

New Hampshire Line X-178 Rebuild

Planning Advisory Committee Meeting

Commentary, March 17, 2024

Agenda

- Project Background & Location
- Corporate Drivers
- Straw Man/Straw Dog Alternative
- Going through the motions of public outreach
- Eversource's Project Summary
- Going through the motions of soliciting feedback with the implication that it will change Eversource's Plans & Next Steps.
- Appendix Permits & Project Approvals, which do not include the PUC, SEC or FERC and which will, of course, be granted. (See Regulatory Capture)
 1

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Purpose



- 1. Tell ISO- NE and the PAC that it is asset condition and reliability needs, rather than the profit motive and need to take advantage of the unregulated asset condition situation, driving the rebuild of the 115 X-178 line.
- 2. Limit discussion by proposing one straw-man/straw-dog alternative.
- 3. Call unnecessary structure replacements "proactive" and "holistic" and imply that the condition of the structures threatens reliability. <u>Do not</u> let doing nothing enter the discussion as a reasonable and prudent alternative.



Bog Pond within the White Mountain National Forest

Bog Pond permanent construction pad, 2026?

Project Background

- Eversource serves 535,000 customers in New Hampshire, with 1,057 miles of transmission lines, [of which 760 have asset condition "upgrades" complete, under-construction, or proposed, at a total of \$2.2 billion dollars in costs.]
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- X-178 115 kV Line runs between Beebe River substation in Campton, NH and Whitefield substation in Whitefield, NH. Eversource says:
- "First section of line built between Beebe River and North Woodstock in 1948. [But the 1950 PSNH map shows the 1948 line going to Whitefield (right)]
- Majority of Streeter Pond tap to Whitefield [re?] built in 1969 [to 795 ASCR]
- Majority of Beebe River to Streeter Pond Tap [re]build in 1985 [with larger wood H-frames PSNH claimed were necessary to carry the 795 ASCR.]
- – Length: 49 miles
- – Structures: 594 structures [2018 PAC presentation says 570]
- Combination of 579 natural wood, 2 laminate wood, 11 steel H-frame and 2 weathering steel
- - Average structure age: 45 years old [1969 structures are 60 years old. 1986 structures are 38 years old.]
- - Conductor: 795 ACSR 26/7, 795 ACSR 36/1, and 1272 ACSS 54/19 [how many miles of each, where?]
- – Shield wire: 2 runs consisting of 7/16" Steel or 7#8 Alumoweld [weight per 1,000' of each type?]

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Eversource Corporate Plan

– Install OPGW, 1272 ACSS conductor, taller, steel structures, permanent roads and construction pads on the easement, using Asset Condition as justification.

-- Make slight improvements in asset condition presentations while retaining unregulated monopoly status.

-- Rebuild all 115kV lines with steel structures, OPGW, and 1272

heavy, high-sag, low performance ACSS conductor.

-- Rebuild all 345kV lines with steel structures.

-- Further expand asset condition to include desires defined as needs: (OPGW, permanent construction pads and roads), preventing landowners from restoring their property and increasing rate-payer funded work.

Project Needs – Asset Condition

- 2022 inspections of this line graded condition of structures in accordance with Electric Power Research Institute (EPRI) guidelines
 - A: Nominal Defect, B: Minimal Defect, C: Moderate Defect, D: Severe Defect

Eversource left out the meanings of the guidelines:

- A: Nominal Defect No Action Required
- B: Minimal Defect Monitor Degradation
- C: Moderate Defect Repair or Replace under next maintenance
- D: Severe Defect Repair, Reinforce, or Replace immediately
- Grade C structures showed one or more of the following age-related degradations, leading to decreased load carrying capability

-How much is load carrying capacity decreased?

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"Additional structures were identified and prioritized for replacement based on engineering requirements to meet current uplift standards [but the line is to code, as it stands now], structure loading concerns, [with added weight of OPGW and larger conductor] as well as efficiencies [unnecessary work is not efficient,] required permitting approvals for replacing Grade C structures, and minimizing environmental impacts" [which would be best minimized by replacing only necessary structures and not building 16' wide permanent roads and 100' x 100' construction pads, which remove the subsoil and plants, replacing them with rip-rap and gravel, creating extensive, permanent degraded/dead-zones along the easements.]

Reason For Replacement	Total	Priority C	Priority B	Priority A
OPGW Loading / Clearance Failure	244	0	242	2
Asset Condition + Laminate	43	41	2	0
Access Opportunity	231	0	229	2
Additional Opportunity	62	0	62	0
Total Replacement Structures	580	41	535	4

Does the chart above mean that 537 of the existing structures can carry the OPGW?

How did the 57 structures identified by Eversource as needing replacement or repair in 2018 (no ratings given) become 43 structures needing replacement or repair? Why have they been left for six years, if maintenance cycle is asap?

The location of the 41 Class *C* structures must be given for "Access Opportunity" to be assessed. How many Category *C* structures are in areas with expensive /damaging access (White Mountain National Forest)?

Project Needs – Photos





south from

structure 211

8



Eversource claims it needs to build a permanent road and construction pads here, in White Mountain National Forest, to access structure 212. Rusted hardware can be replaced. Why was this pole not covered when structures 214 and 216 had insulators and crossbar replaced, via helicopter, in 2016?

Structure 212 - Pole Top Rot & Rusted Hardware

Project Needs – Photos



Structure 356, easily accessible from Hadley Road, Sugar Hill. Why was this pole not filled or covered in 2016, when Eversource hired contractors to replace crossbars and insulators (with helicopters) and the line de-energized, in 2016?

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Structure 424, a 1969 structure easily accessible from the property in Sugar Hill that Eversource

bought during Northern Pass.

Structure 419, a 1969 structure easily accessible from the Eversource-owned Sugar Hill Substation.





Structure 424 – Pole Top Checking and Large Hole in Pole Top



419

424

Eversource Corporate Driver: OPGW

How much fiber capacity does Eversource actually "need"?

- The X-178 line is the most expensive possible fiber connection between the Webster to Beebe corridor and the lines within the North Country (D-142, O-154, S-136, W-179, U-199 & Q-195)
- Eversource did not provide any alternatives for OPGW type/weight, location, w/ costs.
- Eversource replaced the four Coos Loop lines with steel structures and OPGW: \$184 m.
- The S-136 was partially rebuilt (\$26 m) and is scheduled to be completely rebuilt: \$140 m.



Eversource plans to rebuild the U-199 and Q-195 with larger conductor and OPGW: \$150 m.
 Eversource has provided no pole/structure inspection data for these other North Country rebuilds. 12

- OPGW installation expands a private Eversource OPGW / Synchronous Optical Networking (SONET) loop [No diagram of existing SONET (undefined term) loop]
 - Provides a controlled, *[undefined]* alternate fiber communication path supporting the long-term buildout of the fiber optic network [Eversource provides no diagram of the proposed build-out, nor does it provide any alternatives, with costs]
 - Greatly [how greatly?] reduces the reliance on leased services for protection, SCADA, and Phasor Measurement Unit (PMU) and Dynamic Disturbance Recorder (DDR) installations (ISO-NE OP-22) [Throw a bunch of acronyms at readers and they will give up without knowing it. Or, if they ask questions, the half hour of allotted time for questions can be consumed with long and un-illuminating talk.]
 - A private network is segregated from third-party telecom services, improving the overall reliability and security of communications paths [A private network owned by Eversource and built and maintained at rate-payer and easement encumbered landowner's expense. Eversource does not say if rate-payers are now paying for the leased fiber? Eversource provides no cost/benefit analysis, but does push the "reliability" and "security" buttons, again.]

Solution Alternative 1

Repair the 43 Category C structures/poles.

Costs; \$10 m. Damages: tiny

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Solution Alternative 2

Replace the 43 Category C structures/poles with wood structures/poles of the type used on the 1986 section of the X-178 line.

Costs: \$14 m. Damages: small

Solution Alternative 3

Replace or repair the 43 Category C structures/poles with wood structures/poles of the type used on the 1986 section of the X-178 line, put the OPGW elsewhere. Using helicopters and ground crews, re-conductor the line with 973.1 kcmil T14 ACCS/TW/C7-TS Everglades conductor, which weighs slightly less than the existing conductor and has twice the amperage.

Costs \$?

Damages: moderate



Will Eversource reveal the locations of the 43 Category C structures/poles?

kris pastoriza March 17, 2024