



Initial Funding Request Form

Date Prepared: 03/08/2021	Project Title: IRU Dark Fiber
Company/ies: Eversource NH	Project Number: A21N46
Organization: Substation Technical Engineering	Class(es) of Plant: Telecom
Project Initiator: Cory Wess	Project Category: Stations - Telecommunications
Project Manager: Todd Kopoyan	Project Type: Specific
Project Sponsor: Roderic Kalbfleisch	Project Purpose: Enable P&C Projects / Compliance
Estimated in service date: 11/01/21	If Transmission Project (check all that apply): PTF <input type="checkbox"/> Non-PTF <input checked="" type="checkbox"/>
Authorization Type: Initial Funding	
Total Request: \$35,000	

Project Need Statement:

The X178/U199 is a long three-terminal 115 kV line between Beebe River, Littleton and Whitefield Substations. The existing leased lines used for System #2 protection (POTT) and for breaker failure transfer trip are very unreliable during faults. There is a need for a more reliable communication solution so that the existing leased lines can be decommissioned.

As of March 9th, 2021 NH Protection and Control Engineering has recommended that the DTT-BF protection be disabled. This recommendation will reduce the possibility of a false trip. As of March 11, 2021 this system has been disabled.

Project Objectives:

The project objective is to develop segments of a SONET telecommunication network in the northern region of NH to enable provisioning of teleprotection circuits. This SONET network will enable subsequent projects to eliminate the existing leased communication lines on the X178/U199 Transmission Line.

These segments will be a combination of Eversource's private fiber facilities and segments of Indefeasible Right to Use (IRU) leased dark fiber provided by a third-party fiber vendor (FirstLight Fiber, Inc.). The majority of the build-out (approximately 110 miles and \$970k) under this project will be the leased IRU fiber with an initial twenty-year term. The remainder will be minor additions to extend the fiber from FirstLight's interconnection points into the respective substations and to cross connect this fiber to existing Eversource OPGW.

These fiber ring segments also create the infrastructure to allow Eversource the future opportunity to provide higher communication bandwidth, security and network reliability through other OPGW installations in the region.

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Funding Request Explanation (total request, amount per task, deliverables):

This project is seeking initial funding in the amount of \$35,000 to:

- Develop the scope \$10,000
- Estimate the project \$5,000
- Complete the constructability reviews \$5,000
- Complete conceptual engineering \$10,000
- Other/misc. \$5,000

Preliminary Schedule:

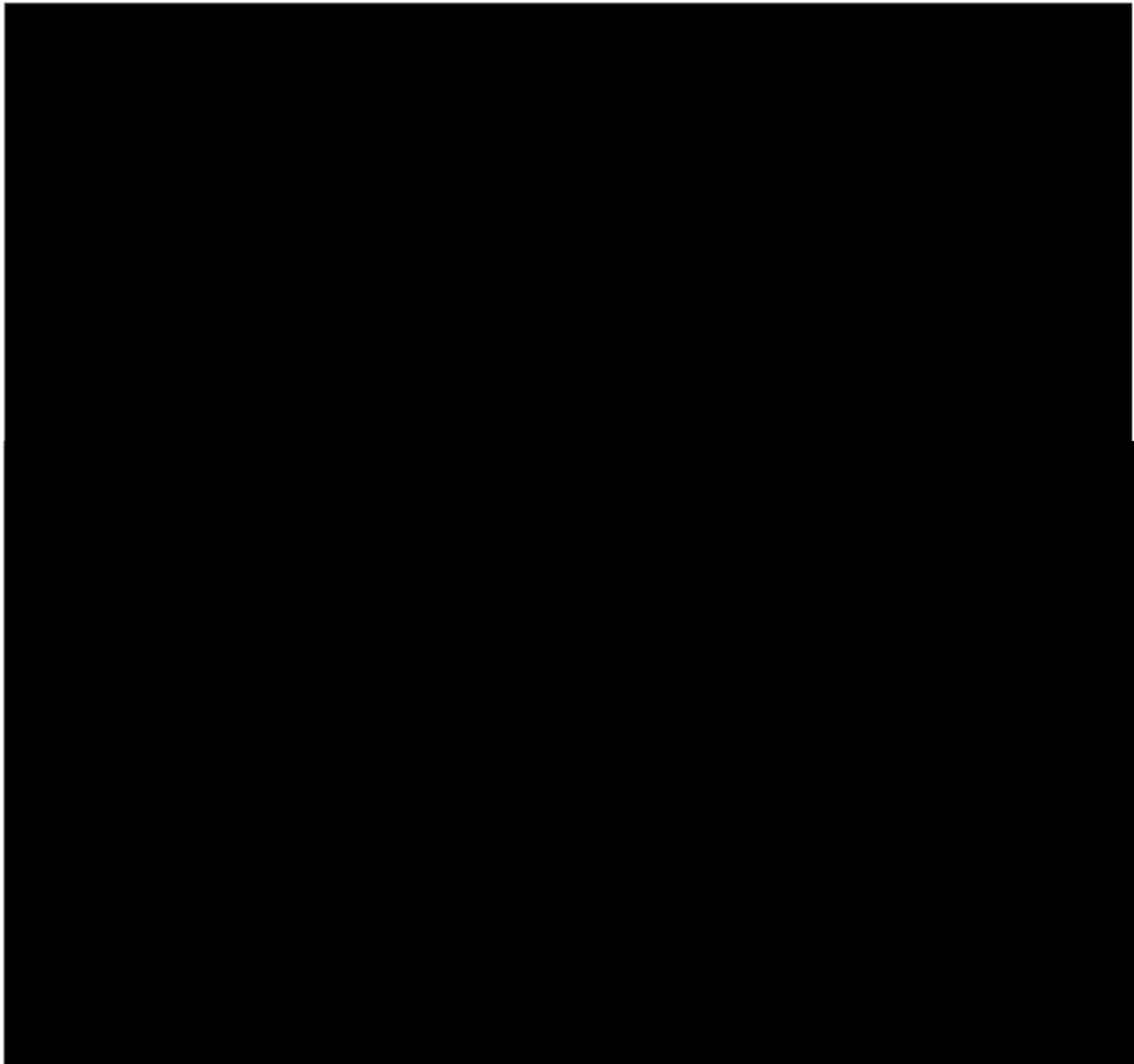
Milestone/Phase Name	Estimated Date
PAF approval, Initial – NH PAC	3/11/21
Conceptual Engineering Completion	03/31/21
PAF approval, Full Funding - NH PAC	03/31/21
Execute First Light Agreement (50% pmt)	4/30/21
Procurement of Materials	05/31/21
Complete Detailed Engineering / IFC Drawings	05/31/21
Construction Start	6/1/21
Construction Complete (Fiber interconnect)	9/1/21
Commissioning/testing (Field Comm.)	11/01/21
In Service Date	11/01/21

[https://www.puc.nh.gov/Regulatory/Docketbk/2020/20-161/LETTERS-MEMOS-TARIFFS/20-161_2021-03-31_EVERSOURCE_LCIRP_SUPPLEMENT.PDF

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PSNH dba Eversource Energy
Docket No. DE 20-161
Least Cost Integrated Resource Plan
March 31, 2021 Supplement
Appendix F-23
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What is the status of this project?

Why does Eversource list this project, which is apparently in response to leased fiber optic for the X-178 and U-199 lines, as non-PTF? (Below from 2019 list of NETO PTF transmission lines)

**Public Service Company of New Hampshire
Lower Voltage PTF**

<u>LINE</u>	<u>KV</u>	<u>CONDUCTOR</u>	<u>UG OH</u>	<u>NO OF CKTS</u>	<u>MILES PER CKT</u>	<u>CKT MILES</u>
Moore (NEP) - Whitefield (Q195)	115	477 ACSR	OH	1	14.90	16.40
		336 ACSR	OH	1	1.50	
Streeter Pond - Littleton (U199)	115	795 ACSR	OH	1	9.00	9.00
Whitefield - Streeter Pond (X178)	115	795 ACSR	OH	1	14.80	14.80

“Project Objectives:

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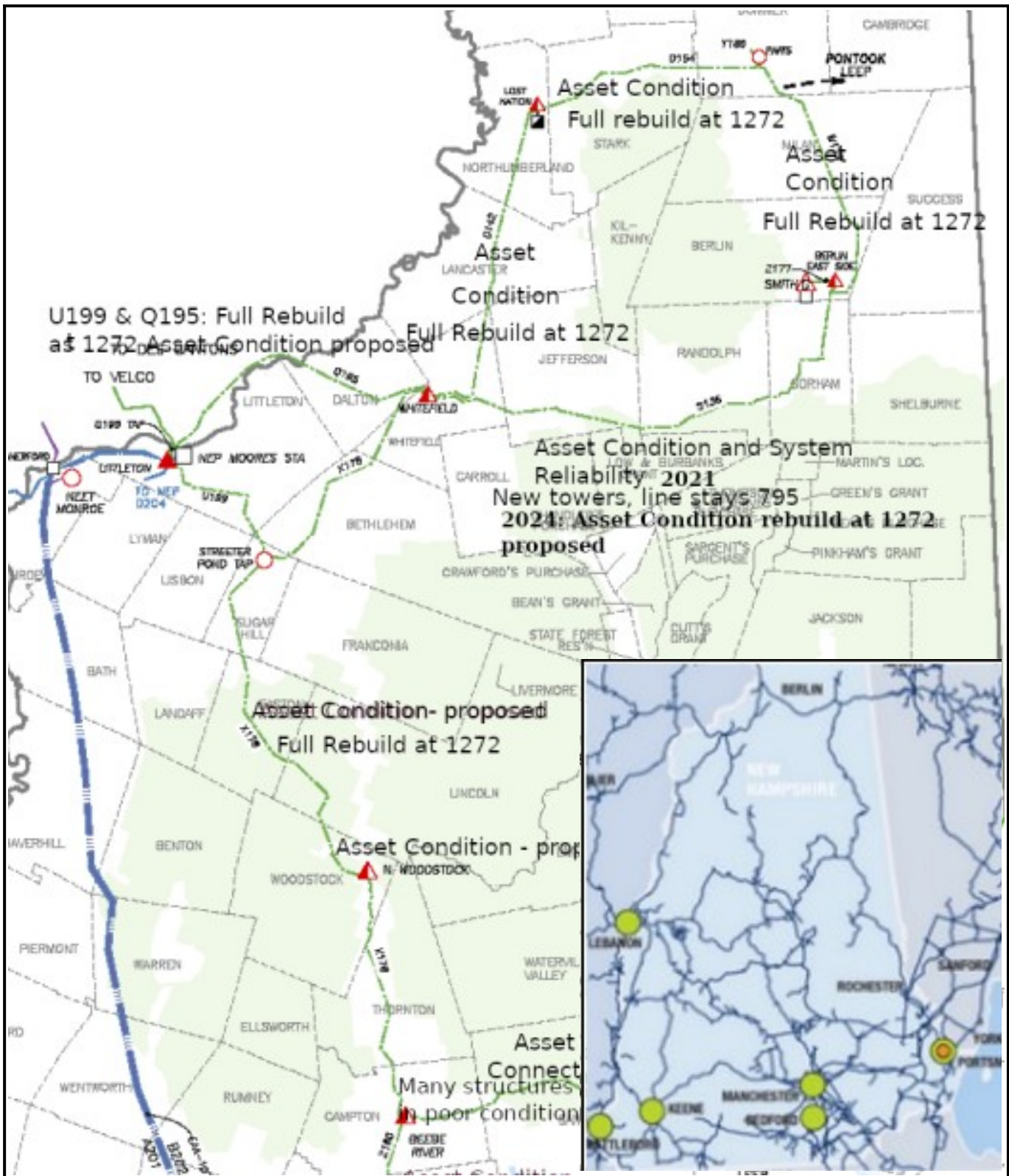
[To what “subsequent projects” is Eversource referring? What are/were the “existing leased communication lines on the X178/U199 Transmission Line”? How could there be leased lines on easements owned by Eversource?]

These segments will be a combination of Eversource’s private fiber facilities and segments of Indefeasible Right to Use (IRU) leased dark fiber provided by a third-party fiber vendor (FirstLight Fiber, Inc.). The majority of the build-out (approximately 110 miles and \$970k) under this project will be the leased IRU fiber with an initial twenty-year term. The remainder will be minor additions to extend the fiber from FirstLight’s interconnection points into the respective substations and to cross connect this fiber to **existing** Eversource OPGW.”

There is a clear implication here that ‘existing’ means existing at the time of the application.

Where is the 110 miles of leased dark fiber, what percent of the whole is this majority, and did Eversource assume, when this document was written, that it would not be able to place OPGW on the X-178 and other north country lines? It has 74.4 miles of OPGW (and 1272, 2,200 amp conductor) installed on its 115kV lines north of Franklin. It has 100.4 miles of OPGW (and 1272 conductor) planned, for the X-178, U-199, Q-195 and S-136, at a cost of \$675.8 m.

Did this project happen? Inset shows most of FirstLight's network in New Hampshire.



<https://www.firstlight.net/oxford-networks-merges-with-firstlight-fiber-part-1/>

“As of March 9th, 2021 NH Protection and Control Engineering [is this Eversource?] has recommended that the DTT-BF protection [what and where is/was this?] be disabled...As of March 11, 2021, this system has been disabled.” For how long was this protection disabled? Was this protection re-established? If so, describe it in detail.

Eversource Energy Protection and Control Engineer Salaries

Feb 7, 2023 — The estimated total pay range for a **Protection and Control Engineer** at Eversource Energy is \$104K–\$141K per year, which includes base salary and ...

Eversource’s X-178 presentation to the PAC about the “proposed” installation of OPGW on the line (in violation of the easements, which do not include “intelligence”) stated, in part:

- OPGW installation expands a private Eversource OPGW / Synchronous Optical Networking (SONET) loop
 - Provides a controlled, alternate fiber communication path supporting the long-term buildout of the fiber optic network
 - 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)
 - A private network is segregated from third-party telecom services, improving the overall reliability and security of communications paths

Since Eversource has provided no publicly available answers to the vast majority of the questions submitted to it since its public announcement of the X-178 complete line replacement project, including questions about its OPGW/SONET/SCADA/PMU/DDR systems and capacities, I request that it provide information in response to this submission and all other questions, well before its next presentation to the PAC.

The OPGW issue has distracted attention from Eversource’s planned replacement of the 795 ASCR 908 amp conductor (1,094 lbs per 1,000’) with the 1272 ACSS 2,200 amp conductor (1,633 lbs per 1,000’.)

The amount of information Eversource has failed to provide about its proposed X-178 complete rebuild means that the PAC presentations are consumed with Eversource’s responses to only a fraction of the questions.

I again request more time (two to four hours) for questions on Eversource’s next presentation on the X-178, and follow-up presentations until all questions are answered.

ISO has failed to adequately respond to the problem of the mistakes in the asset condition lists. The mistakes mean that anything listed in the asset condition lists has to be considered potentially incorrect. Thus, ISO needs to fact-check the data in all the asset condition lists. If it doesn't do this it needs to provide a disclaimer on each page; perhaps a complete watermark, indicating that the data is not certified for accuracy.

Why have none of the entities involved in the "Asset Condition" transmission projects presented to the PAC asked FERC to become involved in the Asset Condition problem?

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april 7, 2024