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Rhode Island Energy™
a PPL company

September 10, 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. 22-53-EL - FY 2024 Electric Infrastructure, Safety, and Reliability Plan - Reconciliation Filing
Responses to Division Data Requests – Set 3

Dear Ms. De La Rosa:

On behalf of The Narragansett Electric Company d/b/a Rhode Island Energy (the "Company"), enclosed please find the Company's responses to the Third Set of Data Requests issued by the Division of Public Utilities and Carriers ("Division") concerning the Company's Fiscal Year 2024 Electric Infrastructure, Safety, and Reliability Plan Reconciliation in the above-referenced docket.

Thank you for your attention to this filing. If you have any questions, please contact me at 401-784-4263.

Sincerely,

Andrew S. Marcaccio

Enclosures

cc: Docket No. 22-53-EL Service List

Division 3-1

Request:

Regarding the Company's response to Division 1-15, provide a list of projects related to load transfers driven by the Company's annual planning efforts (totaling $1.28 million). For each project, please provide to the extent applicable:

a. A discussion of the loading issue and associated system components,

b. Capacity ratings, actual loads, previously predicted loads, and revised predicted loads,

c. Specific drivers for load increases,

d. Why previous planning efforts and studies had not predicted the loading issues,

e. Whether the overloaded condition occurs under normal or contingency conditions,

f. Duration of overloaded condition,

g. The recommended resolution, scope and cost of each project,

h. Whether the load transfer is a permanent or temporary solution, and

i. Any other contributing factors such as DER additions or performance, unanticipated need to offload feeders to perform other ISR Plan work, etc.

Response:

There are four work orders that comprise the $1.28 million for projects related to load transfers driven by the Company's annual planning efforts:

1. CRIE Operational Guidance Transfers – $816,091
2. North Central 2023 Summer Transfers – $113,586
3. Point St 2023 Summer Transfers – $103,086
4. Blackstone Valley South 2023 Summer Transfers – $243,698

Prepared by or under the supervision of: Ryan Constable

Division 3-1, page 2

1. CRIE Operational Guidance Transfers – $816,091

   a. This work addressed two issues, a supply line contingency issue and a distribution feeder contingency issue. First, in the event of a 2262 supply line outage the 2222 supply line would exceed the emergency rating of the 2/0 copper conductor. As a result, the Warwick Substation auto transfer scheme must be disabled. Second, in the event of a 52F3 outage and with limited switching capability in this area, the total load at risk exceeds the distribution planning criteria of 16 megawatt*hours.

   b.

Line/Feeder	Capacity Ratings (MVA)	Actual Loads – 2022 (MVA)	Previously Predicted Loads For 2023* (MVA)	Revised Predicted Loads For 2023 (MVA)
2222	14.5	18.3	17.6	20.1
52F3	3.3**	9.0	8.1	9.7

   * Previously Predicted values are at the time of the study
   ** Capacity Rating for 52F3 contingency is available tie capability of the two neighboring feeders.

   c. Previous transfers and pending interconnections increased the projected 2023 loading for the subject feeders and supply lines. Six pending interconnections increased the 52F1 and 72F4 projected 2023 peak loads. This caused an increase in the 2222 supply line contingency issue and reduced feeder tie capacity to the 52F3, increasing the distribution load-at-risk.
   d. At the time of the study, two new feeders were established at the Kilvert Street Substation. Load was transferred to these new feeders from the Warwick and Lincoln Avenue substations mitigating the supply line contingency issue and distribution load-at-risk. These contingencies have been monitored since the study. Distribution Planning consulted with the Control Center and Operations regarding the recent load interconnections and load transfers, which increased the severity of the issues and determined a plan to reduce the time the Warwick auto transfer scheme needed to be disabled and to minimize the load at risk due to a 52F3 outage.
   e. The projected overload and load at risk occur under contingency conditions.
   f. The contingency overload issue exists whenever the combined transformer load at Warwick Substation exceeds the 2222 supply line summer emergency rating. The 52F3 load at risk issue exists whenever the 52F3 load exceeds the 52F3 available tie capacity. Projected contingency overload and load at risk of any duration trigger the need to reduce the projected contingency overload and load at risk. The exact duration of these risks has not been calculated. The Company is progressing toward the capability to conduct 8760-hour-per-year analysis in association with its grid modernization strategy.

g. The recommended plan was to rebuild the electrical configuration at the intersection of Sandy Lane and Warwick Avenue and reconductor approximately 0.8 miles of small conductor on Sandy Lane to enable the proposed transfers. The cost was estimated at approximately $549,000.
h. This project was a permanent improvement of the 2222 contingency overloading and 52F3 load at risk conditions. Future work may be required to further mitigate the risks.
i. Other than the details described above, there were not any other contributing factors that drove the need for the transfers.

2. North Central 2023 Summer Transfers – $113,586

a. The 18F5, 18F7 and 69F3 2023 peak loads were projected to exceed their respective summer normal ratings. Additionally, the nearby circuits 18F5 and 18F10 had peak projected 2023 loads that approached their respective summer normal ratings.
b.

Line/Feeder	Capacity Ratings (amps)	Actual Loads – 2022 (amps)	Previously Predicted Loads For 2023 (amps)	Revised Predicted Loads For 2023 (amps)
18F5	530	462	483	553
18F7	530	348	516	537
69F3	502	473	479	509

c. Multiple projects and pending interconnections increased the projected 2023 loading for the subject feeders. This included a converted 4.16kV load from Olneyville Substation, two new pending interconnections, and a transfer from Point Street Substation.
d. The plans to transfer the converted Olneyville load to the 18F7 and 18F9 had been made assuming a system load growth. In actuality, multiple interconnections and more rapid load growth increased the Johnston projected 2023 load beyond what was originally planned during the Olneyville conversions.
e. The projected overloads occur under normal conditions.
f. The projected overloads occur during the summer peak load conditions. Projected overloads of any duration trigger the need to reduce overloads. The exact duration of these risks has not been calculated. The Company is progressing toward the capability to perform 8760-hour-per-year analysis in association with its grid modernization strategy.
g. The recommended plan reconfigures the intersection of Atwood Avenue and Central Avenue and installs a recloser and load break switch. The cost was estimated at $120,000.

h. This project was a permanent improvement. Future work may be required as loads continue to grow.
i. There were not any other contributing factors other than those mentioned above that drove the need for the transfers.

3. Point St 2023 Summer Transfers – $103,086

a. The purpose of this work was to address the anticipated overloads in some of the Point St feeders, cascade load to other feeders to facilitate interconnection of load customers, and reserve load for feeder conversions and reconfigurations as part of the Providence Study.
b.

Line/Feeder	Capacity Ratings (amps)	Actual Loads – 2022 (amps)	Previously Predicted Loads For 2023 (amps)	Revised Predicted Loads For 2023 (amps)
76F2	500	509	506	543
76F4	530	520	511	555
76F6	518	491	505	524

c. As outlined in the Providence Study, the Point St Substation is reaching its design thermal capacity. The ongoing and future projects in the Providence Study will create capacity in the area to help relieve this substation. Additionally, some of these feeders were operating in an abnormal configuration during the recorded peak. The Company re-arranged some of these circuits, as requested by RIDOT, to facilitate the reconstruction of the Reservoir Ave Bridge.
d. The Providence Area Study did identify loading concerns at Point Street Substation. Section 8 "Factors Influencing Future Studies" included the following "The Point Street distribution system remains highly loaded at the end of the study period. Contingency loading issues, although of relatively low risk, remain in the Point Street station area. Higher load growth rates or concentrated growth in one area may exacerbate these two long term issues.".
e. The projected overload occurs under normal conditions.
f. The projected overloads occur during the summer peak load conditions. Projected overloads of any duration trigger the need to reduce overloads. The exact duration of these risks has not been calculated. The Company is progressing toward the capability to perform 8760-hour-per-year analysis in association with its grid modernization strategy.

g. The recommended plan includes extending conductors on Cadillac Drive and the installation of one load break switch and one recloser. The cost was estimated at $100,000.
h. The proposed scope is meant to be permanent and to align with the Providence Study.
i. There were not any other contributing factors other than those mentioned above that drove the need for the transfers.

4. Blackstone Valley South 2023 Summer Transfers – $243,698

a. The 102W51 and 107W81 peak projected 2023 loads exceeded their respective summer normal ratings. Additionally, the nearby circuit, 102W52, had peak projected 2023 loads that approached its summer normal ratings.
b.

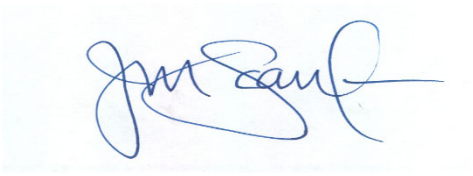
Line/Feeder	Capacity Ratings (amps)	Actual Loads – 2022 (amps)	Previously Predicted Loads For 2023 (amps)	Revised Predicted Loads For 2023 (amps)
102W51	325	365	333	365
107W81	365	333	356	372

c. Previous transfers and pending interconnections, including two new apartment buildings, increased the projected 2023 loading for the subject feeders.
d. The study projections assumed a system load growth. In actuality, multiple interconnections and more rapid localized load growth increased the projected 2023 load beyond what was originally planned.
e. The projected overload occurs under normal conditions.
f. The projected overloads occur during the summer peak load conditions. Projected overloads of any duration trigger the need to reduce overloads. The Company is progressing toward the capability to perform 8760-hour-per-year analysis in association with its grid modernization strategy.
g. The recommended plan includes the extension of primary conductors on Lonsdale Avenue and the installation of four load break switches and two reclosers. The cost was estimated at $220,000.
h. This project was a permanent improvement. Future work may be required as loads continue to grow.
i. There were not any other contributing factors other than those mentioned above that drove the need for the transfers.

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

September 10, 2024
Date

Docket No. 22-53-EL – RI Energy's Electric ISR Plan FY 2024
Service List as of 8/2/2024

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