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July 7, 2023

VIA ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

**RE: Docket No. 22-49-EL-The Narragansett Electric Company d/b/a Rhode Island Energy
Advanced Metering Functionality Business Case
Responses to PUC Data Requests – PUC Set 6**

Dear Ms. Massaro:

On behalf of The Narragansett Electric Company d/b/a Rhode Island Energy (“Rhode Island Energy” or the “Company”), attached is the electronic version of Rhode Island Energy’s supplemental response to PUC 6-4 from the Public Utilities Commission’s Sixth Set of Data Requests in the above-referenced matter.¹

Thank you for your time and attention to this matter. If you have any questions, please contact Jennifer Brooks Hutchinson at 401-316-7429.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Jennifer Brooks Hutchinson", with a long horizontal line extending to the right.

Jennifer Brooks Hutchinson


Enclosures

cc: Docket No. 22-49-EL Service List
John Bell, Division
Leo Wold, Esq.

¹ Per communication from Commission counsel on October 4, 2021, the Company is submitting electronic versions of these filings followed by hard copies filed with the Clerk within 24 hours of the electronic filing.

CERTIFICATE OF SERVICE

I certify that a copy of the within documents was forwarded by e-mail to the Service List in the above docket on the 7th day of July, 2023.



Adam M. Ramos, Esq.

The Narragansett Electric Company d/b/a Rhode Island Energy
Docket No. 22-49-EL Advanced Meter Functionality (AMF)
Service list updated 4/17/2023

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PUC 6-4 Supplemental

Request:

In response to RR-2 in this matter, the Company provided the differences in meter functionality between the three PPL affiliates. Assuming approval of the chosen meters in RI, what would it cost to implement in Rhode Island the functionalities currently available to the utility and its customers in Pennsylvania. As part of this response, please list each functionality the Company is including.

Original Response:

The Company interprets this question as asking “what is the cost to install an AMI 2.0 meter, as proposed for Rhode Island, with AMI 1.0 communications and systems capability that currently exist in Pennsylvania?” This scenario is impracticable because the AMI 2.0 meter is not backwards-compatible with the AMI 1.0 communication network in Pennsylvania. Given this, it is not always feasible to pick individual functionalities from either AMI 1.0 or AMI 2.0 and transplant them to a system using the other version. Notwithstanding, the Company has prepared estimates based upon the hypothetical combination to answer the question. The estimated cost impact for near-real time communications under this hypothetical combination is an estimate, as the network would need to be redesigned and upgraded to be technically viable.

As background, Pennsylvania currently provides 15-minute interval data back from the meter through the network to the Head-end system every 4-6 hours. Data presentment to the customer is made available after 24 hours via the portal. To offer near real-time capabilities as proposed in Rhode Island, that is, to bring back 15-minute interval data every 15-20 minutes and provide raw data in the customer presentment portal after 30-45 minutes, requires a communication network design capable of handling this quantity and frequency of data.

The Company had to indirectly estimate the cost of implementing AMI 2.0 meters with AMI 1.0 communications and systems capability from the estimated costs in the AMF Business Case BCA. The Company started with the total estimated BCA costs and then backed out the costs associated with functionalities proposed for Rhode Island but not currently available in Pennsylvania. The chart below captures the functionalities, and their respective Rhode Island cost estimates, for capabilities that are proposed in the Rhode Island Energy AMF Business Case but not currently provided or offered in Pennsylvania. This estimate has quantified and removed the three Customer Portal Technologies and Grid Edge computing, time-varying rate functionalities beyond basic time-of-use rates, and near-real time data communications because Pennsylvania currently does not have these functionalities. The estimated cost to install an AMF 2.0 meter, as proposed in Rhode Island, with AMF 1.0 communications and systems capability is

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20-year nominal costs of \$269.23M, as determined by deducting the impacted BCA cost impact (in the right column of the table) from the nominal cost of the AMF in the Business Case.

Incremental Functionality in RI	Estimated BCA Cost Impact
Near-real time communications Open, interoperability protocol - Wi-SUN	\$10.76M in annual SaaS fees to year 20 (OpEx)
Customer Portal Technology: - CP: Solar Marketplace - CP: Carbon Footprint Calculator - CP: C&I and Multi-Family Portfolio View	\$1.25M implementation (CapEx) \$1.12M steady state operations to year 20 (OpEx)
Time Varying Rates - TVR Foundational - Enabled TVR	\$3.02M implementation (CapEx) \$1.73M steady state operations to year 20 (OpEx)
Grid Edge - Load Disaggregation & Waveform Analytics - Grid-Edge Computing (writing applications to the meter)	\$1.90M annual SaaS fees to year 20 (OpEx)

A significant advantage of the proposed AMI 2.0 meters in the Rhode Island Energy AMF Business Case is the opportunity for TVR and grid-edge capabilities, which is facilitated by near-real time data. The capability of the proposed Rhode Island network is derived from Wi-SUN, the features of the communication system offered by present-day technology, and the design of the network. By attempting to align the proposed Rhode Island Energy RF network to the Pennsylvania 1.0 version communication system, the promise of the benefits and customer engagement that is enabled by near-real time data, would not currently be possible. Doing so would also defeat the purpose of installing AMI 2.0 meters in the first instance, and the loss of functionalities and additional costs and risks associated with a future upgrade to an AMI 2.0 network would, in the Company’s view, outweigh any potential cost savings.

Supplemental Response:

The supplemental table below updates the values for Wi-SUN to the BCA estimate value. Costs for Wi-SUN that were present in the original response table were based on contract values. By updating the Wi-SUN values in the supplemental table it provides a consistent compare across all incremental functionalities using BCA estimate values.

Based on the updated cost values for the Wi-SUN Network, the estimated cost to install an AMF 2.0 meter, as proposed in Rhode Island, with AMF 1.0 communications and systems capability is

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20-year nominal costs of, \$259.30M, as determined by deducting the impacted BCA cost impact (in the right column of the table) from the nominal cost of the AMF in the Business Case.

Incremental Functionality in RI	Updated Estimated BCA Cost Impact
Near-real time communications Open, interoperability protocol - Wi-SUN	\$1.98M implementation (CapEx) \$17.71M in annual SaaS fees to year 20 (OpEx) \$1.03M steady state operations to year 20 (OpEx)
Customer Portal Technology: - CP: Solar Marketplace - CP: Carbon Footprint Calculator - CP: C&I and Multi-Family Portfolio View	\$1.25M implementation (CapEx) \$1.12M steady state operations to year 20 (OpEx)
Time Varying Rates - TVR Foundational - Enabled TVR	\$3.02M implementation (CapEx) \$1.73M steady state operations to year 20 (OpEx)
Grid Edge - Load Disaggregation & Waveform Analytics - Grid-Edge Computing (writing applications to the meter)	\$1.90M annual SaaS fees to year 20 (OpEx)