December 18, 2024

To: **New England States Committee on Electricity (NESCOE)**
Attn: Sheila Keane, Director of Analysis

Connecticut Office of Consumer Counsel (CT OCC)
Attn: James M. Talbert-Slagle, Staff Attorney

Synapse Energy Economics
Attn: Chelsea Mattioda, Associate

Planning Advisory Committee

CC: **ISO New England**

Re: **New Hampshire Line X-178 Rebuild**

Following our presentation of the "New Hampshire Line X-178 Rebuild Follow-Up" on October 23, 2024, Eversource received comments and questions from New England States Committee on Electricity (NESCOE), Connecticut Office of Consumer Counsel (CT OCC) and Synapse Energy Economics. Attached are our responses. Thank you for your feedback and engagement, and we hope the responses help address your comments and concerns.

Additionally, as you may be aware, there are proceedings at both the New Hampshire Site Evaluation Committee and the New Hampshire Public Utilities Commission that could affect the timeline and scope of the X-178 project. Going forward, we intend to provide schedule and cost updates regarding the X-178 project to PAC via the regular, periodic updates to the Asset Condition List. We will provide additional presentations to the PAC if there are significant changes to the project cost estimate or scope.

Sincerely,

David J. Burnham
Director, Transmission Policy

Eversource Energy
Project: X-178 Line Rebuild
Data Request: NESCOE-1
Question: 1
Date Received: November 21, 2024

Request From: New England States Committee on Electricity (NESCOE)

Comment:

Since first proposed in February 2024, NESCOE has expressed serious concerns about the lack of compelling evidence to support the scope of Eversource's planned rebuild of the X-178 line. Following Eversource's initial presentation of the X-178 project, NESCOE asked Eversource to provide specific additional information to justify the scope of the project, including a targeted solution alternative.[1] It took several rounds of communications for Eversource to adequately respond to that request, information which Eversource surely possessed.

Since Eversource's initial presentation in February, stakeholders have provided several rounds of feedback, questions, objections, and requests for more information, and Eversource has in turn provided responses, offered a new inspection showing new degradation, and made two subsequent PAC presentations. It is entirely unreasonable for states and stakeholders to spend this level of time, effort, and resources to get complete project information.

Some of NESCOE's initial questions remain unanswered. For example, following Eversource's initial PAC presentation, NESCOE questioned whether the project was driven primarily by Eversource's communication preferences rather than the identified asset deterioration needs and whether those communication preferences were a proper basis for an asset condition project. New inspection results released by Eversource during the ongoing stakeholder review process showed a more significant asset condition need than the inspection that supported Eversource's original proposal. Nevertheless, a core question remains as to whether communication needs are a proper primary driver for an asset condition project, particularly when installing new communication technology causes the need to replace a significant number of otherwise healthy assets. As such, NESCOE's skepticism continues, and we will continue to follow the project as it proceeds.

NESCOE recognizes that Eversource brought the X-178 project forward before the recent asset condition process changes were fully implemented. Going forward, those process enhancements will increase visibility into proposed asset condition projects, enabling better understanding of, and engagement on, such proposals earlier in the process. For example, transmission owners will now routinely include a base or targeted minimum solution for every project, will clearly identify the primary driver for the need, and will consider the costs and benefits of alternative solutions.

[1] NESCOE. Feedback on New Hampshire Line X-178 Rebuild (March 14, 2024), at https://nescoe.com/resource-center/feedback-on-new-hampshire-line-x-178-rebuild/

While the asset condition process changes adopted to date remedy some of the process flaws that the X-178 proposal exemplified, the need for additional process enhancements remains. The X178 project process illustrates pointedly the persistent information asymmetry between transmission owners and stakeholders and the seemingly inconsistent decision and design standards across transmission owners, which appear to result in notable cost disparities among asset condition projects. It also demonstrates plainly the way in which the current process effectively shifts the burden away from federal regulators and onto states and stakeholders to establish whether such project proposals are a good use of consumer dollars.

NESCOE looks forward to working with the transmission owners and stakeholders to build upon the recent positive improvements in asset condition project transparency and exploring ways to increase accountability across these important and material transmission investments.

Response

As noted in your letter, Eversource has presented the proposed X-178 project to the PAC three times and also responded to many stakeholder questions in writing outside of these meetings. We acknowledge that the process has been challenging, and that some of our responses have left stakeholder seeking additional information. Along with the other New England Transmission Owners, we continue to pursue process enhancements that will give stakeholders more information and greater transparency on proposed asset condition investments. Enhancements completed since the initial X-178 presentation include completion of the Asset Condition Process Guide, revised guidelines for PAC presentations, and the development of a standardized PAC presentation template for transmission line asset condition projects. We look forward to continuing to collaborate with NESCOE, the New England States, ISO New England, and members of the PAC to further enhance our processes in 2025.

Eversource Energy
Project: X-178 Line Rebuild
Data Request: CTOCC-1
Question: 1
Date Received: November 13, 2024

Request From: Connecticut Office of Consumer Counsel (CT OCC)

Question: What percentage of the structures on the X-178 line will result in stranded assets? What is the value of those stranded assets? How does Eversource calculate deprecation of wooden structures in projects like X-178, where assets of different ages will be replaced?

Response:

Consistent with standard utility practice, Eversource utilizes mass property accounting for utility pole investments that are too numerous to track individually. Mass property assets are depreciated using the "group" method, rather than accounted for on an individual asset-by-asset basis. Under the group method, if an asset is retired before, or after, the average service life of the group, the resulting gain or loss is recorded against the total accumulated depreciation reserve account on the balance sheet. As such, any gain or loss on the disposition of assets is included within the net plant balance and depreciated over future years. Therefore, under the group method no “stranded asset” will be created for the X-178 line.

Eversource Energy
Project: X-178 Line Rebuild
Data Request: CTOCC-1
Question: 2
Date Received: November 13, 2024

Request From: Connecticut Office of Consumer Counsel (CT OCC)

Question: Does the company expect to recover the full value of those remaining assets on its balance sheet?

Response:
The Company will recover the remaining net costs related to the structures being replaced. As noted in the response to Question 1, Eversource utilizes mass property accounting for utility pole investments, where assets are depreciated using the "group" method rather than accounted for on an individual asset-by-asset basis. Under the group method, if an asset is retired before, or after, the average service life of the group, the resulting gain or loss is recorded against the total accumulated depreciation reserve account on the balance sheet. As such, any gain or loss on the disposition of assets is included within the net plant balance and depreciated over future years. As noted in the response to Question 1, this is standard practice for utilities, and recognizes that some assets will be retired before their average service life end and others after their average service life end date.

Eversource Energy
Project: X-178 Line Rebuild
Data Request: CTOCC-1
Question: 3
Date Received: November 13, 2024

Request From: Connecticut Office of Consumer Counsel (CT OCC)

Question: Is the cost of stranding those assets included in the NPV calculation that was included on slide 14 of the October 23 presentation?

Response:
No, there are no stranded costs associated with these projects as noted in our previous responses. Please see Eversource response to CTOCC Question 1 and CTOCC Question 2 for additional details.

Eversource Energy
Project: X-178 Line Rebuild
Data Request: CTOCC-1
Question: 4
Date Received: November 13, 2024

Request From: Connecticut Office of Consumer Counsel (CT OCC)

Question: What effect does the higher accumulated depreciation to offset rate base in Alternatives 1 and 2, which are reflected in the October 23 presentation, have on the overall cost of capital and recoverable tax expense? Similarly, what impact does the cost of capital associated with Alternative 3 have on the tax expense? Are both of those factors – the revenue impacts of differing accumulated depreciation and tax expenses - incorporated in the NPV calculation?

Response:
The October 23, 2024 presentation[2] provided analyses of several project alternatives and included the results of a net present value (NPV) analysis for certain alternatives. For the NPV analysis, Eversource estimated the revenue requirement for each alternative, with a 40-year recovery period for each investment included in each alternative. Eversource then calculated the present value costs of the alternatives using the discount rate assumptions described in the October 23 presentation.

Each revenue requirement calculation used the same underlying revenue requirement model, which includes accumulated depreciation, cost of capital, and tax expenses (including corporate income taxes, property taxes, and payroll taxes), as well as other costs such as operations and maintenance costs, and administrative and general costs. The model included fixed assumptions for the *rates* (i.e., percentages of net plant) associated with all of these costs, while the annual revenue requirements for each alternative varies depending on the magnitude and timing of the capital investments.

In response to your specific questions, the accumulated depreciation in Alternatives 1 and 2 does not affect the assumed *rate* for cost of capital and tax expense. However, the components of the revenue requirement associated with the cost of capital and tax expense vary from year to year within the model depending on the net plant balance in each year. For Alternative 3 (as well as the other alternatives), corporate income tax expense is included in the equity portion of the cost of capital as a gross up. Other taxes are calculated as a percentage of the net plant balance. All of these factors are incorporated into the NPV calculation.

[2] https://www.iso-ne.com/static-assets/documents/100016/a07_pac_line_x178_rebuild_followup.pdf

Eversource Energy
Project: X-178 Line Rebuild
Data Request: SYN-1
Question: 1
Date Received: November 13, 2024

Request From: Synapse Energy Economics, Inc.

Question: In September 2024, Eversource repaired six structures on the X-178 line and replaced an additional structure on this line after they were identified as needing emergency repairs. Please identify where those structures were on the line and how dispersed they were across the length of the line? Did Eversource identify a precipitating cause for those repairs? What were the costs associated with those repairs? What access and/or environmental protection challenges did Eversource face with that work? How did Eversource accommodate the "uplift" issues when effecting those isolated replacements?

Response:

The structures requiring emergency repairs or replacements were distributed throughout the line. Structures on the X-178 line are numbered from 1 to 589, with Structure 1 located at the southern end of the line, and Structure 589 located at the northern end of the line. Specifically, emergency repairs or replacements were performed on the following structures:

- Structure 178, Woodstock, NH (repaired)
- Structure 227, Lincoln, NH (repaired)
- Structure 317, Easton, NH (repaired)
- Structure 337, Easton, NH (repaired)
- Structure 356, Sugar Hill, NH (repaired)
- Structure 393, Sugar Hill, NH (replaced)
- Structure 468, Bethlehem, NH (repaired)

There were several precipitating causes for these repairs.

For five structures (178, 227, 317, 356, and 468), visual inspections identified significant cracks in the structure crossarms, placing these components at an increased risk of failure. The crossarms on these structures were replaced. Other remaining issues with these structures (pole cracks, poletop rot, etc.) were not addressed and the structures will need to be replaced as part of the X-178 rebuild project.

On two structures (337 and 393), visual inspections identified large woodpecker holes in the poles, placing both structures at risk of failure. Structure 337 is very difficult to access, so Eversource field crews performed a temporary repair with glue and additional bracing. The gluing process patches the woodpecker holes, fills any voids that have developed, and reduces the likelihood of additional woodpecker damage at the glued location. The glue

does not address the loss of structural strength and is used in limited circumstances as a temporary stop gap for hard to access structures until such time that access to the structure can be executed.

This structure will need to be replaced as part of the X-178 rebuild project. Structure 393 is located adjacent to a public road in Sugar Hill and was replaced using traditional heavy equipment. The new steel structure will not require replacement during the X-178 rebuild project.

The total cost of the repairs and structure replacement was approximately $325,000.

For all structures except Structure 393, repairs were performed by pole-climbing line workers, with helicopter assistance for the crossarm replacements. Heavy equipment (bucket trucks, cranes, etc.) were not used, so no environmental or land use permits were needed.

The replacement of Structure 393 in Sugar Hill did not require any wetlands crossings, or access through or work within archeologically-sensitive areas, and thus no permits were required.

The replacement of Structure 393 with a taller structure did not cause any “uplift”-related stress on adjacent structures. Repairs to the other structures did not result in any changes to structure height.

Eversource Energy
Project: X-178 Line Rebuild
Data Request: SYN-1
Question: 2
Date Received: November 13, 2024

Request From: Synapse Energy Economics, Inc.

Question: Please elaborate on Eversource's evaluation of different conductor options that it considered for the X-178 line, including advanced conductors and other GETS products. What products or conductors did the company consider? When did Eversource evaluate those other products? Why were they rejected?

Response:
Please see pages 6 – 7 of Eversource's June 12, 2024 memo for additional information on Eversource's evaluation of advanced conductors for the X-178 line.[3]

Over the past decade, Eversource has moved from legacy Aluminum Conductor, Steel Reinforced (ACSR) to Aluminum Conductor, Steel Supported (ACSS) as our standard conductor for new line construction and line rebuilds. Compared to ACSR, ACSS has excellent high-temperature performance and lower sag, for a comparable cost. Other advanced conductor technologies, such as Aluminum Conductor, Composite Core (ACCC) would increase the cost of the X-178 line rebuild without providing benefits such as lower tower heights or fewer towers. This is because the ice loading in New Hampshire would result in a similar sag with these conductors to what would be experienced at high temperature operation of ACSS.

[3] See https://www.iso-ne.com/static-assets/documents/100012/eversoruce_x178_stakeholder_feedback_memo.pdf

Eversource Energy
Project: X-178 Line Rebuild
Data Request: SYN-1
Question: 3
Date Received: November 13, 2024

Request From: Synapse Energy Economics, Inc.

Question: Please elaborate on the "uplift" issue that Eversource has identified related to the X-178 line. How has Eversource addressed this problem on other lines where they have opted to replace only certain structures on the line, leaving other adjacent structures in place? Are there different solutions to address the uplift effect short of replacing adjacent structures? Why are engineering solutions such as adjustments to pole height not appropriate for this project?

Response:

Eversource evaluates every structure replacement (including emergency replacements and planned replacements) for potential uplift issues. If replacement of a structure causes uplift-related issues on adjacent structures that cannot be mitigated through other means, the adjacent structures will also be replaced. Uplift-related structure replacements can sometimes be avoided by adding insulator struts or weights, but only when the existing structures have sufficient strength to support the additional load. This is not the case on the X-178 line. On the X-178 line, mitigating uplift by increasing pole heights is the preferred option.

The degree to which uplift-related issues are identified varies significantly from project to project and is affected by factors such as the terrain and the design of the line. On many projects, individual structures can be replaced without causing any unacceptable uplift on adjacent structures.