I/M/O THE VERIFIED PETITION OF ROCKLAND ELECTRIC COMPANY FOR ESTABLISHMENT OF A STORM HARDENING SURCHARGE

BPU Docket No. ER14030250

DIRECT TESTIMONY OF TIM WOOLF ON BEHALF OF DIVISON OF RATE COUNSEL

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Dated: September 4, 2015
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List of Schedules

Schedule TW-1: Resume of Tim Woolf
Q. Please state your name, title, and employer.

A. My name is Tim Woolf. I am a Vice President at Synapse Energy Economics, located at 485 Massachusetts Avenue, Cambridge, MA 02139.

Q. Please describe Synapse Energy Economics.

A. Synapse Energy Economics (Synapse) is a research and consulting firm specializing in electricity and gas industry regulation, planning, and analysis. Our work covers a range of issues, including economic and technical assessments of demand-side and supply-side energy resources; energy efficiency policies and programs; integrated resource planning; electricity market modeling and assessment; renewable resource technologies and policies; and climate change strategies. Synapse works for a wide range of clients, including attorneys general, offices of consumer advocates, public utility commissions, environmental advocates, the U.S. Environmental Protection Agency, U.S. Department of Energy, U.S. Department of Justice, the Federal Trade Commission and the National Association of Regulatory Utility Commissioners. Synapse has over 25 professional staff with extensive experience in the electricity industry.

Q. Please summarize your professional and educational experience.

A. Before rejoining Synapse Energy Economics, I was a commissioner at the Massachusetts Department of Public Utilities (DPU). In that capacity, I was responsible for overseeing a substantial expansion of clean energy policies, including significantly increased ratepayer-funded energy efficiency programs; an update of the DPU energy efficiency guidelines; the implementation of decoupled rates for electric and gas companies; the
promulgation of net metering regulations; review and approval of smart grid pilot programs; and review and approval of long-term contracts for renewable power. I was also responsible for overseeing a variety of other dockets before the commission, including several electric and gas utility rate cases.

Prior to being a commissioner at the Massachusetts DPU, I was employed as the Vice President at Synapse Energy Economics; a Manager at Tellus Institute; the Research Director at the Association for the Conservation of Energy; a Staff Economist at the Massachusetts Department of Public Utilities; and a Policy Analyst at the Massachusetts Executive Office of Energy Resources.

I hold a Master’s in Business Administration from Boston University, a Diploma in Economics from the London School of Economics, a BS in Mechanical Engineering and a BA in English from Tufts University. My resume, attached as Schedule TW-1, presents additional details of my professional and educational experience.

Q. On whose behalf are you testifying in this case?
A. I am testifying on behalf of the Division of Rate Counsel.

Q. Have you previously testified before the New Jersey Board of Public Utilities?
A. No.

Q. What is the purpose of your testimony?
A. The purpose of my testimony is to review RECO’s advanced metering infrastructure (AMI) petition to recover the costs of advanced meters in this storm hardening proceeding. I address the relevancy of AMI in the context of the storm hardening
proceeding, I critique the Company’s benefit-cost analysis, and discuss negative impacts that the Company’s proposal might have on ratepayers.

2. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Q. Please summarize your primary conclusions.

A. My conclusions can be summarized as follows:

1) AMI’s connection to storm-hardening is tenuous – the Company estimates AMI meters would reduce outage durations by 0.3 percent, or 16 seconds per customer. Such small storm-hardening benefits are not sufficient to qualify the investment for extraordinary cost recovery mechanism that the Company has requested.

2) The Company’s benefit-cost analysis shows that the costs outweigh the benefits to ratepayers.

3) The Company’s proposal would have other detrimental impacts on ratepayers that choose to opt out of the meter upgrade, due to the excessive opt-out fees proposed by the Company.

Q. Please summarize your recommendations.

A. I offer the following recommendations:

1. The Company’s proposal for AMI should not be considered within the storm hardening docket; instead it should be considered as part of a general rate case.

2. The Board should reject the Company’s proposal based on the Company’s current projections that the AMI installation will result in net costs to ratepayers.

3. The Board should reject the Company’s excessive opt-out fees.
3. OVERVIEW OF RECO’S PROPOSAL

Q. Please summarize RECO’s proposal.

A. On March 16, 2015, RECO filed a petition for approval to implement various incremental storm hardening and resiliency proposals. To recover the costs associated with these proposals, the Company requests Board approval of a Storm Hardening Surcharge.

One of the primary components of the Company’s proposal is to upgrade its metering infrastructure throughout the Bergen County section of its service territory using AMI, including the replacement of approximately 58,000 meters with smart meters over a five-year period.1 The Company claims that the meter upgrade will reduce operating costs and provide system resiliency benefits.

Q. Has the Company estimated the dollar value of the benefits provided by AMI?

A. Yes. The Company estimates that the undiscounted cumulative savings from customer meter operations and organizational savings will total $49.9 million with an additional $5.9 million of savings from deferred capital.2

Q. What operational savings does the Company claim smart meters offer?

A. The Company claims that smart meters will provide numerous operational savings, including reductions in:

- outage restoration costs,3

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1 RECO Verified Amended and Restated Petition, Meter Upgrade Panel, p. 3.
3 Due to faster restoration time, and thus savings in terms of line crew costs.
false dispatches,

• meter reading costs,

• connections and disconnection costs,

• field tests for high bills or zero usage,

• revenue losses from unoccupied premises and theft,

• need for rebilling due to estimated meter readings, and

• call center inquiries and bill complaints.  

Q. Where does the Company estimate that most of the operational savings will come from?

A. Figure 1 presents a summary of the five primary operational benefit categories estimated by the Company. Approximately half of the savings stem from reducing the number of meter readers on payroll. The Company estimates that seven meter reading positions will be eliminated, leading to annual savings ranging from approximately $1.5 million to $1.9 million per year following the full smart meter roll-out, for an undiscounted cumulative total of $28.1 million over 20 years.  

Reductions in false dispatches, reduced outage restoration costs, reductions in connection/disconnection costs, and reduced call center costs comprise the remainder of the top five savings categories. These other primary benefits are dwarfed by the reduction in meter reading costs, as shown in terms of cumulative, 20-year savings in the chart.


5 Id.
below. A host of other benefits are also quantified by the Company, but these benefits are of an even smaller magnitude.

![Figure 1. Cumulative 20-year Undiscounted Savings of Five Primary AMI Benefits](image)

4. SMART METERS AND STORM HARDENING

Q. What is the purpose of the Company’s storm hardening proposals?

A. The stated purpose of these proposals is to be better prepared for increased major storm activity and to respond to “the Board’s desire to support and protect New Jersey’s utility infrastructure so that it may better withstand major storm events.”

Q. How do smart meters relate to storm hardening?

A. The Company claims that the meter upgrade project will provide resiliency benefits to customers by “significantly improv[ing] the Company’s outage management by deploying technologies that enhance outage detection.”

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6 Id.
7 RECO Verified Amended and Restated Petition, Meter Upgrade Panel, p. 1.
8 RECO Verified Amended and Restated Petition, Meter Upgrade Panel, p. 4, lines 5-6.
Q. How will smart meters enhance outage detection?

A. The Company claims that smart meters will facilitate the identification of outages (including nested outages) and customers that have already been restored, and will help the Company to dispatch the appropriate crews to fix the problem. The Company states that this will result in “quicker, more efficient service restoration.”

Q. Has the Company quantified the extent to which AMI meters will reduce outage time?

A. Yes, the Company has estimated that outage time will be reduced by 0.3 percent. According to the Company, the average restoration time is approximately 88.3 minutes per customer over the course of the year. Thus, according to the Company’s estimates, the installation of the AMI system would reduce the outage duration time to approximately 88 minutes—a reduction of 16 seconds per customer. The monetized benefit of this improvement is estimated to be $143,524 per year (or $3.1 million over 20 years, undiscounted), based on reductions in line crew time.

Q. Does a reduction in outage time of 0.3 percent constitute a “significant improvement”?

A. No. Also, the reduction in cost due to faster restoration time represents only 5.6 percent of the undiscounted 20-year total benefits of the AMI investments.

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9 The Company defines nested outages as “where restoration was completed on the main lines of a circuit, but customers whose service is provided through distribution spurs are still without power.” RECO Verified Amended and Restated Petition, Meter Upgrade Panel, p. 4, lines 11-12.
10 RECO Verified Amended and Restated Petition, Meter Upgrade Panel, p. 4, line 9.
11 RECO response to RCR-AMI-19(a).
12 Id.
13 RECO response to RCR-AMI-2, “Attachment-RCR-AMI-2 ENJ MUP BPU Workbook 4 22 15 V2.xls”
Q. Has the Company quantified any other storm hardening benefits?

A. As noted above, the Company claims that AMI will enable it to dispatch crews appropriate to the service problem, which will both enable it to restore service more quickly, while also reducing costs. Some of these benefits would likely occur on blue sky days, while some of them would accrue during major storms. The monetized benefit of improving dispatching is estimated to be $299,263 per year (or $6.6 million over 20 years, undiscounted). This equates to approximately 11.8 percent of the total undiscounted 20-year AMI benefits.14

Q. How much does the Company estimate that it will cost to achieve these storm hardening benefits?

A. The Company estimates the undiscounted meter upgrade costs to be $51.3 million over 20 years.15

Q. Do these benefits justify extraordinary cost recovery?

A. No. The investment in AMI should be considered in a general rate case, rather than a storm hardening docket, for two reasons. First, the connection to resiliency is tenuous at best, given that outage restoration time would be reduced by only 0.3 percent. Such a minor improvement in outage restoration should not be used as an excuse to pass through costs to ratepayers through a “Storm Hardening Surcharge.”

14 RECO response to RCR-AMI-2, “Attachment-RCR-AMI-2 ENJ MUP BPU Workbook 4 22 15 V2.xls”
15 RECO response to RCR-AMI-32, “RCR-AMI-32 Attachment RECO MUP Fin Model.xls.”
Second, the vast majority of benefits are not directly storm-related. Only 17 percent of the benefits are storm-related. Rather, the majority of benefits result from reduced meter-reading costs. Thus the investment would be more appropriately addressed in a standard rate case proceeding.

5. THE COMPANY’S ANALYSIS SHOWS THAT THE AMI PROJECT’S COSTS OUTWEIGH ITS BENEFITS

Q. Did the Company show that the project will be beneficial to ratepayers?

A. No. The Company has failed to show that the project will provide net benefits for ratepayers. As I will describe in more detail:

• The Company’s original filing lacked analytical rigor, mainly by failing to calculate the present value of benefits and costs.

• Supplemental analysis provided by the Company shows that, with discounting applied, the project’s costs to ratepayers outweigh its benefits.

Q. Did the Company estimate revenue requirements to show how these costs and benefits would affect ratepayers?

A. Not in the initial filing. The Company’s original estimates were not based on revenue requirements, and thereby did not indicate what the impact would be on ratepayers. It later provided a revenue requirement analysis in response to a discovery request from
Rate Counsel.16 As I will discuss further, however, this corrected analysis showed that the project’s costs to ratepayers would be greater than its benefits.

Q. Does the Company claim that the project will result in a net benefit to ratepayers?

A. Yes. In the filing, the Company claims that the project will provide a “net benefit of $25.6 million.”17

Q. Does the “net benefit” of $25.6 million include all costs?

A. No. In response to a data request, the Company stated that the “capital cost of the project is not included” in the calculation of the $25.6 million in “net benefits.”18

Q. Is it common to estimate net benefits without including up-front costs?

A. No. Claiming net benefits to a project without counting the upfront costs of investing in that project is clearly wrong and misleading. Thus, this claimed “net benefit” should be ignored.

Q. Were there any additional flaws in the Company’s initial filing?

A. Yes. The Company used nominal dollars to claim that the project “shows substantial benefits over the 20-year life of the project that more than covers the cost of the project”19 (emphasis added).

16 Following a request from Rate Counsel in the settlement and discovery call with all parties on August 5, 2015, the Company responded to RCR-AMI-32 by providing the revenue requirements analysis in “RCR-AMI-32-Attachment RECO MUP Fin Model.xls” on August 7, 2015.
17 RECO Verified Amended and Restated Petition, Meter Upgrade Panel, p.17, lines 1-2.
18 RECO response to RCR-AMI-5.
19 RECO response to RCR-AMI-28.
In the supporting initial analysis, the Company estimated benefits and costs for 20 years (2016-2035) due to the project. However, the total costs and benefits were presented in “nominal” terms and then summed together. As the Company stated: “The costs and benefits are estimated dollars without cost of money or provision for the time value of money.” These concepts are too important to be ignored, for reasons I will explain.

Q. **What is a nominal cost or benefit?**

A. Nominal dollars are sometimes referred to as “current year dollars” since they are the dollar value in the year being presented. As we all know, prices of goods and services change over time due to inflation. The impacts of inflation should be taken into account when conducting a benefit-cost analysis.

Q. **Why should one account for inflation?**

A. If dollar costs or benefits that will occur in different years are combined, they should be adjusted for an assumed inflation rate in order to arrive at “real” or “constant” dollars. For instance, dollars spent in 2016 should not be added to dollars spent in 2035 without adjusting for changes in inflation. Otherwise, changes in purchasing power over time are obscured.

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21 RECO response to RCR-AMI-7.
Q. Please explain what you mean by the “time value of money.”

A. Even when one accounts for the effect of inflation, costs and benefits in the future are not weighted the same as costs and benefits today. That is, a dollar received today is worth more than a dollar that one must wait ten years to receive.

Q. How does one account for the time value of money?

A. Investment decisions that have costs and benefits over multiple years are typically evaluated using a “discount rate,” which places a value on foregoing benefits or costs for each additional year. Using a discount rate to account for the time value of money allows one to evaluate the entire stream of benefits and costs on an equivalent basis.

Q. How does one use the discount rate to determine whether a project is beneficial?

A. Once one has applied the discount rate to future costs and benefits, one simply subtracts the summation of the discounted costs from the discounted benefits. This is referred to as the “net present value.” This metric allows for comparison of different options that bear differing benefits and costs over a given time period. If the summation of the discounted benefits are greater than the summation of the discounted costs, then the net present value will be positive, and the project is considered to be cost-effective. This concept of net present value is widely used throughout the electricity industry, and elsewhere, as one of the primary indications of where an investment should be undertaken.

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22 A discount rate can be in nominal or real terms. If the stream of dollars being discounted is in nominal dollars then a nominal discount rate is appropriate. If the stream of dollars being discounted is in real or constant dollars then a real discount rate is appropriate.
Q. Should the Board give any weight to the Company’s conclusion that the project has “substantial benefits” based on the initial filing?

A. Absolutely not. I know of no utility or commission that makes investment decisions by comparing the summation of undiscounted, nominal dollars over a long-term period.

Q. Did the Company attempt to correct its original analysis?

A. Yes. The Company provided a supplemental analysis on August 12th—four months after the initial filing and one month after Rate Counsel issued data requests asking whether a present value analysis was performed. This new analysis provided both discounted and undiscounted benefits and costs.

Q. After conducting this supplemental analysis, did the Company maintain that the project was beneficial?

A. Yes. The Company claimed to provide “an additional analysis that considers the time value of money and also reflects positive results on this investment.” When Rate Counsel asked if the Company still claimed “substantial benefits after accounting for the time value of money,” the Company responded: “Yes.”

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23 Data request RCR-AMI-8.
25 RECO response to RCR-AMI-36.
26 Id.
Q. ** Does the Company’s supplemental analysis support this claim? **

A. No. The Company asserts that the “break-even / payback period is 9.6 years”—i.e., that the project becomes beneficial after 9.6 years. \[27\] However, according to the Company’s workbook, this “simple breakeven” calculation is based on “undiscounted” cash flow. \[28\] According to the workbook, here the Company is evaluating nominal dollar cash flow over a 30-year period (instead of a 20-year period). When discounting is applied, the analysis shows that the project breaks even in “>30 years”—i.e., after the analysis period. \[29\] This result indicates that the Company’s proposed AMI project’s benefits will not outweigh its costs.

Q. ** Does the Company explain why it believes the undiscounted breakeven point is relevant? **

A. Yes. In a document provided in response to discussions with Rate Counsel, the Company explained that it “employed an undiscounted break-even analysis because the Company’s priority was on when it would recoup the investment in the AMI project.” \[30\] This response suggests that the economic analysis was performed to assess the financial impact of the AMI investment on the Company, not the impact on the ratepayers. In order to obtain regulatory approval for a large capital investment such as this, the economic

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\[27\] Id.


\[29\] Id, cell B348.

\[30\] Document entitled “Discussion regarding payback period – Simple break even (undiscounted) vs. discounted - A time value of money analysis”, provided by RECO on August 21, 2015 in response to a previous discussion with Rate Counsel.
analysis must consider the impact on ratepayers, not on how quickly the Company can “recoup” its costs.

The Company explains that “the AMI project should be considered analogous to other large capital projects the Company undertakes, such as building a substation or transmission line” and “should not be approved or rejected based solely on a financial analysis.” Large capital projects are typically reviewed by regulators on the basis of the net present value of revenue requirements, contrary to what the Company claims here. The financial analysis performed by the Company already incorporates a quantification of benefits from the projects—and fails to show that they are cost-effective once the time value of money is applied. If the Company believes that there are more benefits to be had, then it should attempt to quantify them and incorporate the new benefits into the financial analysis.

Q. **As part of its supplemental analysis, did the Company analyze the discounted net revenue requirements of the project in order to determine the impact on rates?**

A. Yes. The Company estimated how benefits and costs would flow to ratepayers in terms of savings and revenue requirements, respectively.

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31 *Id.*
Q. Does the Company’s analysis show net savings to ratepayers?

A. No. The Company estimated the discounted value of savings as $31,622,494 and the discounted value of costs as $31,814,905. The difference between the two—the “net present value”—results in a net cost to ratepayers of $192,411 over a 20-year period.  

Figure 2 shows the cumulative net benefit of the project by year, including the Company’s 20-year result of $192,411 net cost (see the diamond). This was calculated by summing the Company’s discounted savings and revenue requirements in each year. The figure shows that the project never “breaks even” for ratepayers inside of 20 years. Simply put, the costs of the project outweigh the benefits.

![Figure 2. Cumulative Net Benefit of the Project, by Year (NPV, $000)](image)

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33 RECO response to RCR-AMI-32, “RCR-AMI-32 Attachment RECO MUP Fin Model.xls.”
Q. In this proceeding, has the Company shown that the project will benefit ratepayers?

A. No. The Company has failed on many counts to show a net benefit. First, its initial filing did not calculate revenue requirements and completely ignored the time value of money, thereby claiming more benefits than actually might exist. Second, the updated analysis—which attempts to rectify these issues—has shown that the project will cost ratepayers more than what they will save over the 20-year planning horizon.

6. METER ROLL-OUT AND STRANDED COSTS

Q. Is the Company proposing to replace only meters that have been fully depreciated?

A. No, the Company is proposing to replace all of the meters in Bergen County, many of which have not been fully depreciated because they were installed relatively recently.34

Q. How old are the meters that the Company is proposing to replace?

A. The ages of the meters vary. However, 27 percent of the meters are less than ten years old, nearly half of the meters are less than 20 years old, and a cumulative total of 65 percent are less than 30 years old, as shown in the chart below.

Q. What is the book life and expected operating life of a meter?

A. According to the Company’s response to RCR-AMI-10, the book life and the expected operating life of the existing meters is 30 years for electromechanical meters and 20 years for solid state meters. Currently all of the solid state meters are less than 20 years old.

Q. What percent of the existing meters have not yet reached the end of their expected operating lives?

A. Nearly 65 percent of the existing meters have not yet reached the end of their expected operating lives.36

Q. What are the undepreciated costs of these existing meters?

A. The undepreciated costs total approximately $5.6 million.37

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35 Developed from data provided in response to RCR-AMI-39, “RCR-AMI-39-Attachment Inventory Report ENJ Age.xls”
Q. Is the Company proposing to recover these costs?

A. Yes. The depreciation costs are included in the Company’s benefit-cost analysis.

Q. Is there any other way the Company could roll out the meters?

A. Yes. The Company could potentially install AMI meters as the existing meters reach the end of their book lives, or even somewhat before. If the Company were to replace only the meters that have currently reached the end of their book lives with AMI, it would be able to replace approximately 36 percent of the meters today. If it also replaced meters that are currently largely depreciated (e.g., meters 20 years old and older) with AMI, it would be able to replace more than half of the meters in Bergen County today.

Q. Would rolling out the meters more slowly reduce the benefits in the near term?

A. Yes, to some degree. However, as noted above, if the Company replaced meters that were currently 20 years old or older, it could replace approximately 55 percent of the meters with AMI today. Taking into account the number of meters that already have Automatic Meter Reading (AMR) capability, the vast majority of meters in Bergen County would have either AMI or AMR, thereby likely enabling the Company to achieve much of the reduction in meter reading payroll that it expects to achieve through its current proposal.

Q. What is AMR?

A. Automatic Meter Reading technology allows data on electricity usage, and in some cases demand, to be collected automatically, either through a drive-by vehicle or walk-by
handheld system. According to Itron, a leading metering technology company, AMR may also provide “capabilities like outage notification, demand reset, tamper information and interval datalogging.” Thus AMR provides many, but not all, of the benefits of AMI.

Q. How many meters currently have AMR?
A. 14,812 meters (25.5 percent) in Bergen County currently have AMR. 39

Q. What percentage of meters would have AMI or AMR under this alternative roll-out option?
A. Approximately 80 percent of meters in Bergen County would have either AMI or AMR if the Company simply replaced meters that were nearing the end of their book lives (20 years old or older). 40 With 80 percent of the meters having either AMI or AMR, the Company would likely reap many of the benefits of the new metering system, without having to replace meters that have many years of useful life remaining.

Q. Has the Company analyzed the cost-effectiveness of such a roll-out or other alternative timelines?
A. It is unclear whether the Company analyzed a roll-out similar to that outlined above, but no such analysis was presented in this docket. It is also far from clear that a five-year timeline would offer the most cost-effective roll-out option. The Company has justified its five-year roll-out timeline only on the basis of avoiding significant bill impacts (that

38 Itron, Solutions: Automatic Meter Reading, available at https://www.itron.com/na/productsAndServices/electricity/Pages/Solutions_Automated-Meter-Reading.aspx
39 RECO response to RCR-AMI-37(d).
40 By 2020, the year that the Company proposes to complete the AMI installation, a total of 61 percent of meters would have reached 20 years old or older. Given that more than 25 percent of meters currently have AMR, this implies that nearly 87 percent of meters would have AMI or AMR by 2020 under a five-year rollout scenario.
would presumably arise from a faster roll-out), but has not noted overall cost-
effectiveness as a factor in its decision to implement the roll-out over a five-year
period.41

Q. Has the Company analyzed alternative options to AMI, such as installing AMR?

A. No. In addition to the question regarding whether the five-year timeline would offer the
most cost-effective approach, there remain questions regarding whether investments in an
AMR system could achieve many of the same benefits at lower cost. While AMR does
not offer all of the same benefits as AMI, Itron claims that an AMR system can also offer
benefits such as outage notification, tamper information, and interval data.42

Further, it appears that there may be options that would allow for a more gradual, and
thus potentially more cost-effective, transition from AMR to AMI. Itron notes that all of
its electricity communication modules share the same platform, which allows a utility to
later “migrate to a full-featured advanced metering infrastructure (AMI) system”43 as the
utility’s needs evolve. As an example, Itron’s CENTRON Bridge Meter would allow it to
be installed alongside existing meters and use AMR technology until the utility was
prepared to switch to full AMI functionality. According to Itron’s website, when a utility

41 RECO response to RCR-AMI-18.
42 Itron, Solutions: Automatic Meter Reading, available at
https://www.itron.com/na/productsAndServices/electricity/Pages/Solutions_Automatic-Meter-Reading.aspx
43 Itron, Solutions: Automatic Meter Reading, available at
https://www.itron.com/na/productsAndServices/electricity/Pages/Solutions_Automatic-Meter-Reading.aspx
is ready to transition to AMI, a technician simply drives the route and schedules when the
utility wants the meters to switch.44

There are clearly numerous options that could be explored and analyzed to potentially
achieve a more cost-effective metering upgrade solution. Despite this potential, the
Company states: “Neither the Company nor its consultants has performed a detailed
comparison of an AMR system and an AMI system.”45

Q. What are your recommendations regarding the analysis of alternatives?

A. I recommend that the Company undertake a thorough analysis of various metering
options in order to justify recovery of extraordinary metering costs. This analysis should
include several alternatives, such as a partial roll-out that would replace only fully-
depreciated or mostly-depreciated meters, as well as options that would utilize only AMR
infrastructure or a combination of AMR and AMI. As noted above, given that the primary
benefits of AMI and AMR are not storm-related, but rather reductions in day-to-day
operating costs, I recommend that these meter upgrade options be considered as part of a
base rate case.

44 Itron, CENTRON Bridge Meter, available at
https://www.itron.com/na/productsAndServices/Pages/CENTRON%20Bridge%20Meter.aspx?market=electricity
45 RECO response to RCR-AMI-9.
7. OTHER HARMFUL IMPACTS ON RATEPAYERS

Q. Please describe the Company’s opt-out charges.

A. The Company proposes to charge any customer who opts out of an advanced meter a monthly service fee of $15 for manually reading their meter, which equates to $180 per year. In addition, it appears that any customer that wishes to have an advanced meter that has its data transmitter turned off will be charged a one-time meter change fee of $135.\textsuperscript{46}

Q. How do these charges compare to other jurisdictions?

A. These charges are among the highest in the country, and are generally higher than those the Company reviewed when setting its proposed charges, as evidenced by the table below, provided by the Company in response to RCR-AMI-26.

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In comparison, RECO’s proposed monthly fee is 22 percent higher than the sample average, and its meter change fee is 78 percent higher than the sample average. RECO’s

\textsuperscript{46} RECO Verified Amended and Restated Petition, Meter Upgrade Panel, p. 20, lines 7-8 and lines 18-21.
\textsuperscript{47} RECO response to RCR-AMI-26.
proposed opt-out charges thus appear to be excessive and designed to heavily penalize customers who choose to retain their current metering technology.

8. RECOMMENDATIONS

Q. What do you recommend with regard to the Company’s meter upgrade proposal?

A. I recommend that the Board reject the Company’s proposal for three reasons:

1) The connection with storm hardening is tenuous. The purpose of storm hardening efforts is to support and protect utility infrastructure in order to better withstand major storm events. The meter upgrade would have very few benefits in this regard, reducing outage restoration time by only 0.3 percent. This is not sufficient to justify the extraordinary cost recovery mechanism that the Company has requested for these meters.

2) The Company’s benefit-cost analysis shows that the AMI costs outweigh the benefits to ratepayers, in terms of the present value of revenue requirements. The Company’s proposal should not be approved for this reason, and it should certainly not receive extraordinary cost recovery.

3) The Company’s proposal would have other detrimental impacts on ratepayers that choose to opt out of the meter upgrade, due to the excessive opt-out fees proposed by the Company.

Q. Does this conclude your direct testimony?

A. Yes, it does.
Resume of Tim Woolf
Tim Woolf, Vice President

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PROFESSIONAL EXPERIENCE


Provides expert consulting on the economic, regulatory, consumer, environmental, and public policy implications of the electricity and gas industries. The primary focus of work includes technical and economic analyses, electric power system planning, climate change strategies, energy efficiency programs and policies, renewable resources and related policies, power plant performance and economics, air quality, and many related aspects of consumer and environmental protection.

Massachusetts Department of Public Utilities, Boston, MA. Commissioner, 2007 – 2011.

Oversaw a significant expansion of clean energy policies as a consequence of the Massachusetts Green Communities Act, including an aggressive expansion of ratepayer-funded energy efficiency programs; the implementation of decoupled rates for electric and gas companies; an update of the DPU energy efficiency guidelines; the promulgation of net metering regulations; review of smart grid pilot programs; and review of long-term contracts for renewable power. Oversaw six rate case proceedings for Massachusetts electric and gas companies. Played an influential role in the development of price responsive demand proposals for the New England wholesale energy market. Served as President of the New England Conference of Public Utility Commissioners from 2009-2010. Served as board member on the Energy Facilities Siting Board from 2007-2010. Served as co-chair of the Steering Committee for the Northeast Energy Efficiency Partnership’s Regional Evaluation, Measurement and Verification Forum.


EDUCATION

Boston University, Boston, MA
Master of Business Administration, 1993
London School of Economics, London, England
Diploma, Economics, 1991

Tufts University, Medford, MA
Bachelor of Science in Mechanical Engineering, 1982

Tufts University, Medford, MA
Bachelor of Arts in English, 1982

REPORTS


Environmental Institute for the North American Commission for Environmental Cooperation, with the Global Development and Environment Institute.


**ARTICLES**


PRESENTATIONS


**TESTIMONY**


**Missouri Public Service Commission (Case No. ER-2014-0370):** Direct and surrebuttal testimony on the topic of Kansas City Power and Light’s rate design proposal. On behalf of Sierra Club. April 16, 2015 and June 5, 2015.


**Florida Public Service Commission (Dockets No. 130199-EI et al.):** Direct testimony on the topic of setting goals for increasing the efficiency of energy consumption and increasing the development of demand-side renewable energy systems. On behalf of the Sierra Club. May 19, 2014.

**Massachusetts Department of Public Utilities (Docket No. DPU 14-__):** Testimony regarding the cost of compliance with the Global Warming Solution Act. On behalf of the Massachusetts Department of Energy Resources and the Department of Environmental Protection. May 16, 2014.


Delaware Public Service Commission (Docket No. 96-83): Filed comments regarding the Investigation of Restructuring the Electricity Industry in Delaware (Tellus Institute Study No. 96-99). On behalf of the Staff of the Delaware Public Service Commission. November 1996.


Resume dated July 2015