0.0258 | 0.0140 | 0.0063 |
| 13 | CUSTOMER DEPOSITS | | (0.0020) | (0.0006) | (0.0003) | (0.0002) | (0.0000) | (0.0000) |
| 14 | CUSTOMER METER READING | | 0.0025 | 0.0010 | 0.0012 | 0.0006 | 0.0001 | 0.0000 |
| 15 | CUST RECORDS & COLLECT | | 0.0199 | 0.0034 | 0.0007 | 0.0003 | 0.0000 | 0.0000 |
| 16 | CUSTOMER INFORMATION | | 0.0596 | 0.0086 | 0.0027 | 0.0026 | 0.0017 | 0.0016 |
| | | 0.5784 | | | | | | |
| 17 | **TOTAL COMPANY** | 0.5784 | 0.8185 | 0.4606 | 0.3913 | 0.3157 | 0.1530 | 0.1175 |
| | | 0.5784 | | | | | | |
| | $/MO/CUST | | | | | | | |
| 18 | **CUSTOMER COMPONENTS** | | $47.25 | $111.42 | $227.53 | $201.81 | $516.08 | $539.76 |
| 19 | CUSTOMER SERVICES | | $19.23 | $20.10 | $45.19 | $45.57 | $43.40 | $43.01 |
| 20 | CUSTOMER METERS | | $19.50 | $80.43 | $161.19 | $138.57 | $418.50 | $394.93 |
| 21 | CUSTOMER DEPOSITS | | -$0.21 | -$0.52 | -$1.35 | -$1.27 | -$0.48 | -$1.18 |
| 22 | CUSTOMER METER READING | | $0.26 | $0.85 | $5.69 | $3.20 | $3.61 | $3.10 |
| 23 | CUST RECORDS & COLLECT | | $2.12 | $2.97 | $3.56 | $1.57 | $1.50 | $2.53 |
| 24 | CUSTOMER INFORMATION | | $6.34 | $7.59 | $13.24 | $14.16 | $49.55 | $97.36 |
| 25 | LOCAL FACILITIES CHARGE | | $21.47 | $165.87 | $953.55 | $871.30 | $0.00 | $0.00 |

## SCHEDULE PMN-3R

– Cost of Service (COS) Model Verification of Allocation Formulas

Many of the formulas within the cost of service model are not hidden. The allocation formulas, though not displayed, are easily verified. An example of how these allocations can be verified within the COST OF SERVICE sheet of the model using "Account 376-Mains 4" and below" as an example is shown below.

"Account 376-Mains 4" and below" is allocated to rate classes using the "DISTRL4" allocation factor which can be found on Excel row 954. To verify the allocation, multiply the TOTAL COMPANY INPUT dollars , $420,694,021, (Excel column T) by the allocation factor ratios "DISTRL4" shown on Excel row 501 of the RATIO TABLE section (beginning in Excel row 476).

| Total Company | Res Non-Heating | Res Heating | C&I Small | C&I Med | C&I Large LLF | C&I Large HLF | C&I XLarge LLF | C&I XLarge HLF |
|---|---|---|---|---|---|---|---|---|
| | 420,694,021 * | 420,694,021 * | 420,694,021 * | 420,694,021 * | 420,694,021 * | 420,694,021 * | 420,694,021 * | 420,694,021 * |
| 1.00000 | 0.01093 | 0.61997 | 0.08067 | 0.16882 | 0.08515 | 0.03448 | 0.00000 | 0.00000 |
| 420,694,021 | 4,596,268 | 260,815,855 | 33,935,471 | 71,020,813 | 35,821,573 | 14,504,040 | 0 | 0 |

Note that the Total Company Input number is equal to the Total Company subtotal of all of the rate class numbers. The ratios for each externally and internally developed allocation factors are developed using the numbers shown in the ALLOCATION FACTOR TABLE beginning in Excel row 71 of the COS model. The formulas for the ratios are displayed and shown as simple percentages of each class to the total company numbers as shown in the RATIO TABLE section beginning in Excel row 476.

# JOINT REBUTTAL TESTIMONY

**OF**

**ANN E. LEARY**

**AND**

**SCOTT M. MCCABE**

**Dated: May 9, 2018**

## Table of Contents

## I. Introduction

*Ann E. Leary*

**Q. Ms. Leary, please state your name and business address.**

A. My name is Ann E. Leary. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

**Q. Have you previously submitted testimony in this proceeding?**

A. Yes. On November 27, 2017, I submitted pre-filed joint direct testimony in this docket as part of the Pricing Panel with Scott M. McCabe on behalf of The Narragansett Electric Company d/b/a National Grid.[1]

*Scott M. McCabe*

**Q. Mr. McCabe, please state your name and business address.**

A. My name is Scott M. McCabe. My business address is 40 Sylvan Road, Waltham, Massachusetts 02451.

**Q. Have you previously submitted testimony in this proceeding?**

A. Yes. On November 27, 2017, I submitted pre-filed joint direct testimony in this docket as part of the Pricing Panel with Ms. Leary on behalf of the Company.

[1] The Narragansett Electric Company d/b/a National Grid constitutes the regulated operations that National Grid USA conducts in Rhode Island. In this case, we will refer to the regulated entity as the "Company," where the reference is to both gas and electric distribution operations on a collective basis. Where there is a need to refer to the "stand-alone" or individual electric or gas operations of The Narragansett Electric Company, we will use the terms "Narragansett Electric" or "Narragansett Gas," respectively, as appropriate.

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

A. The purpose of our joint rebuttal testimony is to respond to the pre-filed direct testimony and comments submitted to the Rhode Island Public Utilities Commission (PUC) in this proceeding by Bruce R. Oliver and Roger D. Colton on behalf of the Division of Public Utilities and Carriers (Division), the George Wiley Center (GWC), and Karl R. Rabago on behalf of New Energy Rhode Island (NERI) regarding the following: (1) the Company's low income discount proposal; (2) rate year gas distribution revenue; (3) certain proposed gas fees and tariff revisions; and (4) operating schedules for light emitting diode (LED) streetlights on Narragansett Electric's tariff, Street and Area Lighting – Customer Owned Equipment S-05 (Rate S-05). We are also presenting additional tariff changes either to correct for inaccurate references between tariff provisions or resulting from changes presented in the rebuttal testimony of Company Witness Howard S. Gorman.

**Q. How is your testimony organized?**

A. Following this introductory section, Section II of our rebuttal testimony addresses the testimony of Mr. Colton and the comments of the GWC regarding the Company's low income discount proposal for its electric customers on retail delivery service tariff Low Income Rate (Rate A-60) and gas customers on Low Income Residential Heating Rate 11 (Rate 11) and Low Income Residential Heating Rate 13 (Rate 13). Section III responds to the various comments and recommendations set forth in the direct testimony of Mr. Oliver regarding Narragansett Gas. Section IV responds to the testimony of Mr. Rabago pertaining to Rate S-05. Finally, Section V presents proposed edits to the Company's tariffs as further explained in that section.

**Q. Are you sponsoring any schedules as part of your testimony in this proceeding?**

A. Yes. We are sponsoring three rebuttal schedules in this testimony:

| | |
|---|---|
| Schedule PP-4(R) | Analysis of Low Income Discount Comparing Competitive Supply and Standard Offer Service (SOS) Rates |
| Schedule PP-5(R) | Excerpt from Calendar Year 2017, Quarter 4, Quarterly Open Access Report |
| Schedule PP-6(R) | Annual kWh Deliveries for LED 50% Dimming Option |

## II. Proposed Low Income Discount

**Q. Please briefly summarize the Company's proposal regarding the low income discount that would be given to customers on Rates A-60, 11, and 13.**

A. The Company is proposing to change the manner by which its customers on Rates A-60, 11, and 13 receive discounts on their electric and gas bills from discounted (reduced) base distribution rates to a flat percentage discount off of the total amount of the bill issued to the customer. The Company has proposed a 15 percent discount level, and proposes concurrent recovery of an estimate of the annual discount from all other customers (i.e., not including customers on Rates A-60, 11, and 13), subject to reconciliation to the actual discount provided.

**Q. Please summarize Mr. Colton's recommendations regarding the Company's low income discount proposal.**

A. Mr. Colton presented the following four recommendations regarding the Company's low income discount proposal, only applicable to electric customers on Rate A-60: (1) increase the discount level to 25 percent of the total amount billed;[2] (2) for customers receiving benefits through Medicaid, General Public Assistance, and/or Family Independence Program, provide an additional discount of 5 percent to create a "tiered" structure for bill discounts; (3) require a bad debt "cost offset" to reduce the amount of the low income discount to be recovered from all other customers; and (4) for Rate A-60 customers receiving their electric supply from nonregulated power producers (NPPs), the discount should be calculated on an electricity supply charge determined based on Narragansett Electric's Standard Offer Service (SOS) rates, not the actual amount billed to customers by Narragansett Electric on behalf of NPPs.

**Q. As a threshold matter, what is the Company's response to the fact that Mr. Colton's recommendations only pertain to Narragansett Electric's Rate A-60?**

A. The Company is uncertain whether Mr. Colton, on behalf of the Division, agrees with the initial low income discount proposal for Narragansett Gas. Mr. Colton indicates in his testimony that gas customers are not faced with the same affordability burdens as electric customers because of the additional assistance the Company provides its gas customers

[2] Subject to Mr. Colton's fourth recommendation applicable to electric customers receiving their electric supply from NPPs.

on Rates 11 and 13. However, as presented in our pre-filed direct testimony and in response to data requests Division 7-27 and NERI 22-4, the Company's goal is a low income discount that has the same eligibility criteria and same discount level for its electric and gas customers. The Company has structured the low income discount proposal in this manner because, presumably, customers of record who qualify for the discount would need assistance on both their electric and gas accounts, and their financial situation should not be viewed differently with respect to electric or gas service. Being able to explain to customers that the discount the Company is allowed to make available to them is the same, regardless of whether the customer is an electric customer only, gas customer only, or both, provides the most transparent and equitable, and least confusing, form of assistance and would be perceived by the customer as being treated fairly on both of their accounts. In addition, with its proposal in this general rate case, the Company has also proposed to end its gas Low Income Home Energy Assistance Program (LIHEAP) matching grant program.

**Q. What is the Company's position regarding the recommended increase of the low income discount to 25 percent recommended by Mr. Colton?**

A. The Company's proposed 15 percent discount was intended to balance the interest of its customers on Rates A-60, 11, and 13, with the customer population that would be paying for the total discounts credited to low income customers' bills, especially in light of the Company's efforts to increase participation in the low income rates. In its pre-filed direct testimony, the Company estimated the total combined low income discount at 15 percent to be approximately $9.2 million, and approximately $15.7 million at 25 percent. The level of the discount is ultimately a policy decision for the PUC, weighing the benefits to low income customers against the costs incurred and bill impacts on non-low income customers.

**Q. What is the Company's position regarding the additional five percent discount for customers receiving benefits through Medicaid, General Public Assistance, and/or the Family Independence Program?**

A. The Company appreciates the creative thinking of attempting to form a "tiered" discount rate structure within the current process of enrolling electric and gas customers on the current low income rate classes. In light of that process, although there will be additional costs related to programming, outreach and education, training, and processing work to implement the additional discount, the Company does not believe the added cost will be significant enough to outweigh the benefit, as realized over time, of the additional discount. The additional discount is ultimately a policy decision for the PUC, and assuming the Company is able to recover the additional discount credited to eligible customers' bills, the Company would not oppose the five percent incremental discount that would be applicable to Rates A-60, 11, and 13[3] customers receiving Medicaid, General Public Assistance, and/or Family Independence Program benefits.

[3] Consistent with the Company's proposal for its customers on Rates A-60, 11, and 13, the eligibility, level, and application of the discount should be the same for both its electric and gas customers.

**Q. Does the Company agree with a bad debt "offset" to the amount of low income discounts allowed to be recovered?**

A. No, the Company does not agree to such an offset. Although it is possible that the incremental amount of the low income discount is essentially amounts billed to low income customers that will be paid for in the bills of all other customers, the Company disagrees that it is appropriate to capture the component of overall net charge offs that inherently would decline for customers on Rates A-60, 11, and 13, netted against an increase in net charge offs for all other rate classes who would be paying for higher low income discount charges. Although, specific to the rate year level of low income customers, there may be a reduction in the allowance for net charge offs in the Company's various rates and factors through an increase in the low income discount, net charge offs for all customers – not just those on Rates A-60, 11, and 13 – vary as a result of several factors, including rate levels; usage (increases and decreases); and factors external to the Company, such as LIHEAP funding available to low income customers. Just as the Company always has and continues to take the risk that net charge offs will increase after its electric and gas uncollectible rates are established in a general rate case, changing the form and level of the low income discount should not remove the incentive for the Company to continue its ongoing efforts to reduce or otherwise control its bad debt costs. If the Company is going to be subject to quantifying reductions in net charge offs to pass on to customers in between general rate cases, then the Company should be able to quantify increases in net charge offs to recover from customers in between general rate cases. However, the Company is not proposing any sort of "bad debt" reconciling mechanism beyond what is already approved by the PUC.

**Q. Does the Company agree with Mr. Colton's recommendation for Rate A-60 customers with NPPs to use Narragansett Electric's SOS rate rather than the actual electric supply rate Narragansett Electric bills on behalf of a NPP in the determination of the customer's low income discount? If not, please explain.**

A. The Company disagrees with artificially changing the value of the low income discount to ignore what Narragansett Electric is billing for electric supply on behalf of an NPP. The advantage of the Company's proposal is to provide a simple discount on an eligible customer's total bill as issued by the Company. The discount on the total amount billed would be easy to explain and understand, and an eligible customer would be able to recalculate their discount based on information on their electric and/or gas bill. As discussed above, the recommendation for an additional five percent discount would add a slight complexity to the application of the discount. Nonetheless, because there would be a clear link between the additional five percent discount and the discreet programs that would qualify a customer to receive the additional five percent, the communication of this element should be straightforward, and customers should be able to understand it easily.

Mr. Colton's recommendation to use the SOS rate in the calculation of the discount for those customers with NPPs adds a level of complexity, both in required changes to the

Company's billing system, communication around the program, and customer comprehension of how this category of a customer's low income discount is calculated.

Mr. Colton indicates that his recommended use of the SOS rate in lieu of the NPP rate billed to the customer by Narragansett Electric is equitable in two ways. First, a customer should not be penalized with a lower low income discount because they made a decision to receive their electric supply from an NPP at a rate lower than the SOS rate, and the customer should "keep" the savings by having their discount based off of the higher rate. Mr. Colton incorrectly defines the savings a customer realizes from receiving electric supply from an NPP as including the low income discount. However, the only savings resulting from a customer's choice of an NPP is the difference between the NPP rate and the higher SOS rate. The low income discount is not a savings, but, rather, a benefit based on the total amount billed to an eligible customer, regardless of their source of electric supply. Mr. Colton's recommendation artificially increases the value of the low income discount provided to the customer and increases the cost of the low income discount that all other customers would be paying. Therefore, the PUC should reject this recommendation.

Second, Mr. Colton states that if the NPP rate is greater than the SOS rate, then other customers should not be required to pay a higher low income discount as a result of the customer being charged more for their electric supply. However, to use Mr. Colton's rationale, it is in these instances where the customer has an increased energy burden and is in a greater need for bill assistance, and basing the low income discount on the actual amount of the customer's bill, regardless of the supplier of electricity, is the most appropriate and transparent approach to providing the discount and ensuring it has the greatest impact. In fact, Mr. Colton's argument in this scenario is attempting to minimize the discount provided to this customer, whereas, in the prior scenario where the NPP rate is less than the SOS rate, he overstates the low income discount, which results in all other customers paying for a discount that is greater than what it would be based on the NPP rate billed to the customer. As presented in Schedule PP-4(R), the Company has performed a summary analysis to estimate the incremental costs or savings that would be incurred by non-low income electric customers under the Division's recommendation to base the low income discount for NPP customers on the SOS rate. Based on an analysis of low income NPP billings for the three-year period ending with the test year, the Company estimates that using SOS rates as opposed to actual billed NPP rates would decrease the bills of a residential customer using 500 kWh a month by only one cent per month.

Lastly, it is likely that the effort and cost to make changes to the Company's billing system and develop easy-to-understand training tools for the Company's Customer Contact Center employees and transparent communications to customers, along with incremental workload associated with possible increases in calls to the Company's Customer Contact Center from customers asking about their low income discount, which they will likely be unable to calculate from the information provided on their bill, would outweigh the benefit, if any, from this recommendation. As shown in Schedule PP-5(R), an excerpt from Narragansett Electric's quarterly open access report for October 2017 through December 2017, submitted to the PUC on April 9, 2018, there were 4,600 Rate A-60 customers with NPPs during December 2017. Based on the foregoing, the Company recommends that the PUC reject Mr. Colton's suggestion of using the SOS rate in the determination of the low income discount for eligible customers receiving electric supply from NPPs.

## III. Narragansett Gas Distribution Revenue, Fees, and Tariff Provisions

### A. Gas Distribution Revenue

**Q. Please summarize Mr. Oliver's recommendation with regard to adjustments to test year revenue resulting from the weather-normalization of test year billing units.**

A. In his testimony, Mr. Oliver identifies that Narragansett Gas did not weather-normalize the demand billing units of its medium, large, and extra-large commercial and industrial rate classes and recommends that the PUC require Narragansett Gas to perform this weather-normalization in future general rate cases.[4]

**Q. Does Narragansett Gas agree with this recommendation?**

A. Yes, Narragansett Gas agrees with Mr. Oliver's recommendation and will weather-normalize demand billing units in future rate cases.

**B. Adjustments to Test Year Revenue for Rate Year Infrastructure, Safety, and Reliability (ISR) and Revenue Decoupling Mechanism (RDM) Revenue**

**Q. Please summarize Mr. Oliver's recommendation with regard to adjustments to test year revenue associated with Narragansett Gas ISR and RDM.**

A. In his testimony, Mr. Oliver notes that the rate year ISR and RDM revenue reflected in Schedule PP-1(a)-GAS represent an estimate of rate year revenue, with the PUC approving recovery of a more recent ISR revenue requirement in RIPUC Docket No. 4781. Mr. Oliver believes that using this outdated revenue does not align perfectly with the rate year, and results in an appropriate revenue allocation and rate design.

**Q. Does Narragansett Gas agree that there is a more recently available ISR revenue requirement approved by the PUC since the filing of this general rate case?**

A. Yes, Narragansett Gas agrees that the PUC has approved the recovery of an April 2018 through March 2019 revenue requirement on cumulative actual and projected ISR investment. Nonetheless, the rate year ISR revenue is based upon the prior year's ISR revenue requirement, as that is what was available and approved by the PUC at the time the Company filed this general rate case. The rate year ISR revenue aligns with the ISR revenue reflected in rate base in Narragansett Gas' revenue requirement. Mr. Oliver, however, does not make a recommendation regarding the rate year ISR revenue. If Narragansett Gas was required to update the rate year ISR revenue in Schedule PP-1(a)-

[4] Testimony of Oliver at 20-21.

GAS, the underlying ISR capital investment also would need to be updated so that both reflect the same information.

**C. Consolidation of Gas Residential ISR Factors**

**Q. What is the Company's response to Mr. Oliver's comment regarding the consolidation of the gas ISR factors?**

A. Beginning on page 62 of his testimony, Mr. Oliver discusses and provides comments on Narragansett Gas' proposal in its Fiscal Year (FY) 2019 ISR Plan filing to combine, for only one year (FY 2019), the Residential Heating and Residential Non-Heating rate classes for purposes of designing the ISR factors approved by the PUC that became effective April 1, 2018. In particular, Mr. Oliver does not support the continued use of a uniform ISR factor for all residential customers, stating that it is not reasonable or appropriate.[5] However, Narragansett Gas clearly explained during the FY 2019 ISR proceeding that the need to consolidate the Residential Heating and Residential Non-Heating rate classes was limited to FY 2019. Specifically, the approved one-year consolidation was to avoid significant bill impacts on Residential Non-Heating customers in FY 2019 and to best comply with the terms of the Company's gas tariff for FY 2019, which requires the ISR revenue requirement to be allocated to Narragansett Gas' rate classes based on a rate base allocation approved by the PUC in the last general rate case. Consolidating the Residential rate classes for this single ISR year preserves the rate base allocation required in the ISR provision of the gas tariff. Narragansett Gas was very transparent that its request for this treatment was a one-time request in light of the circumstances causing the request (a significant transfer of Residential customers from the Non-Heating rate class to the Heating rate class after the Company's rate case in RIPUC Docket No. 4323), and the PUC approved this request.

**D. Proposed Fees**

a. Proposed Electric and Gas Returned Check Fee

**Q. Please summarize Mr. Oliver's comments regarding the proposed returned check fee.**

A. On pages 42-43 of his testimony, Mr. Oliver proposes that the Company should round the calculation of the proposed return check fee to $8.00, rather than truncate to $7.00. Mr. Oliver also suggests that the number of returned items for Narragansett Gas be increased from the test year levels to reflect a two-year growth rate in returned items (i.e., increased from 4,248 to 5,982). Such an increase would derive a slightly higher known and measureable adjustment to arrive at the rate year returned check fee revenue.

**Q. What is the Company's response to Mr. Oliver's opinion?**

A. First, the Company accepts Mr. Oliver's proposal to revise its proposed returned check fee from $7.00 to $8.00. However, there is no level of certainty that returned items will grow to the level suggested by Mr. Oliver. Therefore, the Company recommends that the

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[5] Oliver Testimony at 63, lines 6-11.

test year level of returned items be used as a reasonable representation of what is likely to occur during the rate year.

b. Proposed Gas IP Wireless Device and Data Plan Fees

**Q. Mr. Oliver offers several recommendations regarding the proposed IP Wireless Device fees and its application to gas customers. Would you please summarize these recommendations?**

A. Mr. Oliver recommends that the PUC deny the proposed IP Wireless Device fees because he thinks they are inappropriate and not well-supported. In support of this, Mr. Oliver states that he believes (1) it is not equitable for customers to be charged an up-front fee for an IP Wireless Device, (2) the reliability and accuracy of the underlying cost data is not assured, and (3) the PUC should evaluate the consistency of the fee with the Company's other tariff and pricing practices. Mr. Oliver further states that existing firm transportation gas customers who have their usage read daily (FT-1 customers) should not be subject to the up-front IP Wireless Device fee, as such customers should already have telemetering in place at their service location. In addition, Mr. Oliver states that the IP Wireless Device is a form of Advanced Metering Infrastructure (AMI) and should be recovered through a rate base adjustment.

**Q. As part of this general rate case, did Narragansett Gas propose to exchange its telecommunication equipment currently installed at FT-1 customer locations with IP Wireless Devices and assess those customers the proposed fee?**

A. No. As discussed in the Company's response to data request Division 37-7, Narragansett Gas is proposing the IP Wireless Device and associated fees be applicable to new FT-1 customers.

**Q. Is assessing an up-front fee for an IP Wireless Device consistent with the treatment of required telecommunication equipment for new FT-1 customers?**

A. Yes. Under Narragansett Gas' current tariff, customers who receive FT-1 service are responsible for the costs of the device that allows telecommunication functionality being attached to Narragansett Gas' meter. The customer is also responsible for the cost of a landline telephone line and an electrical supply line.[6] The customer currently is responsible for the installed cost of the device, plus the ongoing obligation to supply an operable telephone line. The Company's proposal is to charge a new FT-1 customer the installed cost of an IP Wireless Device, rather than the cost of the device that would allow telecommunications functionality. In addition, the proposal also would assess an annual fee for the cost of the data plan for wirelessly transmitting daily usage data that today is transmitted by an analog landline, for which the FT-1 customer pays a monthly invoice to their telecommunications provider. Therefore, the FT-1 customer's payment of an up-front fee for an IP Wireless Device is consistent with today's up-front payment of a telecommunications device, both of which are installed on Narragansett Gas' meter.

[6] Narragansett Gas tariff, RIPUC NG-GAS No. 101, Section 6, Transportation Terms and Conditions, § 2.02.0.

**Q. Please address Mr. Oliver's comment that the proposed use of an IP Wireless Device is a form of AMI and should be recovered in base distribution rates.**

A. At this point in time, Narragansett Gas is not currently deploying AMI. From our understanding, current plans for the deployment of AMI, as indicated in the Company's response to data request Division 37-7, indicate that the earliest AMI would likely occur is the Company's fiscal year ending March 2021. As discussed in the Company's response to data request Division 37-7, the IP Wireless Device proposal is intended to resolve a current business need and is unrelated to the proposed gas AMI in RIPUC Docket No. 4780. Narragansett Gas' IP Wireless Device proposal for new FT-1 customers also is consistent with its proposal in RIPUC Docket No. 4781, in which the PUC approved the replacement of the existing telecommunication devices with IP Wireless Devices to address the elimination of Verizon's 3G wireless network. Therefore, the PUC should not consider Mr. Oliver's comment regarding IP Wireless Devices being a form of AMI.

**Q. Finally, Mr. Oliver suggests that Narragansett Gas did not fully document the cost of the IP Wireless Device. How do you respond?**

A. In response to discovery, the Company submitted significant documentation regarding the cost of the IP Wireless Device, the cost to install it, and information underlying the estimated cost of the data plan that forms the basis for the annual data plan fee.

Therefore, the Company believes it has provided sufficient documentation regarding the estimated installed cost of the device and annual data plan.[7]

c. Proposed Gas Account Restoration Fee

**Q. Please summarize Mr. Oliver's recommendation regarding Narragansett Gas' proposed Account Restoration Fee.**

A. Mr. Oliver recommends that the PUC not approve the Account Restoration Fee on the grounds that the proposed fee is too large of an increase.

**Q. What is Narragansett Gas' response to Mr. Oliver's opinion?**

A. Narragansett Gas agrees that an increase in the gas Account Restoration Fee from $25 to the proposed $96 is significant. As Mr. Oliver points out in his testimony, he has no issues with Narragansett Gas' analysis to arrive at the proposed fee. Narragansett Gas has not proposed an increase to this fee in more than 17 years, resulting in the fee becoming significantly less than the average cost, as presented in Schedule PP-3(a), page 1. Narragansett Gas proposed the fee at $96, as this is the current cost of performing the activity of restoring gas service. As the fee has been understated for some time, customers have been benefiting from paying a lower fee. However, should the PUC determine it is more appropriate to phase in a higher, cost-based Account Restoration Fee for gas customers, Narragansett Gas would be amenable to such a phase-in.

[7] See the Company's responses to data requests Division 7-31, 7-34, 7-37, and 37-7.

d. Payment by Credit Card Fees

**Q. Please describe Mr. Oliver's concerns with the Payment by Credit Card Fees.**

A. On page 7, lines 9-13, of his testimony, Mr. Oliver recommends to the PUC that if the Payment by Credit Card fees are approved and included in Narragansett Gas' tariff, that the fees be cost-based, and that Narragansett Gas has provided no support that the fees are based on costs.

**Q. Please respond to this recommendation.**

A. First, the Payment by Credit Card Fees is currently included in the Company's tariffs. As a result of consolidating all of its fees into one location in its gas tariff, Narragansett Gas has marked to show these changes in Schedule PP-5-GAS on Bates Page 161 (showing the addition of the two fees) and Bates Page 270 (showing the deletion of the two fees from the Optional Credit Card Payment Provision in Section 7). Therefore, the PUC has already approved the inclusion of these fees in the gas tariff.

Second, although these fees are included in the gas tariff, as well as in an electric tariff provision, the fees are not assessed by the Company, but are the fees assessed by the third party payment processing company, as indicated in the Optional Credit Card Payment Provision in Schedule PP-5-GAS, Bates Page 270. This information has been provided previously to the PUC in approving the fees to be included in the gas tariff, and therefore it is unnecessary to provide the information in this proceeding.

Although the inclusion of these fees in utility tariffs was a requirement pursuant to the PUC's Rules Governing the Acceptance of Credit Card by Utility Companies, which were repealed as a result of the PUC's review and solicitation of comments submitted in December 2016 in RIPUC Docket No. 3569, the Company would not oppose the removal of the fees and the related provision from its gas and electric tariffs.

**E. <u>Revisions to Gas Tariff</u>**

**Q. In his testimony, Mr. Oliver offers alternative language pertaining to the determination of the amount of costs associated with System Pressure that would be recovered through Narragansett Gas' Distribution Adjustment Clause (DAC). How does Narragansett Gas respond to Mr. Oliver's alternative language?**

A. Narragansett Gas has no issue with Mr. Oliver's alternative language in defining the amount of cost for System Pressure to be recovered through the DAC.

**Q. Please summarize Mr. Oliver's recommendation to a change in the language added to Narragansett Gas' tariff regarding when refunds of Contributions in Aid of Construction (CIACs) would take place.**

A. The added provisions to Narragansett Gas' tariff regarding Service and Main Extension Policies were policies to which the Division had previously agreed in anticipation of incorporating the policies into Narragansett Gas' tariff. The gas policies proposed for inclusion in Narragansett Gas' tariff align with the existing electric line extension policies that are a component of Narragansett Electric's Terms and Conditions for Distribution

Service (RIPUC No. 2130). A component of the gas policies is a provision that allows a customer to request a reconciliation between costs of a service and/or main extension, determined based upon an engineering estimate and actual costs of the service and/or main extension. The policy provides for a minimum difference between the estimated and actual costs of $1,000, or 10 percent of the engineering estimate. Mr. Oliver suggests that the dollar value be set at $100.

**Q. How does Narragansett Gas respond to Mr. Oliver's recommendation above?**

A. Narragansett Gas disagrees with Mr. Oliver's recommendation to use a $100 threshold for determining whether a customer-requested refund be determined and made to the customer. First, Mr. Oliver's threshold takes no consideration of the size of a project and would create unnecessary and excessive administrative work for very small amounts. Second, Narragansett Gas developed the policies it has incorporated into its proposed tariff with the Division during late 2014 and early 2015, and the "$1,000 or 10 percent" threshold was contained in the working documents that were eventually agreed to by the Division. Therefore, Narragansett Electric does not believe it is appropriate for there to be a unilateral reduction in the threshold at which a refund of a customer-requested CIAC is determined.

## IV. <u>Rate S-05</u>

**Q. Can you please summarize the recommendations regarding streetlighting put forth by Mr. Rábago?**

A. Mr. Rábago presents the following three recommendations regarding streetlighting: (1) require Narragansett Electric to revise Rate S-05 to permit customers to dim their LED streetlights for a higher percentage, and for a longer time period, than is currently provided in Rate S-05, such as 50 percent below the nominal wattage, and up to 6 hours per night; (2) require Narragansett Electric to reflect future municipal purchase and maintenance of streetlights, and the conversion of purchased streetlights, to LEDs in its forecasting and allocated cost of service study (ACOSS); and (3) require Narragansett Electric to commit to applying Rate S-05 in a clear and transparent manner that fully compensates the efficiency values achieved by customers through adoption of LED streetlighting and control technologies.

**Q. What is Narragansett Electric's response to Mr. Rábago's recommendations?**

A. Regarding the addition of another operating schedule that would allow customer-owned LED streetlights to operate and be billed on a 50 percent dimming schedule, Narragansett Electric is able to add such an operating schedule to Rate S-05 for the wattage ranges indicated in Rate S-05. The calculation of the annual kWh applicable for each wattage range existing in Rate S-05 is presented in Schedule PP-6(R). If the PUC approves the addition of this LED operating schedule, Narragansett Electric will reflect it in its Rate S-05 tariff filed in compliance with the PUC rulings in this proceeding.

Regarding the applicability of a known and measurable adjustment to the revenue requirement or ACOSS for future sales of streetlighting equipment and/or any impact such sales would have on operation and maintenance expense, as discussed in the Company's response to data request NERI 28-7, Narragansett Electric has no basis to develop any adjustment beyond that already reflected in its revenue requirement, and therefore recommends that the PUC reject Mr. Rábago's recommendation.

Regarding the final recommendation that Narragansett Electric commit to transparently applying Rate S-05, Narragansett Electric believes that it already applies the tariff transparently and uniformly.

## V. <u>Tariff Revisions</u>

**Q. Are there any other tariff revisions the Company wishes to present in this rebuttal testimony?**

A. Yes, there are. The Company would like to identify two additional revisions to its electric tariffs, which it also is proposing to include in the compliance filing.

**Q. Please explain the first tariff revision.**

A. As described in the Company's response to data request PUC 4-16, the Company proposes the addition of clarifying language to the Company's proposed Low Income Rate (A-60) Retail Delivery Service tariff, RIPUC No. 2184. As discussed, the Company is proposing to apply the 15 percent discount to both delivery charges and supply charges on the bill of an eligible low income customer, regardless of whether the customer is receiving SOS from Narragansett Electric or receiving electric supply from an NPP and the Company bills electric supply charges on behalf of the NPP. The Company is proposing that the amount of the discount be based on the total amount billed by the Company. If an NPP has chosen the Complete Billing Service pursuant to the Company's Terms and Conditions for Nonregulated Power Producers, RIPUC No. 1191, and, consequently, the customer's bill from the Company includes the NPP charge, then the NPP charge will be included in the amount upon which the low income discount percentage is applied. To the extent that the NPP has not chosen the Complete Billing Service and bills its charges separately, then the low income discount would not be based on an amount that includes the NPP charges. Narragansett Electric offerred the following redlined clarifying language in the proposed Rate A-60 tariff:

> LOW INCOME DISCOUNT
>
> The Customer's total bill for service as determined based upon the provisions above, in addition to charges for generation service billed under the Complete Billing Service option pursuant to §2.1.1 of the Company's Terms and Conditions for Nonregulated Power Producers in effect from time to time, will be discounted by fifteen (15) percent.

**Q. Please explain the second proposed tariff revision.**

A. As presented and described in the rebuttal testimony of Company Witness Gorman, Narragansett Electric is proposing to revise the additional discount provided to customers receiving service at transmission voltage through the Credit for High Voltage Delivery (HVD) provision contained in the Large Demand Rate (G-32) retail delivery service tariff consistent with revising the approach for determining the additional HVD discount as described by Mr. Gorman. Narragansett Electric proposes the following redlined revisions to the Credit for HVD provision contained in Rate G-32:

CREDIT FOR HIGH VOLTAGE DELIVERY

If the Customer takes delivery at the Company's supply line voltage, not less than 2,400 volts, and the Company is saved the cost of installing any transformer and associated equipment, a credit per kilowatt of billing demand for such month shall be allowed against the amount determined under the preceding provisions. See RIPUC 2095, Summary of Retail Delivery Rates.

An additional credit per kilowatt of the billing demand for such month shall also be allowed if said customer accepts delivery at transmission level voltage, not less than ~~115,000 volts~~ 69 kV, and the Company is saved the cost of installing any transformer and associated equipment. See RIPUC No. 2095, Summary of Retail Delivery Rates.

The total amount of the credit allowed under this provision shall not exceed the sum of the Customer Charge, the Distribution Charge per kW and the Distribution Charge per kWh.

## VI. Conclusion

**Q. Does this conclude your rebuttal testimony today?**

A. Yes.

**Index of Schedules**

Schedule __ PP-4R

Analysis of Low Income Discount Comparing Competitive Supply and

Standard Offer Service (SOS) Rates

The Narragansett Electric Company
Analysis of Low Income Discount Comparing Competitive Supply and Standard Offer Service (SOS) Rates

| | | Competitive Supply | | | Standard Offer Service | | | Discount | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | kWh Usage | Supply Charges | Average Energy Rate | kWh Usage | SOS Charges | Average Energy Rate | Competitive Supply Charges at Average SOS rate | 25% Discount on Competitive Supply rate | 25% Discount on Average SOS rate | Incremental Discount Based on Competitive Supply Rate |
| | | (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) | (i) | (j) |
| (1) | Jul-14 | 2,241,510 | $238,523 | $0.10641 | 25,373,614 | $2,236,266 | $0.08813 | $197,552 | $35,778 | $49,388 | ($13,610) |
| (2) | Aug-14 | 2,392,089 | $275,369 | $0.11512 | 26,577,761 | $2,223,252 | $0.08365 | $200,100 | $68,842 | $50,025 | $18,817 |
| (3) | Sep-14 | 2,175,632 | $238,885 | $0.10980 | 24,459,207 | $2,043,508 | $0.08355 | $181,769 | $59,721 | $45,442 | $14,279 |
| (4) | Oct-14 | 1,655,714 | $184,051 | $0.11116 | 18,963,818 | $1,587,462 | $0.08371 | $138,600 | $46,013 | $34,650 | $11,363 |
| (5) | Nov-14 | 1,654,526 | $194,535 | $0.11758 | 19,428,267 | $1,623,902 | $0.08358 | $138,293 | $48,634 | $34,573 | $14,061 |
| (6) | Dec-14 | 2,001,271 | $255,560 | $0.12770 | 23,797,414 | $1,989,225 | $0.08359 | $167,286 | $63,890 | $41,822 | $22,069 |
| (7) | Jan-15 | 2,157,830 | $308,669 | $0.14305 | 26,739,475 | $2,482,192 | $0.09283 | $200,309 | $77,167 | $50,077 | $27,090 |
| (8) | Feb-15 | 2,145,108 | $335,364 | $0.15634 | 27,737,031 | $2,970,378 | $0.10709 | $229,721 | $83,841 | $57,430 | $26,411 |
| (9) | Mar-15 | 2,021,241 | $319,917 | $0.15828 | 25,790,988 | $2,766,962 | $0.10728 | $216,847 | $79,979 | $54,212 | $25,767 |
| (10) | Apr-15 | 2,230,970 | $315,168 | $0.14127 | 23,487,063 | $2,489,260 | $0.10598 | $236,448 | $78,792 | $59,112 | $19,680 |
| (11) | May-15 | 2,081,938 | $266,578 | $0.12804 | 18,637,970 | $1,939,887 | $0.10408 | $216,693 | $66,644 | $54,173 | $12,471 |
| (12) | Jun-15 | 2,321,793 | $292,000 | $0.12576 | 19,785,109 | $2,058,080 | $0.10402 | $241,517 | $73,000 | $60,379 | $12,621 |
| (13) | Jul-15 | 2,800,508 | $311,512 | $0.11123 | 24,445,758 | $2,544,180 | $0.10407 | $291,461 | $77,878 | $72,865 | $5,013 |
| (14) | Aug-15 | 3,166,744 | $339,666 | $0.10726 | 28,636,349 | $2,979,776 | $0.10406 | $329,518 | $84,917 | $82,379 | $2,537 |
| (15) | Sep-15 | 3,514,455 | $373,892 | $0.10639 | 28,317,463 | $2,946,797 | $0.10406 | $365,724 | $93,473 | $91,431 | $2,042 |
| (16) | Oct-15 | 2,662,671 | $283,539 | $0.10649 | 19,634,925 | $2,038,033 | $0.10380 | $276,375 | $70,885 | $69,094 | $1,791 |
| (17) | Nov-15 | 2,451,014 | $261,213 | $0.10657 | 17,562,579 | $1,827,818 | $0.10407 | $255,088 | $65,303 | $63,772 | $1,531 |
| (18) | Dec-15 | 3,123,972 | $332,721 | $0.10651 | 23,053,903 | $2,398,761 | $0.10405 | $325,050 | $83,180 | $81,262 | $1,918 |
| (19) | Jan-16 | 3,179,994 | $337,834 | $0.10624 | 23,708,091 | $2,310,922 | $0.09747 | $309,967 | $84,459 | $77,492 | $6,967 |
| (20) | Feb-16 | 3,059,204 | $342,363 | $0.11191 | 23,143,566 | $2,061,467 | $0.08907 | $272,492 | $85,591 | $68,123 | $17,468 |
| (21) | Mar-16 | 2,800,294 | $312,848 | $0.11172 | 17,378,023 | $1,546,108 | $0.08897 | $249,140 | $78,212 | $62,285 | $15,927 |
| (22) | Apr-16 | 2,488,951 | $271,724 | $0.10917 | 13,930,401 | $1,226,137 | $0.08802 | $219,075 | $67,931 | $54,769 | $13,162 |
| (23) | May-16 | 2,170,666 | $232,041 | $0.10690 | 11,855,897 | $1,028,427 | $0.08674 | $188,292 | $58,010 | $47,073 | $10,937 |
| (24) | Jun-16 | 2,984,540 | $312,506 | $0.10471 | 14,391,568 | $1,249,116 | $0.08680 | $259,043 | $78,126 | $64,761 | $13,366 |
| (25) | Jul-16 | 4,121,622 | $426,584 | $0.10350 | 16,910,045 | $1,466,273 | $0.08671 | $357,387 | $106,646 | $89,347 | $17,299 |
| (26) | Aug-16 | 5,143,008 | $524,741 | $0.10203 | 20,114,312 | $1,745,304 | $0.08677 | $446,255 | $131,185 | $111,564 | $19,621 |
| (27) | Sep-16 | 4,797,520 | $478,770 | $0.09980 | 17,561,740 | $1,524,155 | $0.08679 | $416,369 | $119,693 | $104,092 | $15,600 |
| (28) | Oct-16 | 3,427,160 | $339,668 | $0.09911 | 12,842,700 | $1,084,795 | $0.08447 | $289,485 | $84,917 | $72,371 | $12,546 |
| (29) | Nov-16 | 3,091,597 | $304,203 | $0.09840 | 12,125,905 | $989,580 | $0.08161 | $252,301 | $76,051 | $63,075 | $12,975 |
| (30) | Dec-16 | 3,611,116 | $352,424 | $0.09759 | 14,024,365 | $1,147,750 | $0.08184 | $295,533 | $88,106 | $73,883 | $14,223 |
| (31) | Jan-17 | 4,382,015 | $427,577 | $0.09758 | 16,389,240 | $1,340,460 | $0.08179 | $358,401 | $106,894 | $89,600 | $17,294 |
| (32) | Feb-17 | 3,904,732 | $389,316 | $0.09970 | 14,883,949 | $1,217,331 | $0.08179 | $319,361 | $97,329 | $79,840 | $17,489 |
| (33) | Mar-17 | 3,473,329 | $350,226 | $0.10083 | 13,685,715 | $1,119,462 | $0.08180 | $284,111 | $87,556 | $71,028 | $16,529 |
| (34) | Apr-17 | 3,464,484 | $342,208 | $0.09878 | 13,768,105 | $1,019,474 | $0.07405 | $256,532 | $85,552 | $64,133 | $21,419 |
| (35) | May-17 | 3,104,681 | $303,266 | $0.09768 | 11,955,269 | $745,440 | $0.06235 | $193,584 | $75,817 | $48,396 | $27,420 |
| (36) | Jun-17 | 3,325,539 | $328,256 | $0.09871 | 13,163,850 | $818,729 | $0.06220 | $206,833 | $82,064 | $51,708 | $30,356 |
| (37) | Jul 14 - June 15 | 25,079,622 | $3,224,618 | $0.12858 | 280,777,717 | $26,410,374 | $0.09406 | $2,365,135 | $782,302 | $591,284 | $191,019 |
| (38) | Jul 15 - June 16 | 34,403,013 | $3,711,859 | $0.10789 | 246,058,523 | $24,157,543 | $0.09818 | $3,341,226 | $927,965 | $835,306 | $92,658 |
| (39) | Jul 16 - June 17 | 45,846,803 | $4,567,239 | $0.09962 | 177,425,195 | $14,218,754 | $0.08014 | $3,676,151 | $1,141,810 | $919,038 | $222,772 |
| (40) | 3 Year Average | 35,109,813 | $3,834,572 | $0.10922 | 234,753,812 | $21,595,557 | $0.09199 | $3,127,504 | $950,692 | $781,876 | $168,816 |

| | | |
|---|---|---|
| (41) | Forecasted kWh Deliveries, Rate Year | 7,072,229,805 |
| (42) | Illustrative Impact on Low Income Discount Recovery Factor Based on 3 Year Average | $0.00002 |
| (43) | Illustrative kWh monthly usage | 500 |
| (44) | Illustrative Monthly Impact on 500 kWh per month customer | $0.01 |

(a) Quarterly Report - Open Access Customer Data by Supplier
(b) Quarterly Report - Open Access Customer Data by Supplier
(c) Column (b) ÷ Column (a)
(d) Company billing systems
(e) Company billing systems
(f) Column (d) ÷ Column (e)
(g) Column (a) x Column (f)
(h) Column (b) x 0.25
(i) Column (g) x 0.25
(j) Column (h) - Column (i)
(41) Rate Year Forecast excluding Rate A-60 kWh
(42) Line (40) ÷ Line (41), truncated to five decimal places
(43) Illustrative kWh monthly usage
(44) Line (42) x Line (43) ÷ 0.96, rounded to two decimal places

Schedule __ PP-5R

Excerpt from Calendar Year 2017, Quarter 4,

Quarterly Open Access Report

REDACTED DOCUMENT



**National Grid**
**State of Rhode Island Quarterly Report**
**Open Access Customer Data**

**Quarterly Totals**

**Total Open Access Customers by Billing Month**

**October-17**

| Rate Class | # of Customers | kWh | Demand |
|---|---|---|---|
| A-16 | 44,185 | 22,853,826 | 0.0 |
| A-60 | 5,652 | 2,363,192 | 0.0 |
| C-06/C-08 | 10,273 | 12,501,092 | 0.0 |
| E-30 | 0 | 0 | 0.0 |
| E-40 | 0 | 0 | 0.0 |
| G-02 | 3,685 | 63,370,822 | 216,310.2 |
| G-32/B-32 | 795 | 147,237,547 | 415,622.3 |
| G-62/B-62 | 10 | 35,775,061 | 78,888.8 |
| R-02 | 0 | 0 | 0.0 |
| T-06/T-08 | 0 | 0 | 0.0 |
| X-01 | 1 | 1,899,682 | 15,712.0 |
| M-1 | 0 | 0 | 0.0 |
| S-10 | 0 | 152,407 | 0.0 |
| S-5T | 83 | 471,586 | 0.0 |
| S-14 | 142 | 1,597,151 | 0.0 |
| Total Open Access | 64,826 | 288,222,366 | 726,533.3 |

* As of 2010 Q4, data pertaining to self-generating suppliers and rate class M-1
(Station Power Delivery and Reliability Service Rate) are excluded from the report.

**November-17**

| Rate Class | # of Customers | kWh | Demand |
|---|---|---|---|
| A-16 | 47,977 | 24,315,044 | 0.0 |
| A-60 | 5,207 | 2,209,992 | 0.0 |
| C-06/C-08 | 10,808 | 12,687,886 | 0.0 |
| E-30 | 0 | 0 | 0.0 |
| E-40 | 0 | 0 | 0.0 |
| G-02 | 3,772 | 60,478,971 | 209,180.4 |
| G-32/B-32 | 784 | 135,856,819 | 386,016.2 |
| G-62/B-62 | 10 | 35,966,228 | 69,735.8 |
| R-02 | 0 | 0 | 0.0 |
| T-06/T-08 | 0 | 0 | 0.0 |
| X-01 | 1 | 2,080,524 | 14,160.0 |
| M-1 | 0 | 0 | 0.0 |
| S-5T | 79 | 2,123,264 | 0 |
| S-10 | 0 | 178,711 | 0.0 |
| S-14 | 134 | 1,256,580 | 0.0 |
| Total Open Access | 68,772 | 277,154,019 | 679,092.4 |

* As of 2010 Q4, data pertaining to self-generating suppliers and rate class M-1
(Station Power Delivery and Reliability Service Rate) are excluded from the report.

**December-17**

| Rate Class | # of Customers | kWh | Demand |
|---|---|---|---|
| A-16 | 45,626 | 25,812,512 | 0.0 |
| A-60 | 4,600 | 2,160,730 | 0.0 |
| C-06/C-08 | 10,187 | 12,822,918 | 0.0 |
| E-30 | 0 | 0 | 0.0 |
| E-40 | 0 | 0 | 0.0 |
| G-02 | 3,577 | 57,076,037 | 187,938.0 |
| G-32/B-32 | 765 | 136,866,020 | 377,660.6 |
| G-62/B-62 | 9 | 29,543,663 | 58,340.8 |
| R-02 | 0 | 0 | 0.0 |
| T-06/T-08 | 0 | 0 | 0.0 |
| X-01 | 1 | 2,049,985 | 14,104.0 |
| M-1 | 0 | 0 | 0.0 |
| S-5T | 89 | 1,890,848 | 0.0 |
| S-10 | 0 | 187,915 | 0.0 |
| S-14 | 134 | 1,825,606 | 0.0 |
| Total Open Access | 64,988 | 270,236,234 | 638,043.4 |

* As of 2010 Q4, data pertaining to self-generating suppliers and rate class M-1
(Station Power Delivery and Reliability Service Rate) are excluded from the report.

Schedule __ PP-6R

Annual kWh Deliveries for LED 50% Dimming Option

LED Light Source Energy Consumption (kWh) Determination

Annual Energy Consumption (kWh)[1]
Operating Schedule

| Nominal Wattage Range | Range Midpoint | Billable Wattage | Dim-50% Part-Night-6hr[1] 993 (Hrs) |
|---|---|---|---|
| (a) | (b) | (c) | (d) |
| 0.1 to 20.0 | 10 | 10 | 10 |
| 20.1 to 40.0 | 30 | 30 | 30 |
| 40.1 to 60.0 | 50 | 50 | 50 |
| 60.1 to 100.0 | 80 | 80 | 79 |
| 100.1 to 140.0 | 120 | 120 | 119 |
| 140.1 to 220.0 | 180 | 180 | 179 |
| 220.1 to 300.0 | 260 | 260 | 258 |

(a) Nominal wattage is the total (system) wattage of the entire LED device, inclusive of the driver (based upon designated current rating), control device, color temperature and environment temperature adjustment factor.

(b) The midpoint of the nominal wattage range is the basis for the proposed LED billable wattage.

(c) Equal to column (b)

(d) LED lights operated daily from approximately one-half hour after sunset until approximately one-half hour before sunrise during which energy consumption is reduced to fifty percent (50%) of full energy consumption, except for a six (6) hour period during which only control device energy is consumed, approximately 993 equivalent hours of fifty percent (50%) energy consumption annually.

1 Annual Operating Hour Equivalents are approximate and have been rounded to whole numbers.

LED Light Source Energy Consumption (kWh) Determination

Monthly Operating Hour Equivalents

| Month | Days | Dim-50% Part-Night-6hr[1] 993 (Hrs) |
|---|---|---|
| (a) | (b) | (c) |
| January | 31 | 127 |
| February | 28 | 99 |
| March | 31 | 88 |
| April | 30 | 64 |
| May | 31 | 48 |
| June | 30 | 37 |
| July | 31 | 43 |
| August | 31 | 59 |
| September | 30 | 79 |
| October | 31 | 103 |
| November | 30 | 119 |
| December | 31 | 131 |

1 Operating Hour Equivalents are approximate and have been rounded to whole numbers.