

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: February 18, 2020

AT (OFFICE): NHPUC

FROM:

Paul Kasper 
Assistant Director – Safety Division

SUBJECT:

Docket No. DE 19-165 Public Service New Hampshire d/b/a
Eversource Energy
Petition for Amended Licenses to Replace Shield Wire Over and across
the Pemigewasset River and Winnisquam Lake in the Towns of Franklin
and Belmont, New Hampshire.
Staff Recommendation

TO:

Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Dave Weisner, Staff Attorney

CC:

Randall 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) not 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 October 7, 2019, Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition pursuant to RSA 371:17 for an amended license to replace shield wire on the existing Eversource L176 line, which is a 115 kV transmission line. This is a project to modify (4) four structures on its existing L176 transmission line. No conductors, neutral wire, or structures will be replaced in the project. The existing Pemigewasset River crossing in the Town of Franklin (Structures 14 and 15) had been previously licensed by the Commission, under Order No. 11,915, dated July 10, 1975, issued in Docket DE 75-148.

The existing Winnisquam Lake crossing in the Town of Belmont(Structures 103 and 104) had been previously licensed by the Commission, under Order No. 11,949, dated August 4, 1975, issued in Docket DE 75-149.

In ES Exhibit #3 Structure # 103 and # 104 crossing Winnisquam Lake are constructed with 3-80 ft. SDE steel poles The structures have conductors for the 115 kv L176 transmission line consisting of (3) 795 kcmil ACSR 36/1 cables and (2) #8 Alumoweld 7 stranding neutral wires between the structures. The shield wire to be installed will be (1) .646 OPGW cable and will be vertically attached 10 ft above the conductors. See a detailed NHPUC Safety Division map/schematic in Attachment A of this recommendation.

In ES Exhibit #4 Structure #14 and #15 crossing the Pemigewasset River are constructed with 1-85 ft. DC SDE steel poles. The structures have conductors for the 115 kv L176 transmission line consisting of (3) 795 kcmil ACSR 36/1 cables and (2) #8 Alumoweld 7 stranding neutral wires between the structures. The shield wire to be installed will be (1) .646 OPGW cable and will be vertically attached 10 ft. above the conductors. See a detailed NHPUC Safety Division map/schematic in Attachment B of this recommendation.

The water clearances are taken from the projected 100 year flood levels. This is more conservative than the 10 year flood levels allowed by the NESC (note 12 to Table 232-i). ES uses floodwater elevations for the Pemigewasset River in Merrimack County that are identified on FEMA flood map #33011C0158E. The 100-year flood elevation for the river in this location is approximately 308 feet, and is based on the North American Vertical Datum of 1988 (NAVD88). The Safety Division verified the 308-foot flood level from the FEMA flood map.

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 the Pemigewasset River

This public water crossing license application is part of the reliability replacement project on the L176 (115 kV) Transmission Line for ES and had been previously licensed by the Commission, under Order No. 11,915, dated July 10, 1975, issued in Docket DE 75-148.

The Pemigewasset River, From the outlet of Profile Lake in Franconia Notch State Park to the southern boundary of Franconia State Park and from the northernmost Thornton town line is listed under the category "Public Rivers And Streams" in the Official List of Public Waters (OLPW). under the category "List of freshwater Public Rivers and Streams. The entire list of public waters can be accessed through the following web link:

<http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

A NHDES Standard Wetlands Permit is not required for shield wire replacement activities which involve the temporary impact of nontidal wetlands, nontidal surface waters, and banks adjacent to nontidal surface waters in excess of 20,000 square feet in the aggregate, and is applicable to both the Pemigewasset River crossing and the Winnisquam Lake crossing.

ES asserts in the petition that the existing crossings will be exercised without substantially affecting the rights of the public in the public waters of the Pemigewasset River and Winnisquam Lake. Minimum safe line clearances above the water surface and affected shorelines will be maintained at all times. The use and enjoyment of the river and lake by the public will not be diminished in any material respect as a result of the overhead line crossings.

Review of land ownership of proposed pole structures

In its petition, ES specifies that the line and shield wire replacement on either side of the river and lake crossings are on existing Eversource utility easements

Review of NESC code requirements as described in Puc 300

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

each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:

In accordance with good utility practice;

After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and

To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.

For purposes of this section, "good utility practice" means in accordance with the standards established by:

The National Electrical Safety Code C2-2012....

ES states that the current crossings have been designed and will be maintained and operated in accordance with 2012 National Electrical Safety Code C2-2012.

Safety Division Staff reviewed the specifications related to the design and shield wire replacement 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.

Review of public need and public impact

In order to meet the reasonable requirements of electric service to the public, ES proposes to replace the existing shield wire on a three-phase 115 kV transmission line, designated as the L176 line with (1) .646 OPGW cable over and across the Pemigewasset River and over and across Winnisquam Lake in the Towns of Franklin and Belmont New Hampshire. This transmission line is an integral part of ES's electric transmission system in this area.

ES asserts in the petition that the proposed amended licenses for these crossings may be exercised without substantially affecting the rights of the public in the public waters of the Pemigewasset River and Winnisquam Lake. Minimum safe line clearances above the river and lake surfaces and affected shorelines will be maintained at all times. The use and of which is the subject of this petition. Minimum safe line clearances above the water surfaces will be maintained at all times. The use and enjoyment by the public of these waters will not be diminished in any material respect as a result of the modification and replacement of the existing shield wire.

This project does not require use and occupancy agreements be in place prior to construction of this crossing from the New Hampshire Department of Transportation.

Safety Division Staff concludes the impact to the public will be de minimis and not measurable. The crossings do not appear to affect the rights of the public in the public

water ways because minimum safe line clearances above the water surfaces will be maintained at all times.

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 amended licenses 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 amended licenses to replace a shield wire across the public waters identified and described in this petition.
- 3) Issue an Order Nisi and orders for its publication.

Staff Attachments

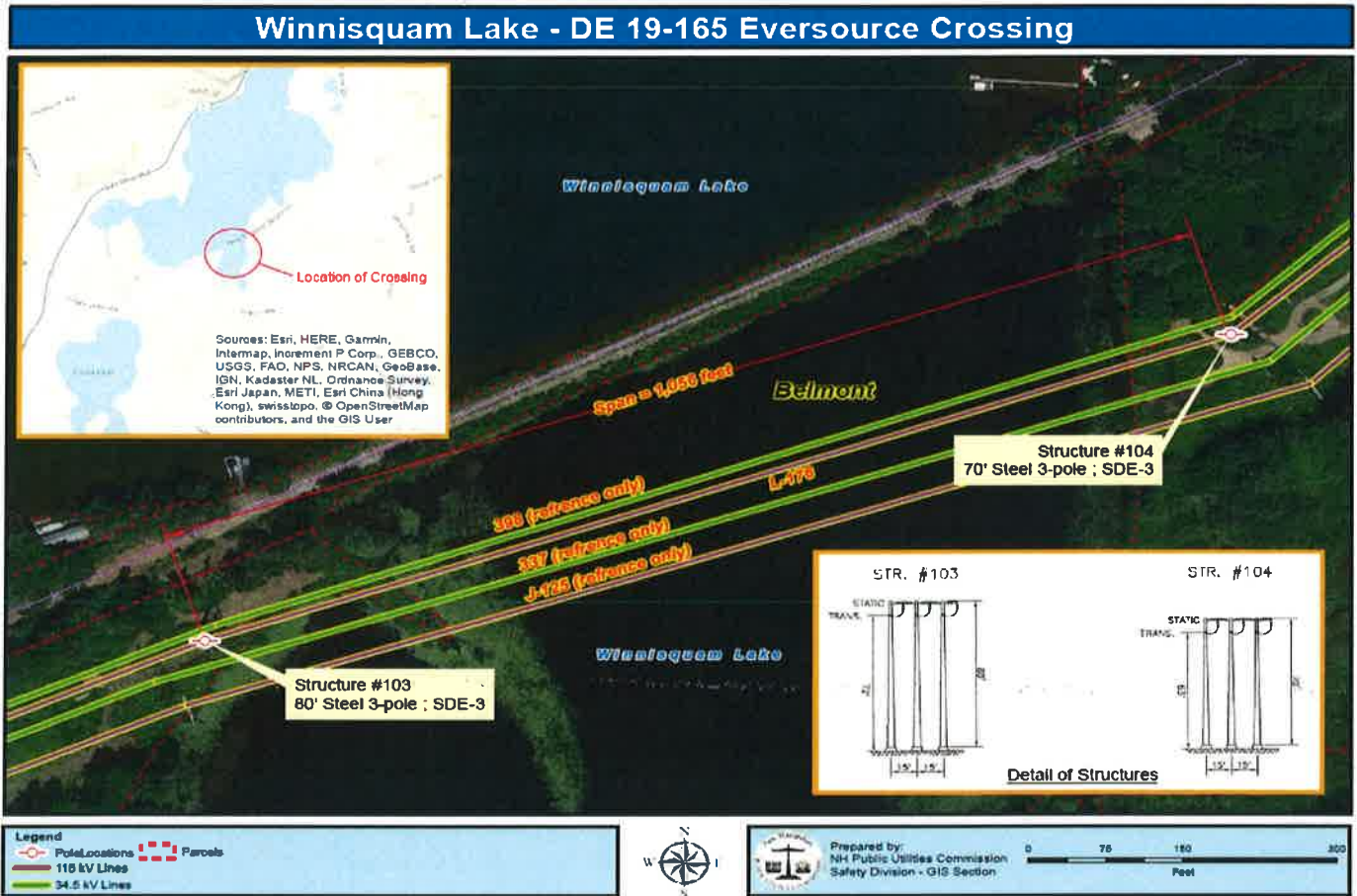


Figure A: 115kV line, designated as the L176 Transmission Line, is a span of approximately 1056 feet between structures # 103 and # 104, across Winnisquam Lake in the Town of Belmont.

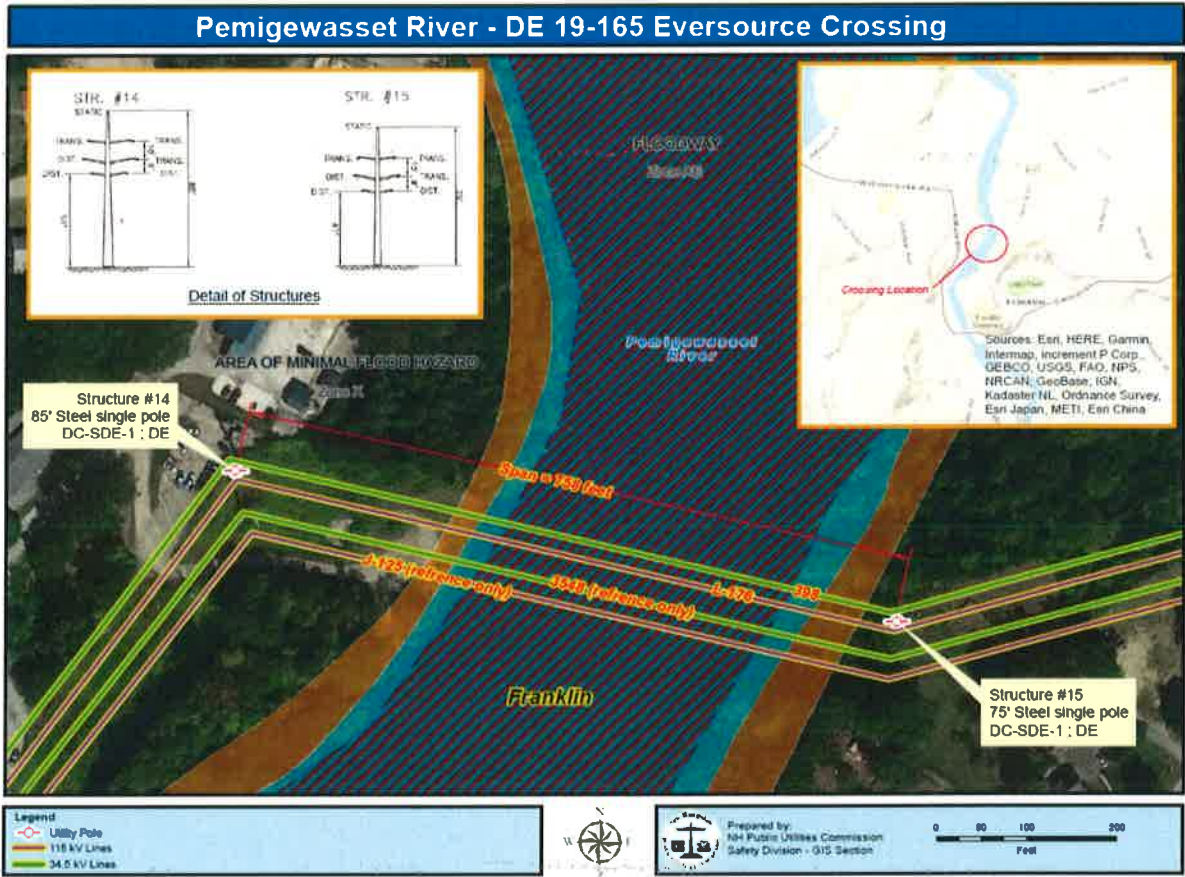


Figure B: 115kV line, designated as the L176 Transmission Line, is a span of approximately 758 feet between structures # 14 and # 15, across the Pemigewasset River in the Town of Franklin, NH.

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