

# STATE OF NEW HAMPSHIRE

## Inter-Department Communication

**DATE:** October 26, 2018

**AT (OFFICE):** NHPUC

**FROM:** Randy Knepper   
Director of Safety & Security, Safety Division

**SUBJECT:** Docket No. DE 18-125 Public Service Company of New Hampshire  
D/B/A Eversource Energy  
Petition for a License to Construct and Maintain an Electric Line  
Under and Across Lake Winnepesaukee to Lockes Island in the Town  
of Gilford, New Hampshire  
**Staff Recommendation**

**TO:** Debra Howland, Executive Director  
Thomas Frantz, Director, Electric Division  
Leszek Stachow, Assistant Director, Electric Division  
David Wiesner, Director, Legal Division  
Paul Kasper, Assistant Director, Safety Division

The Safety Division's review of the above petition consisted of the following elements:

- Petition contents and history;
- Applicable State Statute;
- Review of the existing crossing(s) already licensed by the PUC;
- Review of land ownership of existing pole structures;
- Review of NESC code requirements as described in Puc 300;
- Review of public need and public impact, including applicability of other State regulations; and
- Conclusions and Recommendations.

### 1. Petition contents and history

On August 06, 2018, Eversource Energy (ES) filed a petition pursuant to RSA 371:17 for a license to construct and maintain (2) single-phase 4.16 kV distribution submarine cables, under and across the public waters of Lake Winnepesaukee to Lockes Island in the Town of Gilford, New Hampshire. This is a rebuild of an existing cable that is deteriorating due to its age. ES's existing line, Feeder 11W1, is not being relocated as a result of this project. See a detailed NHPUC Safety Division map/schematic in Attachment A of this recommendation.

The lake crossing is located from Varney Point on the mainland, northeast to Lockes Island in Gilford, New Hampshire, to serve its customers on Lockes Island. This is a

4,160 volt circuit (4.16 kV) designated by Eversource as the Feeder IIWI Line at this location. Due to the age and condition of the existing underwater cable, it is necessary for Eversource to replace this circuit to ensure the continued safety and reliability of electric service to Lockes Island. The existing Feeder 11W1 Line crossing to Lockes Island in its present location crossing under Lake Winnepesaukee to Lockes Island had not been previously licensed by the Commission. The replacement crossing will be licensed under this petition.

The required technical information provided in this petition is said to be based on the 2012 National Electric Safety Code (NESC) C2-2012. Within its petition ES notes that the proposed crossing has been designed and will be constructed, maintained and operated in accordance with NESC.

The new facilities will consist of (2) 4,160 Volt submarine cables with aluminum conductors size 1/0, and Triplex insulation with an insulation thickness of 1.720 inches. The capacity of the submarine cable is rated for 15kV by the manufacturer. The new underground electric lines will tie into a new 45' Class 2 ES Pole #951/47 located in the Varney Point ROW in the Town of Gilford, approximately 162 feet to the shore line (see Project Area in Staff Attachment A). Specifically, the project plans are as follows:

- ES will utilize the right of way from an existing easement on Lockes Island but will acquire an easement for the Varney Point underground portion.
- At each end of the 1,150-foot segment, the installation process will utilize horizontal directional drilling (HDD) and direct burial of the cable and conduit to an underwater depth of 10 feet at mean high water, per ES construction standard IUSUB.
- The plan calls for the cable to descend from riser Pole #951/47 Varney Point in the Town of Gilford approximately 162 feet to the shoreline.
- The plan calls for the cables and conduit to extend into the lake, using horizontal directional drilling (HDD) on each shoreline. The cable will exit the conduit and lay upon the lake floor to a similar conduit leading the cable to the shore line of the existing easement on Lockes Island.
- The cable will continue underground for approximately 92 feet to riser Pole #953/1 providing power to all of Lockes Island.

ES will take ownership of the line and will be responsible for its maintenance.

## **2. New Hampshire statute referenced in petition**

**371:17 Licenses for New Poles.** – Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall petition the commission for a license to construct and maintain the same. For the purposes of this section, "public waters" are defined to be all ponds of more than 10 acres, tidewater bodies, and such streams or portions thereof as the commission may prescribe. Every corporation and individual desiring to cross any public water or land for any purpose herein defined shall petition the commission for a license in the same manner prescribed for a public utility.

**Source.** 1921, 82:1. PL 244:8. RL 294:16. 1951, 203:48 par. 17. 1953, 52:1, eff. March 30, 1953. 2013, 82:1, eff. June 19, 2013.

## **3. Review of existing license(s) and permissions previously granted by the PUC for this location of Lake Winnepesaukee**

The existing deteriorating submarine cable was never licensed previously. However, the replacement crossing will be licensed under this petition.

## **4. Review of land ownership of existing pole structures**

In its petition, ES specifies that the rebuilding of this crossing will span Lake Winnepesaukee from ES Pole #951/47 approximately 210 feet to the water's edge, and then approximately 1,150 feet underneath Lake Winnepesaukee, coming onshore at Lockes Island. The Lockes Island portion will use an existing easement, and the cable will then be installed underground, running approximately 92 feet from the shore to a riser Pole # 953/1.

ES will utilize the right of way from an existing easement on Lockes Island and the existing Pole #953/1 is within the easement. ES will acquire an easement for the Varney Point underground portion and Pole # 951/47 will be within the ROW of Varney Point Road.

## **5. Review of NESC code requirements as described in Puc 300**

N.H. Code of Administrative Rules Puc 306 requires:

- (a) Each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:

- (1) In accordance with good utility practice;
  - (2) After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and
  - (3) To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.
- (b) For purposes of this section, “good utility practice” means in accordance with the standards established by:
- (1) The National Electrical Safety Code C2-2012....

ES states that the proposed crossing has been designed and will be constructed, maintained and operated in accordance with 2012 National Electrical Safety Code C2-2012. Minimum cable clearances of ten feet below the lake surface level and affected shorelines will be maintained at all times.

Safety Division Staff reviewed the specifications related to the design and construction of this crossing project as provided in the petition, the attachments, and all supplemental support documents, and found them to be in conformance with the applicable sections of NESC code C2-2012 and Puc 300.

## **6. Review of public need and public impact**

In order to meet the reasonable requirements of electric service to the residences on Lockes Island, ES proposes to rebuild and maintain (2) Single-phase 4.16 kV Distribution Submarine Cables under Lake Winnepesaukee in Gilford, New Hampshire.

ES asserts in the petition that the existing crossing will be exercised without substantially affecting the rights of the public in the public waters of Lake Winnepesaukee. The use and enjoyment of the lake by the public will not be diminished in any material respect as a result of the submarine cable crossing.

Safety Division Staff concludes the impact to the public will be *de minimis* and not measurable. The proposed crossing does not appear to affect the rights of the public in the public water of Lake Winnepesaukee because minimum safe line clearances below the water surface will be maintained at all times. Shorelines will not be affected by this project.

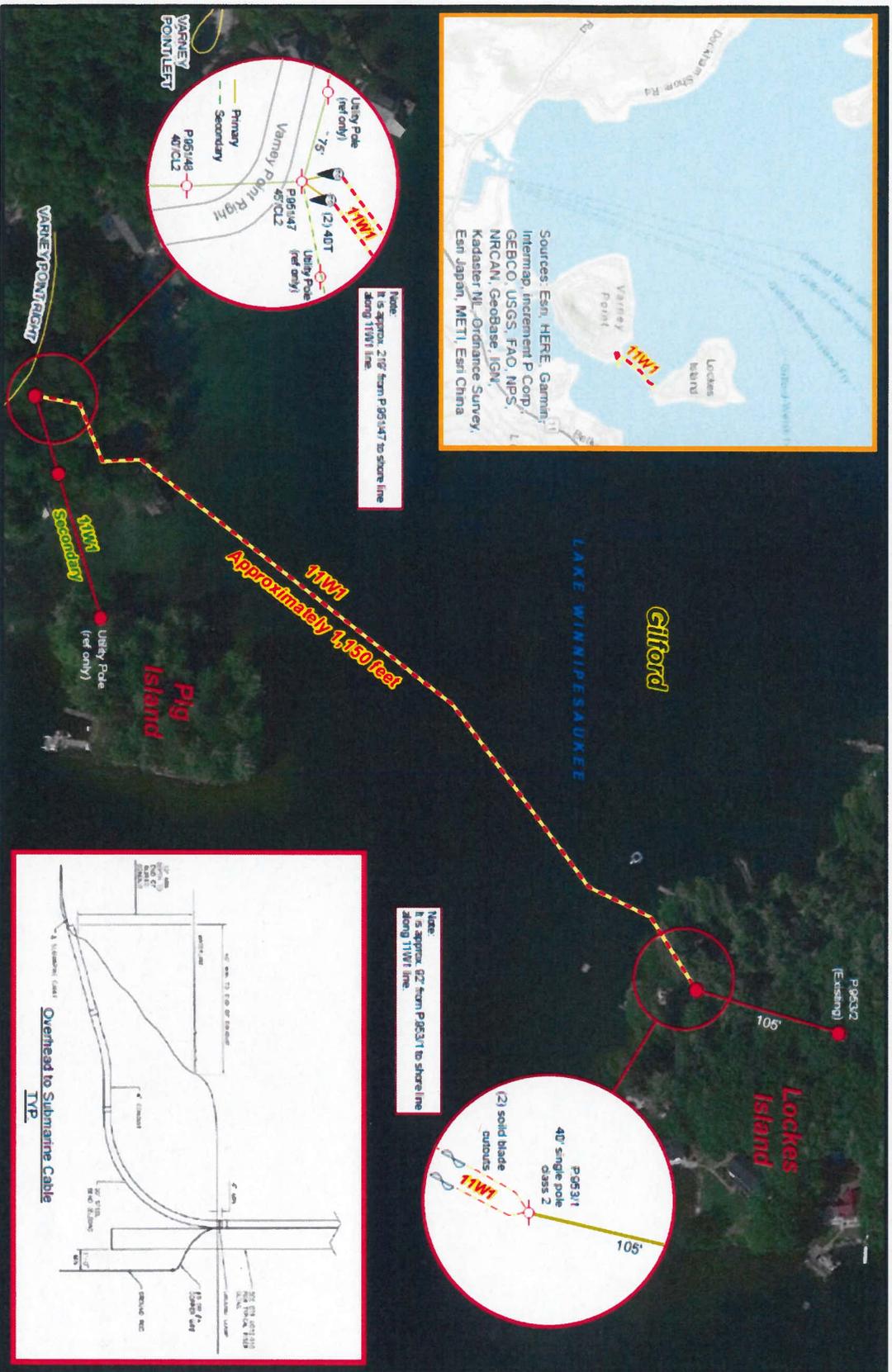
### **Staff Recommendation**

Based on the results of its review of the petition, its attachments, and all other supporting documents filed to this docket, the Safety Division Staff recommends that the Commission:

- 1) Find that the license ES requests in this docket may be exercised without substantially affecting the public rights in the public waters which are the subject of the petition;
- 2) Grant ES a license to construct, operate and maintain electric line, including neutral under and across the public waters of the Winnepesaukee River, in Gilford, New Hampshire, as specified in the petition; and
- 3) Issue an Order Nisi and orders for its publication.

Attachment

# Lake Winnepesaukee - DE 18-125 Eversource Crossing



**Figure 1: (2) Single-phase 4.16 kV Distribution Submarine Cables a span of approximately 1,150 feet, under Lake Winnepesaukee to Lockes Island in Gilford, NH, at the east and west banks. The structure on the east side of the lake crossing is ES Pole #9531/1 and the structure on the west side of the lake crossing, is ES Pole #95147. The span of the lake crossing from pole to pole is approximately 1461 feet.**

**SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED**

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**Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.**

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**FILING INSTRUCTIONS:**

- a) Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:**

DEBRA A HOWLAND  
EXECUTIVE DIRECTOR  
NHPUC  
21 S. FRUIT ST, SUITE 10  
CONCORD NH 03301-2429

- b) Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.**
- c) Serve a written copy on each person on the service list not able to receive electronic mail.**