

I petition the NH PUC to open an LCIRP docket to examine the costly rebuilds and structure replacements by Eversource of its 115 kV and 345kV transmission lines listed below, as well as all other Eversource transmission line projects in the category of Asset Management from 2018 to the present, including the proposed X-178, U-199, and Q-195 lines. Many of these projects appear to have been either unnecessary or most-cost projects.

Using the Asset Condition category, Eversource has built (and proposes to build more) completely new transmission lines; new, taller, wider, steel structures carrying larger conduit. The original 115kV lines are/were rated at 529 (336 kcml, .463 lbs/ft) and 907 amps (795 kcml, 1.1 lbs/ft) T.he new lines are rated at 1,187 amps (1272 kcml 1.6 lbs/ft.)

Installation of these new, heavy structures and conduits is not only expensive in terms of materials and installation, but also requires extensive road building, much of it on ROWs with no roads, due to rough terrain covered with glacial erratics, streams, wetlands, steel slopes and water bodies. The X-178 line, in particular, was routed to avoid the Coppermine Trail, Lonesome Lake and the viewshed of the Tram and Route 3 through Franconia Notch, a route with higher tourism impacts but less environmental impacts.

On February 8, 2023, NESCOE wrote to ISO-NE and NETOs:

“Investments in Asset Condition Projects have grown steadily. Today they are a material portion of the overall regional network service charge that consumers ultimately pay. Asset Condition Projects have an important role in system reliability. However, the process by which Asset Condition Projects are developed by NETOs, reviewed by ISO-NE, states and the public, approved for rate recovery, and considered in overall transmission system needs and planning is antiquated and ultimately, inadequate.”

https://www.iso-ne.com/static-assets/documents/2023/02/2023_02_08_nescoe_asset_conditions_letter.pdf

In a May 15, 2023 letter to PAC and NETOs Synapse Energy Economics stated

“Cost Oversight and Review Processes

Synapse is concerned that there may be several fundamental problems with the asset condition project review and approval process. First, participants appear to receive little notice to analyze proposals or engage in a proper review of the NETOs proposals.

Second, our understanding is that very few stakeholders have the bandwidth, resources, or expertise to periodically review spending proposals, regardless of the review time allotted. Third, we also understand there is no requirement that NETOs receive comments, incorporate feedback from stakeholders, or follow up with the PAC after presenting their proposals. Lastly, concerning cost overruns appear to occur periodically, seemingly without any further review or repercussions. In short, our impression is that asset condition spending proposals are not subject to meaningful review and NETO presentations serve as little more than a pro forma exercise.

Synapse is concerned that the lack of regulatory oversight may be creating a perverse incentive for NETOs to pursue asset condition spending disproportionately, unnecessarily, and/or exorbitantly. We understand there are few strings attached to the approval and rate-basing of asset condition projects, and NETOs earn a guaranteed rate of return on these investments. The ostensible lack of cost review and containment measures also raises questions over whether NETOs are prudently incurring these investments. While ISO New England has a “gold-plating” review process for asset condition projects, ISO New England is not a regulator and has no express directive to oversee NETOs’ spending. Regardless, a gold-plating review is not the same as a cost-prudency review since it is a distinct and much lower standard relative to an assessment of whether a cost is reasonable.

Planning and Right-sizing

Another concern is that asset condition projects are not adequately factored into transmission planning or public policy. Because asset condition projects lack cost-scrutiny and oversight relative to other transmission project types, the earnings opportunity may be driving NETOs to pursue them at a disproportionate rate. The perverse incentive to pursue asset condition projects therefore discourages a more optimal mix of transmission project types that New England will need for a decarbonized and electrified future.” (emphasis added)

https://www.iso-ne.com/static-assets/documents/2023/05/2023_05_18_pac_memo_pac_asset_condition_projects.pdf

<https://www.rtoinsider.com/articles/32235-states-press-new-england-tos-asset-condition-projects>

<https://nescoe.com/wp-content/uploads/2023/03/NESCOE-Comments-on-Tx-Plng-Cost-Management-AD22-8-AD21-15-FINAL-A9535371.pdf>

Eversource has provided no documentation that lighter OPGW would not meet current and predicted need.

Eversource has provided no documentation of the need for its structure or conduit replacements e.g. pole and conductor inspection reports.

Eversource has stated “Increased conductor size will drastically raise thermal capability of lines to meet future needs” but provided no documentation of need, for example ISO-NE determination of the need for increased power carrying capacity of these lines for system reliability.

Eversource provided no life-cycle costs for wood vs. steel structures. Eversource provided no costs for installation of wood vs. steel structures.

115kV Projects:

9/2022: 115kV Corridor Asset Condition & OPGW A-111 line

\$53,501,000.

1/2020: 115kV Structure Replacement Project A-126	\$8,292,000.
6/2023: Laminated Wood Structure Replacement Program Phase II A-152	\$6,884,000.
9/2020: 115kV Wood Pole Replacement – B-143	\$6,403,000.
11/2020: 115kV Wood Pole Replacement – C-129	\$10,048,000.
12/2021: Copper Conductor and Shield Wire Replacements- C-129 Line	\$12,145,000.
9/2023: Asset Condition wood structure Replacements C-196	\$6,191,000.
1/2022: Copper Conductor and Shield Wire Replacements- D-108 Line	6,750,000.
6/2022: 115kV Structure and Shield Wire Replacements- Line D-121	\$13,105,000.
12/2022; Line Rebuild and Asset Condition Project - D-142	\$52,900,000.
12/2023: 115kV Corridor Asset Condition E-115	\$64,147,000.
6/2021: 115kV Wood Pole Replacement – F-139	\$7,530,000.
11/2020: 115kV Wood Pole Replacement – G-128	\$7,404,000.
12/2021: NH 115kV Laminated Wood Structure Replacement Phase 1 G-128	\$12,632,000.
11/2021: Copper Conductor and Shield Wire Replacements- G-128 Line	\$5,044,000.
10/2019: 115kV Structure Replacement Project H-123	\$6,168,000.
12/2019: 115kV Structure Replacement Project - H-141	\$9,400,000
5/2022: 115kV Laminated Wood Structure Replacement Phase 1 K-105	\$16,503,000.
12/2019: 115 kV Structure Replacement Project – Line K-174	\$8,665,000.
4/2022: Wood Pole and Shield Wire Replacement K-174	\$16,240,000.
2/2021: 115 kV Structure Replacement Project - Line L-163	\$16,922,000.
11/2021: Copper Conductor and Shield Wire Replacements- L-163 Line	\$23,310,000.
9/2021: 115kV Laminated Wood Structure Replacement Phase 1 L-175	\$19,300,000.
12/2020: Wood Pole and Shield Wire Replacement- M-127	\$29,740,000.
2/2022: Laminated Wood Structure Replacement Program Phase II M-164	\$6,024,000.
12/2023 115kV Line Rebuild and Asset Condition project O-154	\$51,000,000.
8/2023: 115kV Structure Replacements and OPGW P-106	\$6,375,000.
3/2024: P-145 Line Rebuild-Asset Condition and OPGW P-145	\$52,042,000.
9/2023: 115kV Structure Replacements and OPGW Q-171	\$14,966,000.
11/2022: Laminated Wood Structure Replacement Program Phase II R-187	\$7,541,000.
9/2022: Laminated Wood Structure Replacement Program Phase II S-188	\$7,342,000.
12/2022: 115kV Structure and Shield Wire Replacements- T-198	\$19,113,000.
9/2022: Laminated Wood Structure Replacement Program Phase II V-191	\$10,114,000.
3/2023: Line Rebuild and Asset Condition Project – W-179	\$?
12/2022: 115kV Laminated Wood Structure Replacement Program Phase I X-116	\$24,646,000.
11/2022: Copper Conductor and Shield Wire Replacements- X-104 Line	\$6,994,000.
2/2022: 15kV Laminated Wood Structure Replacement Program X-116	\$26,000,000.
11/2020: Wood Pole and Shield Wire Replacement- Y-138	\$8,475,000.
12/2022: 115kV Laminated Wood Structure Replacement Program Phase I Z-119	\$23,443,000.
4/2022: 115kV Corridor Asset Condition and OPGW Project Z-180	\$9,351,000.

345kV lines:

7/2018: 345kV Structure Replacement Project-Line 307	\$11,702,000.
8/2018: 345kV Structure Replacement Project-Line 326	\$11,702,000.
3/2020: 345kV Structure Replacement Project-Line 326	\$3,630,000.
11/2018: 345 kV Structure Replacement Project -Line 367	\$15,235,000.
2/2021: 345 kV Structure Replacement Project -Line 367	\$13,631,000.
12/2020: 345 kV Structure Replacement Project – Line 373	\$10,995,000.
3/2022: 345 kV Structure Replacement Project – Line 373	\$9,351,000.

11/2018: 345 kV Structure Replacement Project – Line 379	\$14,452,000.
12/2020: 345 kV Structure Replacement Project – Line 379	\$11,589,000.
11/2022: 345 kV Wood Structure Replacements- Line 379	\$8,020,000.
12/2018: 345 kV Structure Replacement Project – Line 381	\$16,255,000.
1/2020: 345 kV Structure Replacement Project – Line 381	\$ 6,590,000.
12/2020: 345 kV Structure Replacement Project – Line 385	\$14,408,000.
3//2023: Optical Ground Wire Upgrade Lines 381/379	\$5.600,000.
12/2018: 345kV Structure Replacement Project – Line 391	\$17,858,000.

The 115kV Structure Replacement Project of Line X-178 is listed as canceled in the 3/2023 Asset Condition spreadsheet.

The X-178 Corridor Asset Condition Project (new line) has been submitted to the public . \$53,000,000.

The Coos Loop new lines are not listed in the March 2023 Asset Condition projects list, but the D-142, W-179 and O-154 rebuilds are described as such in Eversource’s Local System Plan, presented to the Planning Advisory Committed on October 19, 2022.

Need	Projected ISD Month/Year (Cost >\$5M dollars)	Project Area	Project	Status	Solution
Asset Condition	2024	Northern	W179 115-kV Line Rebuild and Asset Condition Project	Planned	Rebuild the aging 115-kV line with larger conductor and OPGW.
Asset Condition	Dec-22 \$52.9M	Northern	D142 115-kV Line Rebuild and Asset Condition Project	Under Construction	Rebuild the aging 115-kV line with larger conductor.
Asset Condition	Dec-23 \$51.0M	Northern	O154 115-kV Line Rebuild and Asset Condition Project	Under Construction	Rebuild the aging 115-kV line with larger conductor and OPGW.

<https://www.eversource.com/content/docs/default-source/Transmission/local-system-plan.pdf>

The P-106, Q-171, C-196 and 381/379 Asset Condition Projects are not listed in the March 2023 spreadsheet but are shown in ISO’s March 2023 RSP Project List and Asset Condition List update.

115 kV Structure Replacements and OPGW Installation - P106 Line (New Hampshire)	5.6
115 kV Structure Replacements and OPGW Installation - Q171 Line (New Hampshire)	15.0
Asset Condition Wood Structure Replacements - C196 115 kV Line (New Hampshire)	6.2
Line 381/379 Optical Ground Wire Upgrade (New Hampshire)	8.2

https://www.iso-ne.com/static-assets/documents/2023/03/final_project_list_presentation_march_2023.pdf

There have been many Asset Condition Projects constructed by Eversource in the other states in its service area, the costs of which have presumably been born, in part, by Eversource customers in New Hampshire. Perhaps other states are investigating Eversource's Asset Condition Projects.

States Press New England TOs on Asset Condition Projects , May 18, 2023, [Jon Lamson](#)

<https://www.rtoinsider.com/articles/32235-states-press-new-england-tos-asset-condition-projects>

Are Eversource customers responsible for the apparently inferior laminated wood structures installed in the 1970s, whose apparent lifespan has been 30 years short of the 115kV structures installed in the late 1940s, many of which are still in use?

Eversource's description of the roads required for the new 115kV transmission lines has been non-existent.

Following is an Eversource 115kV line replacement description that was actually reviewed:

“The new overhead 115-kV transmission line would consist of three sets of phase conductors. Each set is comprised of one 1,590,000 circular mil (1,590-kcmil) Aluminum Conductor Steel Supported (ACSS). This selection is a standard Eversource conductor utilized for new 115-kV line construction... [Should we expect that the ‘standard’ 1272 will be replaced by the ‘standard’ 1,590?]

“Access Road Requirements

... To construct, operate, and maintain the new overhead 115-kV transmission line along the Proposed Route, contiguous access along the ROW is not required and these existing access roads would be used to the extent practical.

However, access to each new transmission structure location, as well as to pulling pads and guard structure sites, would be required. As a result, additional temporary and permanent access roads must be established and most of the existing on-ROW access roads would require improvements to allow the safe movement of the heavy construction equipment needed to install the new 115-kV line.

In addition, other temporary access along the ROW may be required to facilitate vegetation removal during construction. Refer to Section 4.1.4.2 for further information regarding temporary access for vegetation removal.

Further, in some areas, to avoid traversing linearly along the ROW over rugged terrain or through sensitive environmental or cultural resources, access roads to the ROW would be developed or improved across private property or across land owned by Eversource (“off-ROW access roads”). The locations and type of new access roads and access road improvements would depend on the terrain, presence / absence of environmental features, and whether the access road would be temporary (used only during construction) or permanent (retained for long-term maintenance of the line).

Access roads must have appropriate grades and sufficient width and capacity to support the large, heavy construction equipment (such as flat-bed tractor-trailers, drilling rigs, cranes, and concrete trucks) required to construct the new 115-kV line. The need for access by flat-bed trailers and concrete trucks (including turning radii) typically determines the scope of access road improvements.

In general, all construction access roads (on- or off-ROW) must have a stable base and grades of 10% or less. Whether restored, improved, or newly constructed for the Project, on- and off-ROW access roads would have a typical 16-to-20-foot-wide travel way and, overall, a 20-to-25-foot-wide footprint (including road shoulders). However, access road widths would vary depending on site-specific conditions (principally slope and presence of water resources) and on factors such as the amount of grading (cutting and filling) required and on whether a particular section of road must accommodate equipment turning radii and/or equipment passing/turn-out locations. Access roads would be graveled or would consist of temporary construction (timber) mats or equivalent.

In general, gravel would most commonly be used in constructing access roads in upland areas. In some locations, particularly on steep slopes and at intersections with public roads, asphalt millings could be used to improve road stability and vehicle traction.”

<https://www.eversource.com/content/docs/default-source/Transmission/sw-ct-mcf-1.pdf>

I find no guidance online for the proper format for this request. If it is inadequate/incomplete, please direct me to the location where the missing requirement are listed.

kris pastoriza
easton, nh
May 31, 2023

On the X-178 115kV line, crossbars and insulators were replaced on many structures in 2017. This process places large stresses on the poles on either side of the one from which the conductors have been removed, (Guidelines for Electrical Transmission Line Structural Loading, 4th edition ASCE 2020) yet these poles, now claimed to be inadequate, were deemed able to safely bear these forces. The line-workers were not deemed to be in danger.



These poles and conduit were replaced in 1986 thus should last until 2060, since the 1948 poles they replaced are still in service.