

STATE OF NEW HAMPSHIRE**Inter-Department Communication****DATE:** November 7, 2018**AT (OFFICE):** NHPUC**FROM:**Paul Kasper, Assistant Director – Safety Division **SUBJECT:**

Docket No. DE 18-119 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 Welch 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
 Susan Amidon, Director, Legal Division
 Randy Knepper, 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 01, 2018, Eversource Energy 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 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 Belknap Point on the mainland, northeast to Welch Island in Gilford, New Hampshire, to serve its customers on Welch 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 cable to ensure the continued safety and reliability of electric service to Welch Island. The existing Feeder IIWI Line crossing to Welch Island in its present location was previously licensed by the Commission under Order #7535-2, dated August 11, 1960, issued in Docket #D-E3861. The replacement of the crossing will be newly licensed pursuant to 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 cable, aluminum conductor, size 1/0, 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 line will tie into a new ES 50-foot class 2 wood Pole # 90/185-1 located on Belknap Point Road located in the Town of Gilford approximately 162 feet to the shore line (see Attachment A). Specifically, the project plans are as follows

- ES will utilize the right of way from existing easements on Belknap Point and Welch Island.
- At each end of the 81 foot segment, the installation process will utilize (HDD) horizontal directional drilling 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, #90/185-1 Belknap Point Road in the Town of Gilford approximately 81 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 Welch Island.
- The cable will continue underground for approximately 40 feet to riser P #957/1 providing power to all of Welch Island.

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

The trenching installation on the Welch Island shore line requires an NHDES wetlands permit, which was obtained on May 31, 2018 (NHDES2Wetlands and Non-Site Specific Permit 2018-00721) In addition, a Shore land Permit by

Notification (PBN) is required for each shoreline for this crossing project, and each required Shoreland PBN has been filed with and accepted by NHDES.

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

This public water crossing license application is part of the emergency replacement project on the aging 7kv submarine cable for ES and had been previously licensed by the Commission.

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. Minimum cable clearances below the river surface and affected shorelines will be maintained at all times. 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.

4. 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.

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.

5. Review of public need and public impact

In order to meet the reasonable requirements of electric service to the residences on Welch Island, ES proposes to rebuild and maintain (2) Single-phase 7200 kV Distribution Submarine Cables under Lake Winnepesaukee in Gilford, New Hampshire.

ES asserts in the petition that the proposed license for this crossing may be exercised without substantially affecting the rights of the public in the public waters of Lake Winnepesaukee. Minimum safe line clearances below the lake surface and affected shorelines will be maintained at all times. 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 (2) electric submarine cables, under and across the public waters of Lake Winnepesaukee, in Gilford, New Hampshire, as specified in the petition; and
- 3) Issue an Order Nisi and orders for its publication.

Attachment

Attachment A

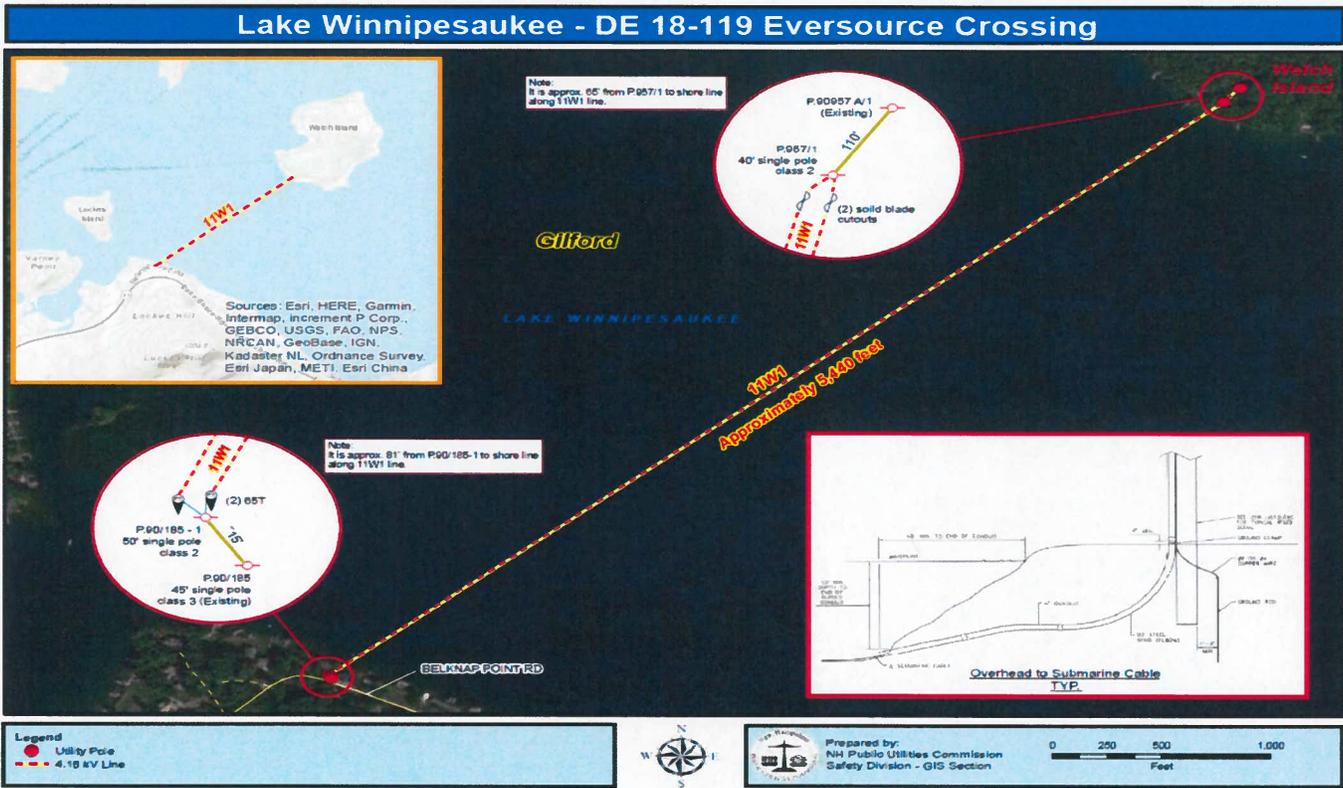


Figure 1: (2) Single-phase 7200 kV Distribution Submarine Cables a span of approximately 5440 feet, under Lake Winnepesaukee to Welch Island in Gilford, NH, at the east and west banks. The structure on the west side of the lake crossing is ES Pole #90/185-1 and the structure on the east side of the lake crossing, is ES Pole #957/1. The span of the lake crossing from pole to pole is approximately 5580 Ft.

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

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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Docket #: 18-119-1 Printed: November 08, 2018

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.**