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February 16, 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 Division Data Requests – Division Set 2**

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 responses to the Division of Public Utilities & Carriers’ (the “Division”) Second 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

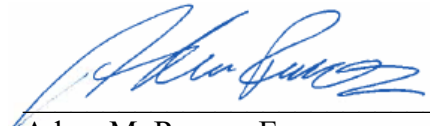
Enclosures

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 an electronic version of this filing 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 16th day of February, 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 2/6/2023

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In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
Cost Recovery Program
Responses to the Division's Second Set of Data Requests
Issued on January 26, 2023

Division 2-1

Request:

According to the Company's filing, the AMF system will collect electric usage in 15-minute increments with viewing 30 to 45 minutes after meter registration to provide near real time monitoring.

- a. Will RIE read every meter every 15 minutes so the data is close to real time? If not, please provide the interval of when the meters will be read and posted.
- b. If longer post times are planned for the AMF system, please explain the potential impact on the ability of consumer and third-party vendors to utilize the data since it will not be in near real time?

Response:

- (a) Yes, the Company will read every AMF meter and return usage data packets back to the Head End System every 15 minutes. Customers will have access to available raw interval usage data through the Customer Portal within 30-45 minutes of consumption. Billing quality data, that is data that has been processed through Validation, Estimation, and Edit (VEE), will be available within 24 hours of consumption.
- (b) Please see the response to part (a), above. There is no impact as consumers and third-party vendors with permission through Green Button Connect can utilize raw data within 30-45 minutes of when it was used.

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Division 2-2

Request:

How many paths will RIE have to access the data that is read and stored off site?

Response:

The Company will access the off-site data via secure internet connections, which are available from multiple access points, though the Company has not calculated the exact number of paths that will be available. These access paths will include: (i) secure file transfers between systems; (ii) qualified employees interacting directly with the hosted systems storing the data; and (iii) system interfaces to support capabilities like customer billing, outage restoration management, and customer usage presentment.

In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
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Division 2-3

Request:

Will there be redundant servers at multiple locations on the RIE side to prevent a single point of failure?

Response:

Yes. Rhode Island Energy will have redundant servers at multiple locations to prevent a single point of failure. AMF servers consist of Software-as-a-Service ("SaaS") and the Company's own servers that are located on Company premises. The SaaS-provided systems have redundant servers at two separate locations. The Company's on premises systems often have redundant servers as well. In addition, the majority of Rhode Island Energy servers are implemented with technology that helps to prevent a single point of failure by providing the capability to recover on another dedicated physical server in approximately two hours.

In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
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Division 2-4

Request:

Please describe the asset management improvements that are anticipated from the AMF data.

Response:

Asset management of AMR meters is based on periodic testing and visits to the meter either by driving by or on foot. Because AMF readings are granular and obtained remotely, it presents an opportunity for the Company to utilize communications and data analysis to better manage the meter assets. The granular data provides insight into common patterns associated with system or local events that utility staff can utilize to identify and address issues, often before they occur, resulting in improved business processes, increased efficiency because resources are focused where and when they are most needed, and better decisions for asset investment. Examples of improved asset management using granular AMF data include:

- Identify and resolve meter issues by monitoring automated meter alerts in conjunction with 15-minute load, current and voltage values;
- Investigate meters that are communicating without an assigned account number;
- Diagnose meter and other system events that trigger alerts and alarms by reviewing 15-minute data to determine if and/or how concurrent load contributed to the issue;
- Identify potential tampering issues revealed by characteristic interval data usage patterns;
- Identify voltage anomalies and fluctuations from 15-minute interval voltage data;
- Calculate percent power factor from 15-minute interval reactive power (kVAR) and energy usage (kWh) values to identify inefficiencies on the distribution network.

Asset management opportunities extend beyond the meters themselves. For example, on the electric distribution system, momentary service interruptions can be monitored to proactively identify and address issues on the distribution network. Errors in network connectivity may be identified and corrected for improved dispatching and planning. Hosting capacity may be assessed to improve allowable interconnection decisions and distribution transformer loading may be monitored to better manage the distribution transformer fleet.

In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
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Division 2-5

Request:

According to the Company's filing, RIE will use the data from AMF for VVO and CVR.

- a. Will RIE use the volt meters built into the AMF meters or will a different method be used to obtain the voltage readings?
- b. What is the accuracy of the volt meters that will be used and how often will those devices be read each day?

Response:

- a) Rhode Island Energy will use voltage sensing capability that is integrated into the AMF meters to capture voltage readings every 15 minutes and incorporate them into an advanced ADMS functionality, Volt VAR Optimization ("VVO"), which automates and optimizes the operation of the distribution voltage regulating devices that are dispersed across the distribution feeders. The comprehensive voltage perspective will allow distribution operators and system planners to better monitor and manage system-wide voltage to maintain efficient, reliable distribution, reduce losses, address voltage anomalies.
- b) AMF meter voltage accuracy is +/- 0.2%. AMF voltage reads will be captured every 15 minutes and sent to the Head-End system ("HES") through the RF Mesh network communication system.

In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
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Responses to the Division's Second Set of Data Requests
Issued on January 26, 2023

Division 2-6

Request:

RIE will not have to roll trucks for meter reads and disconnects, but in what other ways will AMF help RIE contribute to net zero carbon emissions?

Response:

AMF will help Rhode Island Energy contribute to net zero carbon emissions in several ways that avoids electricity generation that would contribute to CO2 emissions:

- 1) AMF will provide customers with more visibility enabling them to make more informed decisions resulting in 1.5% energy usage savings with AMF.
- 2) AMF will enable Volt/Var Optimization/Conservation Voltage Reduction (“VVO/CVR”) allowing the head-end voltage to be lowered to achieve energy efficiency and peak reduction. The added granularity from AMF meters are assumed to provide 0.5% energy savings and 0.167% peak savings in addition to GMP solutions.
- 3) As described in the GMP filing, Bates pages 109-115, DER Curtailment requirements are described with the alternatives of Grid Modernization and with No Grid Modernization. In the Grid Modernization alternative, AMF coupled with grid modernization technology is assumed to shift energy from peak hours to off-peak hours to balance DER generation with load at certain times. In doing so, the grid modernization and Time Varying Rates enabled by AMF is used to shift the following load which will avoid CO2 producing generation:
 - 3% of the residential/commercial load profile to high generation hours
 - 25% of the EV charge energy load profile to high generation hours
 - 3% of the EHP load profile to high generation hours

In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
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Division 2-7

Request:

Will the remote disconnect capability be installed on every meter? If not, please describe the type of meter or circumstances of when it will install. Also, if available, please provide an estimate of the number of meters it will be installed on.

Response:

No. The remote disconnect capability will be installed on more than 95% of the meter types. The Company will install AMF meters with remote connect/disconnect capability based on the currently installed form and class of the meter. The following meter types will receive remote connect/disconnect capability: Form 1S class 100, Form 2S class 200, Form 2S class 320 and Form 12S class 200, which represent approximately 500,000 electric meters.

In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
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Division 2-8

Request:

What percentage of the AMF system enables better gas operational benefits?

Response:

The AMF system is designed for electric meter reading. There is zero percent of the AMF system that was specifically designed for gas operations; however, if AMF is deployed for electric metering purposes, the RF mesh communication network could enable the seamless support of gas metering solutions on the same platform that is being developed for the electric metering solution. Gas endpoints, such as Ultrasonic, AMF gas meters, and methane detectors could communicate and operate over the same shared network as electric meters. The network would be managed by a single Network Management System ("NMS"), with data flowing into the same Headend System ("HES"). See PUC 3-33 and PUC 3-34 for more detail.

In Re: Rhode Island Energy Advanced Metering Functionality Business Case and
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Division 2-9

Request:

How will this cost of the AMF system enabling better gas operational benefits be charged to the gas sector?

Response:

At this time, none of the costs for AMF as proposed in the Company's Business Case will be allocated to gas customers. As stated in the response to PUC 3-35, the Company understands that the long-range gas strategy assessment in the Public Utilities Commission's Future of Gas, Docket No. 22-01-NG, is intended to guide future gas investments. The Company included gas technology modernization as possible examples of future applications that AMF enables to demonstrate how it is a strategic platform that can be built upon to provide incremental value beyond the electric AMF Business Case. The Company's AMF proposal is for AMF electric meter reading and will be charged 100 percent to the electric customers, if approved. The ability of the AMF RF Mesh network to accommodate gas metering that could potentially capture gas usage every hour in the future is not an enhancement that is being built into the design of the proposed AMF systems. In the future, any incremental AMF costs that are needed to enable gas benefits would be allocated to the gas customers accordingly. See the Company's responses to PUC 3-33 and PUC 3-34 for more information.

The Narragansett Electric Company
d/b/a Rhode Island Energy
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Division 2-10

Request:

According to the Company's filing, the AMF system will provide Utility benefits of \$354.7 million with a cost of \$188.0 million for a 1.9 BCA. Please explain how the AMF benefits will be reflected in the Company next base rate filing.

Response:

For any utility benefits that result in operational and financial savings to the Company before the next base distribution rate case filing, this reduction in costs to the Company would be reflected in the next base distribution rate case filing.

As described in the Joint Pre-Filed Testimony of Company Witnesses Stephanie A. Briggs and Bethany L. Johnson on Pages 14 and 15, the Company proposes to reduce the revenue requirement in the AMF cost recovery filings by 80 percent of the Non-OMS avoided costs resulting from the deployment of AMF until the next base distribution rate case.