Public Service Company of New Hampshire d/b/a Eversource Energy
Docket No. DE 20-161

Date Request Received: March 10, 2023 **Date of Response: March 21, 2023**
Data Request No. RR-003 **Page 1 of 2**

Request from: New Hampshire Public Utilities Commission

Witness: Cosgro, Matthew D

Request:

Refer to Exhibit 25

Please provide substation, circuit, breaker-level and/or facility-level information identifying the location and system granularity of investment need.

Response:

Attachment RR-003.xlsx includes coincident bulk substation feeder forecast (i.e., breaker-level) to compliment Eversource's 90/10 Regional Summer Peak Forecast for bulk substations contained within Exhibit 1, Bates page 52. The following notes provide explanations for feeders that show thermal loadings greater than 100% of the summer normal rating, and also to explain why the Bridge Street Substation 4.16 kV feeders do not show a forecast in the spreadsheet.

Breaker-level forecasts for the Bridge Street Substation 4.16 kV feeders are not available because only monthly non-coincident loading data is collected for this station. However, due to the urban nature of the area these substation feeders supply (i.e. overall flat load growth), any spot load growth by customers is handled by Distribution Engineering in coordination with Distribution System Planning as needed.

Three feeders were identified as being loaded to over 100% of their seasonal normal ratings over the course of the 10-year study.

1. Amherst 3143X, 34.5 kV Feeder (first violation noted: Year 2020) – This feeder was originally in a looped configuration between Amherst and South Milford Substations. This feeder is normally configured to supply load radially. Summer mitigation action is performed by system operators to return the line to its former looped configuration to reduce loading to acceptable limits.
2. Madbury 380, 34.5 kV Feeder (first violation noted: Year 2022) – This feeder was originally in a looped configuration between Madbury Substation and Packers Falls switching station but is now in a radial system configuration. Summer mitigation action is performed by

system operators to return the line to its looped configuration to reduce loading to acceptable limits.

3. North Keene 76W1, 12.47 kV Feeder (first violation noted: Year 2021) – A permanent load transfer to Emerald Street feeder W1 was discussed with Distribution Engineering and found to be an acceptable solution. This load transfer also addresses the low voltage design violation noted in the 2020-2029 Load Flow Study (Exhibit 2, Bates page 99).

At the time of the filing of the Eversource 2020 LCIRP, the non-capital solutions identified for these three thermal design violations would not be called out in any Initial Funding Request, Solution Selection Form, or Project Authorization Form.

Eversource will continue to monitor these circuits (e.g. changes in equipment, changes in load) to determine if any capital projects are needed in the future in order to maintain system reliability and operational flexibility.