

Before the New Hampshire Public Utilities Commission

Docket No. DE-23-056

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Supplement to petition to open a LCIRP docket to assess Eversource's Asset Condition Project expenditures.

Updated june 28 to comply with PUC formatting requirements.

“EXHIBIT B

THE STATE OF NEW HAMPSHIRE

BEFORE THE NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

Docket No. DE 15-xxx

PETITION FOR APPROVAL OF LEASE AGREEMENT BETWEEN

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

D/B/A EVERSOURCE ENERGY AND NORTHERN PASS TRANSMISSION LLC

PRE-FILED TESTIMONY OF ROBERT D. ANDREW

“For the section from Dummer to Whitefield, the NPT Line will utilize a transmission corridor occupied by two existing 115 kV transmission lines, the O154 and D142 lines. These lines were constructed primarily as a supply to the various mills located in Groveton and Berlin.

1.1

PSNH acquired the rights for the corridors during 1947 and began using them for electric transmission by building transmission lines in that corridor around 1948. Since 1948, PSNH has not constructed any new transmission lines, or made any significant modifications to the existing lines, in this ROW. The lines have changed very little since the initial installation due to the declining load in the area resulting from mill closures in northern New Hampshire...

The X178 line was constructed as a supply to the various mills located in northern New Hampshire and to connect with the hydro generation near the Moore dam facilities. PSNH acquired the rights for this ROW during the late 1940's and built the X178 line in that corridor in approximately 1948. Since 1948, PSNH has not installed any additional transmission lines in this ROW. The lines have changed very little since the initial installation, with the exception of a segment of the X178 line that was rebuilt in 1986 with a larger conductor in order to facilitate the interconnection of the Hydro Québec DC line, Phase 1

1. The rebuild of the X178 line did not require the acquisition of additional ROW as it was placed off center within the existing ROW, leaving space for future use of the ROW. The load in this area has not required the upgrade of the remaining sections of the X178...

...the NPT Line will utilize a transmission corridor occupied by two existing 115 kV transmission lines, the E115 and A111 lines. These lines were constructed primarily to increase PSNH's ability to serve load in northern New Hampshire and to upgrade the original 69 kV system supplying this area. PSNH acquired the rights for these ROWs during the late 1940's

and began using them for electric transmission by building the E115 and A111 lines in that corridor between 1949 and 1953. Since 1953, PSNH has not constructed any new transmission lines, and has only made minor modifications to the existing lines in this ROW, which was combined with original ROW from the 69 kV system. The lines have changed very little since the initial installation, and most of the original installation remains. The load and added local generation in this area has not required the upgrading of either line...

From Franklin until it terminates in Deerfield, the NPT Line will utilize a transmission corridor occupied by three existing 115kV lines, the V182, P145 and G146 lines. These lines were constructed primarily to support PSNH's ability to serve load in central and northern New Hampshire, and as an upgrade to the original 69 kV system supplying this area. PSNH acquired the 115 kV rights for these ROWs during the early 1950's and began using them for electric transmission by building the P145, V182 and G146 lines in that corridor between 1950-1953.

Although PSNH has not constructed any new transmission lines in this ROW, which was combined with original ROW from the 69 kV system, the existing three lines have changed significantly since their initial installation, with very little of the original installation remaining. **The V182 [M-108] and G146 lines were totally rebuilt prior to 2010, while sections of the P145 were rebuilt and/or updated after 2010. Prior to their rebuilding, the V182, G146, and sections of the P145, lines were constructed with 795 ACSR conductor, which had a rating of approximately 236 MVA. The subsequent rebuilds utilized conductor sizes of**

**1272 and 1590 ACSR, more than doubling the capacity of the original 795 ACSR.** The improvements were required to serve increased and future load in central New Hampshire and to ensure reliable transmission.”

Eversource information on **P-145** Asset Condition line replacement:

#### “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 Concord, Pembroke, and Bow. The new weathering steel structures will be more resilient to rot and insect and woodpecker damage and can better withstand severe weather. This work will take place within Eversource’s existing rights- of-way (power line corridors) of the P145 Line, a 12.5-mile, 115kV line built in 1966 that starts in Concord and ends in Bow. A total of 159 structures will be removed or replaced, **new conductor (wire) will be installed**, and new fiber optic cable, known as Optical Ground Wire (OPGW), will be installed along the entire length of the line. OPGW helps to strengthen system reliability by improving communications between substations. The rebuilt lines will be in the same general locations as they are today, with some variations. While some structure height increases are unavoidable, we worked to minimize them wherever possible, while ensuring that current electrical standards and safety clearances are met. This work will require some tree trimming or removals in targeted areas.”

“Safety First and Always

Project Drivers: Conductor

**The conductor on the P145 is also 55 years old and is near its end of life**

**The P145 currently utilizes 795 ACSR 36/1 conductor**

This original conductor is being replaced with Eversource-standard 1272 ACSS 54/19 conductor as an opportunity item for efficiency and to avoid a separate future replacement project.’

<https://www.iso-ne.com/static-assets/documents/2022/01/>

[a3\\_eversource\\_p145\\_line\\_rebuild\\_asset\\_condition\\_and\\_opgw\\_project.pdf](#)

Eversource information on **F-139** Asset Condition line replacement:

“Recent inspections and engineering analysis of the F139 and V182 [M-108] transmission lines revealed that many of the structures are in poor condition due to their age, woodpecker damage, insect damage and pole rot.

A total of 289 wooden H-frame and monopole structures are being replaced with weathering steel H-frame and monopole structures one for one. **In addition to structure replacements, the F139 line will receive new conductor (wire) and fiber optic cable, known as Optical Ground Wire (OPGW).** The V182 line already has these upgraded components. Completing the work on these co-located lines simultaneously allows Eversource to minimize the impact on our neighbors, the environment, and capitalize on economy of scale.

Improvements are part of our ongoing investments to deliver reliable energy to our customers and communities.’”

“In order to meet the requirements for reasonable service to the public, Eversource has previously constructed and currently operates and maintains an overhead 115 kV electrical transmission line, designated as the **Eversource M108 Line, originally constructed in 1951 as the V-182 and rebuilt in 2007.**”

<https://www.energy.nh.gov/sites/g/files/ehbemt551/files/inline-documents/sonh/3-cre-2022-009-energy-staff-recommendation.pdf>

**G-146:**

PEMBROKE CONSERVATION COMMISSION  
FINAL MEETING MINUTES  
FEBRUARY 13, 2023

“1. Special Use Permit Applications SUP-AC #23-101, SUP-WP #23-302, and SUP-SP 23-303, Stantec Consulting Services, Inc. and Eversource Energy, owner of the utility easement along the M108 and G146 transmission lines. The Applicant requests Special Use Permits for utility construction in the Aquifer Conservation District, within wetlands, wetland buffers, and potential vernal pool buffers, and within the shoreland protection district. Matt Arsenault and Elise Ward made a presentation to the CC on the proposed project, which deals with the replacement of 65 existing wooden pole structures with significantly larger weathered-steel

structures. This is an extension of previously approved improvements of transmission facilities through the City of Concord and the Towns of Pembroke and Bow. Roads through these easements will require significant improvement, including the permanent placement of gravel along the roadbed. Additionally, 100'x100' gravel work pads will be constructed at each pole location. After completion of the project 60'x30' pads will be left at each of these sites. The project has a planned timeframe extending from early summer of 2023 through spring of 2024.'

[https://www.pembroke-nh.com/sites/g/files/vyhlf4861/f/minutes/cc\\_mins\\_21323.pdf](https://www.pembroke-nh.com/sites/g/files/vyhlf4861/f/minutes/cc_mins_21323.pdf)

Exhibit B -Testimony of Robert D. Andrew

Petition for Approval of Lease Agreement Between Public Service

Company of New Hampshire

d/b/a Eversource Energy and Northern Pass Transmission LLC

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“ ISO-NE and PSNH regularly assess the transmission reliability needs of the system. Those assessments are part of the regular transmission review leading to the development and periodic updating of a Regional System Plan (“RSP”) through ISO-NE. ISO-NE uses the RSP process to identify projects that are necessary to maintain the reliability of the New England transmission system during a specified planning horizon.I have participated in the RSP and other planning processes and, based on my experience and my understanding of the RSP, and other applicable planning studies developed to identify solutions to the system needs in New Hampshire, ISO-

NE and PSNH, the ISO-NE has not identified any need that would require a new transmission line solution in any of the areas of the PSNH ROW in which the NPT Line will be constructed...

The load growth in the area of the Northern Segment has been flat and the lines have not required upgrades. This is supported by information in PSNH's most recent Least Cost Integrated Resource Plan submission, where it shows, for example, that load in the northern part of the state is expected to be essentially flat after a period of decline over the last few years. Second, the ISO-NE has identified growing energy efficiency, demand response programs, and distributed generation programs, as developments that will result in flat or even decreasing load, and that will diminish the need for new transmission infrastructure throughout New England. Third, the load growth in the Southern Segment had required the lines be upgraded for the first time in over 60 years, which essentially doubled the capacity of those lines...

Fourth, in the areas where the NPT Line might require the relocation of existing PSNH transmission lines, the existing line would be replaced with conductor no smaller than 795 ACSR. For example, in the Northern Segment, the existing transmission lines from Whitefield to Dummer are constructed with 336 ACSR and NPT would replace these with 795 ACSR. The existing lines have a capacity of 140 MVA, once they are replaced the new capacity will be 286 MVA. The additional capacity provided by the NPT Line would reduce the possibility of capacity increase requirements in the future.” (emphasis added)



<https://www.puc.nh.gov/regulatory/Docketbk/2015/15-464/INITIAL%20FILING%20-%20PETITION/15-464%202015-10-19%20EVERSOURCE%20PTESTIMONY%20-%20ANDREW.PDF>

O-154 (Lost Nation to Dummer) and D-142 (Whitefield to Lost Nation) were Asset Condition Projects. The existing wood structure were replaced by Eversource with 15' taller steel towers, OPGW and 1272 conductor; an entirely new line.

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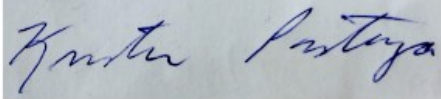
### Eversource Energy - Typical OH Transmission Types

Life-Cycle Cost Components - Estimated Overhead Construction Costs/ Typical Mile

Cost Category	115-kV H Frame - Wood or WPE Steel	115-kV Delta - Steel Monopole	345-kV H Frame - Wood or WPE Steel	345-kV Delta - Steel Monopole
Poles & Foundations	\$1,098,718	\$1,025,312	\$1,314,095	\$1,789,171
Conductor & Hardware	\$374,464	\$343,670	\$663,053	\$627,077
Site Work	\$855,333	\$796,971	\$974,944	\$904,084
Construction	\$1,954,208	\$1,563,719	\$2,365,318	\$2,405,711
Engineering	353,586	\$330,756	\$499,710	\$505,960
Sales Tax	\$0	\$0	\$0	\$0
Project Management	\$304,191	\$274,071	\$364,681	\$384,697
<b>Totals</b>	<b>\$4,940,500</b>	<b>\$4,334,499</b>	<b>\$6,181,801</b>	<b>\$6,616,700</b>

[https://portal.ct.gov/-/media/CSC/1\\_Dockets-medialibrary/LifeCycle/2022LifeCycle/IndustrySubmissions/Eversource-20220729-ResponsestoInterrogatories.pdf](https://portal.ct.gov/-/media/CSC/1_Dockets-medialibrary/LifeCycle/2022LifeCycle/IndustrySubmissions/Eversource-20220729-ResponsestoInterrogatories.pdf)

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A rectangular image showing a handwritten signature in black ink on a light-colored background. The signature reads "Kris Pastoriza" in a cursive script.