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August 7, 2024

VIA HAND DELIVERY AND ELECTRONIC MAIL

Stephanie De La Rosa, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

**RE: Docket No. 23-48-EL – The Narragansett Electric Company d/b/a
Rhode Island Energy’s Proposed FY 2025 Electric Infrastructure, Safety, and
Reliability Plan
Responses to Data Requests – PUC Set 14 - Post-Decisional**

Dear Ms. De La Rosa:

On behalf of The Narragansett Electric Company d/b/a Rhode Island Energy (the “Company”), enclosed is the Company’s responses to the Public Utilities Commission’s Fourteenth Set of Post-Decisional Data Requests issued in the above-referenced matter.

Thank you for your attention to this transmittal. If you have any questions or concerns, please do not hesitate to contact me at 401-784-4263.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew S. Marcaccio".

Andrew S. Marcaccio

Enclosures

cc: Docket No. 23-48-EL Service List

The Narragansett Electric Company

d/b/a Rhode Island Energy

RIPUC Docket No. 23-48-EL

In Re: FY 2025 Electric Infrastructure, Safety and Reliability Plan
Responses to the Commission's Fourteenth Set of Data Requests – Post-Decisional
Issued on July 17, 2024

PUC 14-1 – Post-Decisional

Request:

Referencing the Compliance Filing pertaining to electromechanical relays replacements, please confirm that the explanatory text of the Wakefield Substation and Lincoln Ave Substation is identical.

Response:

Yes, the explanatory texts identifying the need for replacement of the electromechanical relays at the Wakefield Substation and Lincoln Ave. Substation are intended to be identical.

In Re: FY 2025 Electric Infrastructure, Safety and Reliability Plan
Responses to the Commission's Fourteenth Set of Data Requests – Post-Decisional
Issued on July 17, 2024

PUC 14-2 – Post-Decisional

Request:

Please confirm that the Company is concerned that the manufacturer may no longer provide adequate support for the relays at the Wakefield and Lincoln substations. Please provide evidence to support this concern.

Response:

The Company confirms that it is concerned that the manufacturers may not provide adequate support for the relays at the Wakefield and Lincoln Ave Substations. Discontinued relays can pose significant challenges, including difficulties in sourcing parts, limited technical support, increased maintenance costs, operations risk, and the need for system upgrades. Planning for replacement and upgrades in advance is crucial to minimize disruptions and ensure continued reliability and compliance of the electrical system.

Although the manufacturer currently provides support for the relays at the Wakefield and Lincoln Substations, there are several reasons to believe that this may not continue in the future. The manufacturer has a history of discontinuing support for older technologies when introducing newer, more advanced products. Please see the details below for the discontinued products by the manufacturer, which is from the Basler website and verified by Basler Technical Support:

Examples of discontinued relays:

- BE1-951 Overcurrent Protection System with Voltage
- BE1-1051 Overcurrent Protection System
- BE1-851/851E Digital Overcurrent Protection System
- BE1-700C Current Only Digital Protective Relay
- PRS-250 Veri Sync Relay
- BE1-GPS100 Generator Protection System
- BE3 Series Industrial Relays
- BE1-87G Variable Percentage Differential Relay

Additionally, the Company contacted the manufacturer of the Basler BE1-79M reclosing relay STYLE NO: 9 1701 00 215, which is installed on the three feeders at the Wakefield Substation and was informed that the specific relay is obsolete and no longer manufactured.

Further, The General Electric- GE Static Reclosing Relay - Model 12SLR12A1A, installed on the six feeders at the Lincoln Ave. Substation, is obsolete and no longer supported by the original manufacturer, General Electric. Third party service companies have purchased the rights to recondition and resell the relays.

PUC 14-2 – Post-Decisional, page 2

Moreover, the Company's increasing difficulty in sourcing spare parts and the reliance on third-party support services further indicate a potential future gap in manufacturer support.

Finally, economic factors also play a significant role; maintaining support for older technologies can become cost prohibitive, especially as market demand decreases.

PUC 14-3 – Post-Decisional

Request:

Please confirm that the manufacturer no longer supports the relays at the Clarke Street substation.

Please provide evidence.

Response:

The Company confirms that the General Electric manufactured type IAC and type ACR electromechanical relays installed at the Clarke Street Substation are obsolete and no longer supported by the manufacturer. Ahmad Khan, an engineer within the substation engineering department reached out to GE, via phone call, to the technical customer support center where the representative confirmed that these relays are obsolete and no longer supported by General Electric, the original manufacturer. GE sold the rights to recondition and resell these relays to CBS Sales and their relay group Sertec Relay Services, which does not support these relays, but only sells refurbished units.

PUC 14-4 – Post-Decisional

Request:

On pages 2 and 3, the Company states that “Moreover, the existing solid state relays replacement is more expensive.”

- a. Please explain what is more expensive than what.
- b. Please provide the actual cost of the items being compared in this statement.

Response:

- a. The installation of digital relays is more expensive than replacing the existing relays (solid state and electromechanical relays) with a newer model because these new digital relays offer advanced features such as customizable setting, self-diagnostics, and data logging. Digital relays are more reliable with lower failure rates and longer lifespans. They support modern communication protocols, making them easier to integrate into existing systems. Real-time remote monitoring and control are possible, enhancing operational efficiency. Although they have higher initial costs, digital relays are most cost-efficient in the long run due to lower maintenance costs and reduced downtime. They also are easily upgradable, making them adaptable to modern technologies and standards. Additionally, digital relays are versatile and can perform multiple functions, reducing the need for additional equipment and improving energy efficiency.
- b. Please see the figures below for a cost comparison of the materials at each substation. This does not include the cost of any engineering, ancillary equipment required for communications, and hardware/enclosures required for mounting the relays.

PUC 14-4 – Post-Decisional, page 2

**Price Comparison
Wakefield - 17 Substation**

Installation of Digital/Microprocessor Relays	Replacement with Newer Model
\$25,689.60	\$13,500.00

**Price Comparison
Lincoln Ave. – 72 Substation**

Installation of Digital/Microprocessor Relays	Replacement with Newer Model
\$67,559.97	\$56,820.00

PUC 14-5 – Post-Decisional

Request:

RI Energy's filing discusses the difficulty in finding a replacement electromechanical relay when the existing relays fail. Please explain why RI Energy would employ a strategy of replacing failed electromechanical relays with legacy electromechanical relays rather than replacing failed electromechanical relays with modern microprocessor relays?

Response:

When an electromechanical relay fails, the Company needs to take the feeder out of service because the equipment is left unprotected against a fault. The quickest solution to return the feeder back to service is to replace the failed electromechanical relay with a similar relay to avoid increased engineering, design and construction delays that would come with replacing the failed electromechanical relay with a modern microprocessor relay, as explained in more detail below.

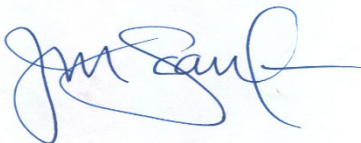
Existing electromechanical relays are single phase relays typically installed side-by-side in a panel. For example, for a standard feeder, there will be at least four relays monitoring current on each phase (A, B, and C) and the ground. In contrast, microprocessor relays monitor these phases within one physical relay and a typical installation includes a primary relay and backup relay where one relay is installed above the other. To replace an electromechanical relay with a microprocessor relay, the Company must mount the new microprocessor relay using a new prefabricated panel or sheet metal because of the physical difference between them.

Additionally, the Company must install new wiring and other materials to successfully convert the protection. These replacements typically involve months of engineering, design, procurement and construction. Accordingly, the Company's approach is to convert from legacy electromechanical relays to modern microprocessor relays as part of a replacement project rather than making the change on an ad hoc basis as electromechanical relays fail.

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Joanne M. Scanlon

August 7, 2024

Date

**Docket No. 23-48-EL – RI Energy’s Electric ISR Plan FY 2025
Service List as of 7/29/2024**

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