

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: July 9, 2018

AT (OFFICE): NHPUC

NHPUC 9JUL'18PM4:08

FROM: Randy Knepper
Director – Safety Division



SUBJECT: Docket No. DE 18-079 Public Service New Hampshire d/b/a Eversource Energy
Petition for a License to Construct and Maintain Electric Lines Over and Across the Winnepesaukee River in the Towns of Belmont and Tilton, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
Suzanne Amidon, Hearing Examiner, Legal Division

CC: 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 April 30, 2018 Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition pursuant to RSA 371:17 for a license to construct and maintain (3) three phase 115 kV transmission line, designated as the L176 transmission line, and the underbuilt (3) three phase 34.5 kV line designated as the 398 Line, over and across the public waters of the Winnepesaukee River in the Towns of Belmont and Tilton, New Hampshire. This is a rebuild of existing lines for a capital reliability project. ES's existing L176 transmission line and the 398 line are not being relocated as result of this project but rather rebuilt with the existing conductors. A single monopole steel structure is being replaced with a taller steel monopole structure that will support both lines. See a

detailed NHPUC Safety Division map/schematic in Attachment A of this recommendation.

The river crossing is located on the south side of the Winnepesaukee River and will span approximately 567.5-feet between two structures. The structure on the east side of the river, Structure #93 (Type DC-RA), an existing structure constructed with a Single armless 80-foot tall steel pole. The other structure on the west side of the river, Structure #92, will be changed out from a 90 foot steel tangential structure to be replaced with a single monopole, 110-foot tall tangential steel pole (Type DCSDE-1). ES provided a location map, a project plan schematic and construction details of the structures as Exhibit 1 and Figure 1 in its attachment to the 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 conductors transmitting electrical power at 115 kV will be (3) 795 KCM ACSR cable with 26/7 stranding; the conductors transmitting electrical power at 34.5 kV will be (3) 477 KCM ACSR cable with 26/7 stranding. The static wire used for the 115kV circuit will be #8 Alumoweld cable with 7 stranding. There is no neutral used for the 34.5 kV circuit. The 115kV conductors will be sagged using 285 degree F conditions at a maximum tension of 8,000 pounds. The 34.5 kV line will be sagged using 212 degree F conditions at a maximum tension of 6,100 pounds. In its petition, ES provides sufficient detail to show how all required clearances from the lowest phase 34.5kV wires to the surface of the water will be maintained (46 feet). Note, the water clearance over the adjacent canal is less but since it is not considered a public water, it is not the primary scenario condition that governs. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

The clearance over Silver Lake Rd is expected to be 35.1 feet for the 398 line. This is far above the required clearance requirement of 18 feet.

The clearance over the Canal is expected to be 30.1 feet for the 398 line. This is far above the required clearance requirement of 17 feet.

The clearance over the Winnepesaukee River is 46.8 feet for the 398 line. This is far above the required clearance requirement of 20.5 feet.

The FEMA flood zone data is not available for municipalities within Belknap County, which includes the Town of Tilton and the Town of Belmont Therefore, the areas under consideration along the Winnepesaukee River, located in Belmont and Tilton, NH, do not have available FEMA flood zone data available. ES reference line elevations from New Hampshire Department of Environmental Services (NHDES) for the Winnepesaukee River (Silver Lake outflow) is 465'.

The water clearances are taken from NHDES projected 100 year flood levels in this location to be approximately 465 feet. ES uses flood water elevations for the

Winnepesaukee River in Belknap County that are identified by NHDES. The Safety Division verified the 465- foot flood level from the NHDES data.

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 Winnepesaukee River

This public water crossing license application is part of the reliability replacement project on the L176 (115 kV) Transmission Line and the 398 (34.5 kV) line for ES and had been previously licensed by Commission Order No. 11,949, dated August 4, 1975, issued in Docket DE 75-149..

The Winnepesaukee River, outflow of Paugus Bay section of Lake Winnepesaukee in Lakeport (Laconia), New Hampshire, is listed under the category "Public Rivers and Streams" in the Official List of Public Waters (OLPW). 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>

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 the Winnepesaukee River. Minimum safe line clearances above the river surface and affected shorelines will be maintained at all times. The use and enjoyment of the river by the public will not be diminished in any material respect as a result of the overhead line crossing.

4. Review of land ownership of existing pole structures

In its petition, ES specifies that the rebuilding of this crossing will span the Winnepesaukee River, which is north of Silver Lake Road at River Road in Tilton, NH.

Existing Structure #93 is located on the east side of the river and Structure #92 is on the west side of the river within existing 170 foot wide ES right of way. The ES right of way transitions to 135 foot right of way after the crossing.

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.

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 public, ES proposes to rebuild and maintain a three-phase 115 kV transmission line, designated as the L176 line and a three phase 34.5 kV distribution line designated as the 398 Line, in Tilton, 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 the Winnepesaukee River. Minimum safe line clearances above the river surface and affected shorelines will be maintained at all times. The use and enjoyment of the river by the

public will not be diminished in any material respect as a result of the overhead line crossing.

This project does require a New Hampshire Division of Environmental Services (NHDES) Shoreline Permit. ES states that permit notification was submitted on August 31, 2017 (File # 2017-02627). A NHDES Standard Wetlands Permit is also required for construction activities which involve the alteration of nontidal wetlands. ES states that NHDES Standard Wetlands Permit was issued on August 10, 2017 (NHDES File # 2017-02402). In addition, ES states that on December 7, 2017 the U.S. Army Corps of Engineers issued Permit # NAE 2017-02316 under General Permit for the State of New Hampshire.

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 the Winnepesaukee River because minimum safe line clearances above 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 over and across the public waters of the Winnepesaukee River, in Tilton and Belmont, New Hampshire, as specified in the petition; and
- 3) Issue an Order Nisi and orders for its publication.

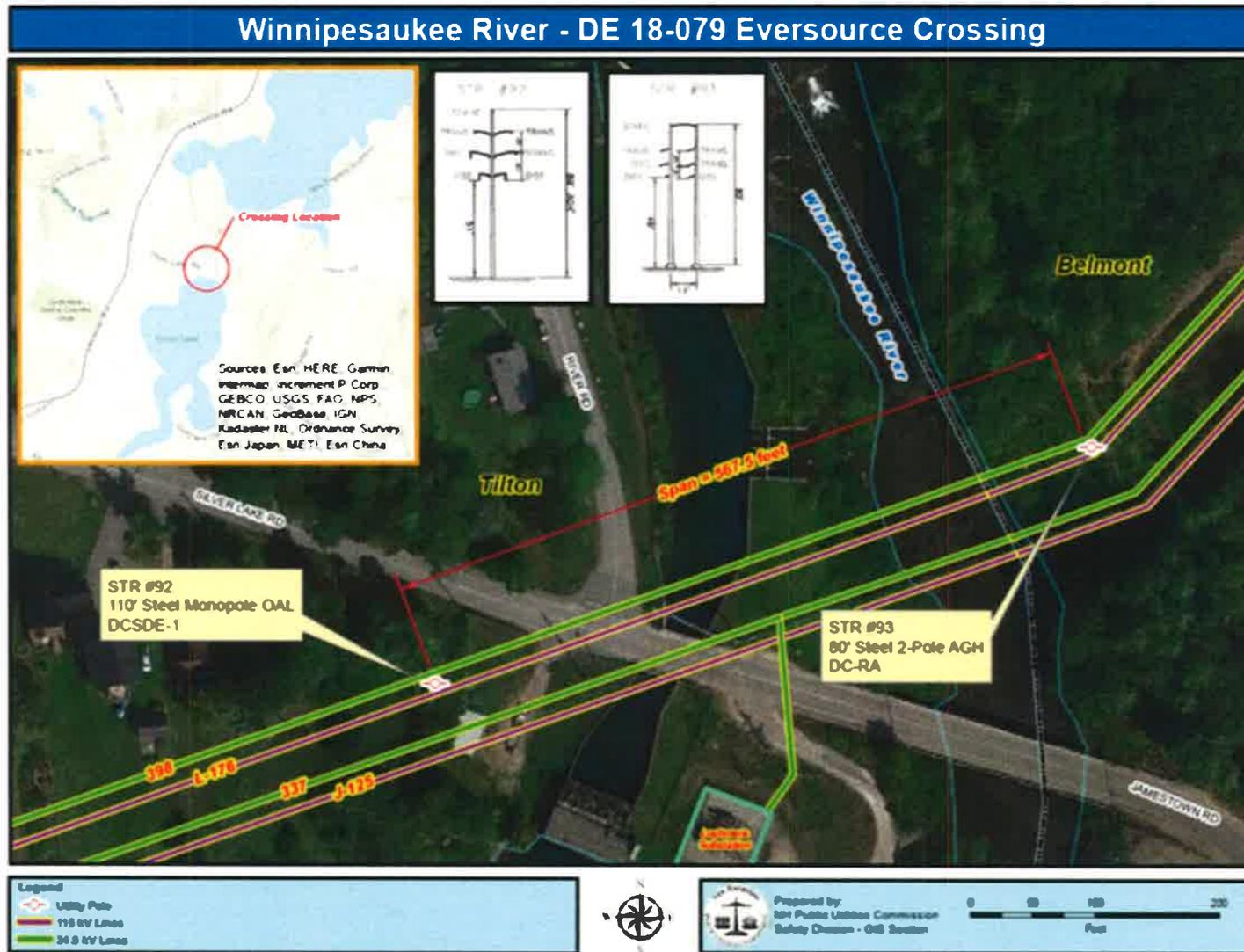


Figure 1: 115kV, designated as the L176 Transmission Line, and the 34.5 kV, designated as the 398 Distribution Line a span of approximately 567 feet, across the Winnepesaukee River in Tilton / Belmont, NH. The structure on the east side of the river will be (2) armless steel structures 80-Foot tall ; designated Structure #93 and Structure #92 on the west side of the river, is constructed with a Monopole DCSDE-1, 110- foot tall, tangential steel pole. The span of the river is approximately 79 Ft. at the east and west banks. The circuits, L176 and 398 are depicted as separate lines for information purposes but are actually attached to the same poles #92 and #93.

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.

Executive.Director@puc.nh.gov
amanda.noonan@puc.nh.gov
christopher.allwarden@eversource.com
leszek.stachow@puc.nh.gov
ocalitigation@oca.nh.gov
Paul.Kasper@puc.nh.gov
randy.knepper@puc.nh.gov
suzanne.amidon@puc.nh.gov
tom.frantz@puc.nh.gov

Docket #: 18-079-1 Printed: July 09, 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.**