## To Eversource, the PAC and ISO-NE,

Eversource needs to cancel the X-178 project for the obvious reasons that have been stated repeatedly and to conform to FERC's Order 1920.

"We acknowledge commenter support for the consideration of alternative transmission technologies with regard to right-sizing.3671 However, we find that adopting additional requirements for consideration of alternative transmission technologies with respect to right-sizing are unnecessary. This is because, as discussed in the Consideration of Dynamic Line Ratings and Advanced Power Flow Control Devices section of this final rule, we require transmission providers in each transmission planning region to more fully consider, in Long-Term Regional Transmission Planning and existing Order No. 1000 regional transmission planning, dynamic line ratings, advanced power flow control devices, advanced conductors, and transmission switching. 3672"

Does Eversource claim that its asset condition projects double and quadruple the carrying capacity of its lines for reasons other than Long Term Regional Transmission Planning (and its profits)? If so, what are these reasons and how can Eversource and ISO claim that rebuilds required to support conductors with substantially increased carrying capacities are really asset condition projects and the increase in capacity has nothing to do with Long Term Regional Transmission Planning, especially in light of Eversource's last paragraph in its response to stakeholder comments on the X-178: "Evaluation of ISO-NE 2050 Study Results" ?

Does ISO claim that it is not required to consider advanced conductors when evaluating or granting TCA to asset condition projects because it did not designate them as reliability projects, even when Eversource claims the new conductors on the X-178 will fulfill future ISO identified capacity "needs"?

How do Eversource, the PAC and ISO consider FERC's order 1920 to affect the proposed X-178, U-199, S-136 and Q-195 "Asset Condition" rebuilds?

In its X-178 response to stakeholder feedback, which it did not send to any stakeholders, Eversource states:

"Alternative 1 would involve the replacement of the 43 structures that require immediate replacement and any nearby structures that become overstressed due to conductor and/or shield wire tensions created by the installation of replacement structures. This alternative does not include reconductoring or the replacement of the existing shield wire with OPGW." Yet there are no structures or poles requiring immediate replacement, as the diagram a few pages before this statement shows:

Structure Rati	ng Segment 1	Segment 2	Segment 3	Total
A	9	0	1	10
В	148	227	168	543
С	18	5	18	41
D	0	0	0	0
Maintenance Priori	ole 4 – EPRI Visua ty	I Inspection P	Priority Rating	S
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Why isn't replacement of 43 poles listed as an option?

Why would new in-kind (wood of the same height) replacement cause nearby structures to "become overstressed", or is Eversource planning to install taller steel structures and come back again, eventually rebuilding the whole X-178 as planned? This is not a real change, just another fragmentation of a full rebuild into parts, as Eversource has done down south, where the population density is greater. The implication of Eversource's "alternatives" is 'we'll get you eventually, so make is easy on yourself and get it all over with now."

Eversource states: "All of the evaluated conductor types would increase the average structure heights on the line. The average existing structure height for the X-178 line is 50.6 feet and the proposed average structure height is 63.6 feet when utilizing ACSS. This results in an average height increase of just under 13 feet. The primary driver of the height increase is Rule 250D of the National Electrical Safety Code. Rule 250D was introduced in 2007 and currently requires that transmission lines in this area of New Hampshire be designed to withstand 1-inch of radial ice with 40 mile-per-hour winds.

While many High-Temperature Low-Sag ("HTLS") conductors, including ACCC, ACCR and TS conductors, offer lower sag at higher temperatures, the maximum sag evaluated for the X-178 line design is governed by ice loading, not the conductor temperature. Under ice load, the maximum sag of HTLS conductors is similar to ACSS. For most portions of the X-178 line, no structure height savings would be possible with the use of a HTLS conductor **[of equal diameter or equal amperage/power carrying capacity?]** compared to the use of ACSS."

Eversource claimed that the height increase of the structures is due to the need to place the OPGW farther from the conductors than the regular ground wire:



Note: "Portion of structure that will increase in height" (below)

Do the existing lines not meet 2007 Code, and has this caused any problems? There are only a few replaced poles, most of them up in the high-altitude Reel Brook area of WMNF.

Eversource fails to mention that its conductor to ground clearances exceed that required by Code, thus its proposed structure heights are in many, if not all, locations, higher than necessary. Eversource refuses to provide the profile drawings of the line, with various conductor types, drawings it possesses and could send in five minutes.

Eversource states: "The installation of OPGW technology will improve communications and reduce reliance on 3rd party leased line services" but provides no data supporting this, which in any case is irrelevant because OPGW/fiber optic is not permitted in the 1948 X-178 easements. That OPGW looks like just another wire does not change the terms of the easements. That it might improve system reliability does not change the terms of the easements.

Minimum NESC Table 232-1 Clearance (ft.)	ES Vertical Design Clearance (ft.)		
18.6	28.8		
20.1	28		
20.1	29.4		
20.1	32.0		
20.1	32.1		
20.1	27.4		
20.1	28.0		
20.1	33.8		
20.1	30.1		
20.1	29.4		
20.1	26.8		
20.1	38.2		
20.1	32.2		
20.1	26.5		
20.1	29.6		



PROFILE VIEW SCALE: HORZ 1" = 300' VERT 1" = 30' Eversource depends on third-party providers for for project design, environmental and historical assessments, construction, maintenance, inspections, legal opinions and other services.

Satisfying Eversource's "Communications Needs [Desires]" is the responsibility of Eversource,

Satisfying Eversource's communications desires is not the responsibility of the easements, easement-encumbered landowners, or the ratepayers.

Eversource's outreach efforts are described inaccurately. They did not include answering questions that were better (for Eversource) left unanswered, nor did they include informing anyone of the existence of Eversource's presentations to the PAC, the existence of the PAC or the PAC meetings. The project was repeatedly described as a reliability project and the project representatives appeared not to know that a 115kV line can carry different amperages. The project documents presented at the public meetings contained eighth-grade level information.

Whitefield to Northumberland Line Rebuild Project (D142) **EVERSURCE** 

I mproving the Reliability of the Electric System across New Hampshire

Franklin to New Hampton Line Rebuild Project (A111) **EVERSURCE** 

Improving the Reliability of the Electric System Across New Hampshire

## Northumberland to Dummer (0154) Line Rebuild Project

**EVERS€URCE** 

Improving the Reliability of the Electric System across New Hampshire

"Project Overview

As part of our **ongoing commitment to deliver reliable energy to our customers** and communities, Eversource will be replacing existing wooden pole structures in..."

The following text is a scant and opaque assessment of future desires of consumers (need is not the operating condition) and ignores efficiency, demand response, dynamic line ratings, time-variable pricing, conservation and rationing.

## "Evaluation of ISO-NE 2050 Study Results

The X-178 line was overloaded in some [which?] scenarios in the ISO-NE 2050 Study. Excluding the 2050 57 GW Winter peak scenario, the highest loading was 344 MVA under certain N-1-1 contingencies in the 2050 51 GW Winter peak scenario.

Achieving a winter Long-Term Emergency (LTE) rating of 344 MVA on the X-178 line would require upgrades to both the line conductor and substation equipment. The existing winter LTE rating of the line conductor is 278 MVA. Installation of 1272 ACSS 54/19 "Pheasant" conductor as part of Alternative 3 would increase the winter LTE rating of the conductor to 518 MVA, which exceeds the highest post- contingency flow observed during any scenario in the 2050 Study (including the 2050 57 GW winter peak scenario). The line itself would then be limited to 254 MVA due to substation equipment, which could be addressed as part of a future project."

Where is the assessment of the ACCC/TS conductors?

If Eversource feels there is a need for increased transmission capacity, it needs to solicit a reliability study by ISO, or respond to ISO identified needs rather than re-framing its so-called asset condition projects as reliability projects when addressing the PAC. (It has always described them to the public as reliability projects:)

April 24, 2023

Dear Neighbor,

As part of our everyday effort to deliver reliable energy to our customers and communities, we are preparing for an upcoming project in your community. This project is one of several that are designed to improve the reliability of the electric system serving New Hampshire and surrounding areas where we all work and live.

## We're Always Working to Serve You Better

Eversource identified the need to replace the structures, conductor (wire), and install fiber optic cable, known as Optical Ground Wire (OPGW) along our existing X178 transmission line. This line, originally constructed in 1969 and 1985, crosses through the towns of Campton, Thornton, Lincoln, Woodstock, Easton, Sugar Hill, Bethlehem, Dalton, and Whitefield, NH. Recent physical inspections and engineering analysis of the line revealed many of the existing structures are in need of replacement from woodpecker damage, insect damage, and pole rot. Due to this, all of the wooden structures will be changed to steel, which are more resilient to pole rot as well as insect and woodpecker damage. Furthermore, the steel poles and can better withstand the heavier OPGW and storms that we experience here in New Hampshire.