

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: November 06, 2019
AT (OFFICE): NHPUC

FROM: Paul Kasper *PK*
Assistant Director, Safety Division

SUBJECT: Docket No. DE 19-134 Public Service New Hampshire d/b/a Eversource Energy Petition for a License to Construct and Maintain Electric Lines Over and Across a portion of the Franklin Pierce Lake in the Town of Antrim, New Hampshire

Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Mary Schwarzer, Staff Attorney, Legal Division

CC: 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 7, 2019 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 (1) 115 kV transmission line, designated as the X104 Line, over and across the public waters of the Franklin Pierce Lake in the Town of Antrim, New Hampshire. This is a rebuild of the existing transmission line for a replacement and repair project. ES's existing X104 Line is not being relocated as a result of this project and will be using the existing conductors. Two of the existing wood structures are being replaced with steel pole structures due to age and environmental damage and a third structure is being removed. See a detailed NHPUC Safety Division map in the Attachment of this recommendation.

The lake crossing is located within ES's utility easements and in-line of the existing alignments. The X104 line structure on the northeast shoreline of Franklin Pierce Lake Structure #26, will be constructed with a 1-Pole LD Steel 84-foot tall AGH. The other structure on the southwest shoreline of Franklin Pierce Lake, Structure #27, will be constructed with 3 – Poles LD Steel 1-80 foot tall AGH, 2-75 foot tall AGH structures, creating a span of 511 feet between the structures. ES incorrectly referenced 556.86 feet in their petition. Additionally the former Structure # 26.5 will be removed during this project, as it is no longer required for the X104 Transmission Line. ES provided a location map, a project plan schematic and construction details of the structures as Exhibit 2 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 designated the X104 line and will be constructed, maintained and operated in accordance with NESC. The X104 line conductors will be (2) 3#6 copperweld static wire, (3) 336.4 Kcmil ACSR cables with 26/7 stranding, and (1) ADSS 72 fiber cable. The fiber optic cable clearance requirements were met using the NESC heavy conditions (0.5 inch radial ice) and at 32 deg F. This scenario was the governing condition, which yielded the greatest sag and lowest clearance. In its petition, ES provides sufficient detail to show how the required clearance from the fiber optic cable to the land surface will be maintained at (41.3 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. The span between str# 26 and str# 27 is 511 ft. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

The water clearances are taken from the projected 100 year flood levels. This is more conservative than the 100 year flood levels allowed by the NESC (note 18 to Table 232-1). ES uses floodwater elevations for the Franklin Pierce Lake in Hillsborough County that are identified on FEMA flood map #33011CO127D. The 100-year flood elevation for the lake in this location is approximately 769 feet, and is based on the North American Vertical Datum of 1988 (NAVD88). The Safety Division verified the 769 foot flood level from the FEMA flood map.

A New Hampshire Department of Environmental Services (NHDES) Utility Maintenance Notification is required for construction access and work activities which involve the temporary alteration of nontidal wetlands, nontidal surface waters, and banks adjacent to nontidal surface waters under one (1) acre and is applicable to the State land crossings. A permit application will be submitted to the Town of Antrim.

A New Hampshire Division of Environmental Services (NHDES) Shoreland Permit by Notification application is required for construction activities in the vicinity of Franklin Pierce Lake. A NHDES Shoreland Permit by Notification will be submitted as part of this project.

A U.S. Army Corps of Engineers (ACOE) crossing permit is not required.

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 Franklin Pierce Lake.

This public water crossing license application is part of the reliability replacement project on the X104 (115 kV) Transmission Line for ES and had not been previously licensed by the Commission and will become licensed under this petition if the Commission grants approval.

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 Franklin Pierce Lake. Minimum safe line clearances above 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 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 a small portion of the Franklin Pierce Lake, which is within the ES utility easement in Antrim, NH.

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 115 kV transmission line, designated as the X104 line, in Antrim, 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 Franklin Pierce Lake. Minimum safe line clearances above the brook 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.

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 Franklin Pierce Lake 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 lines, and fiber optic cable over and across a portion of the public waters of the Franklin Pierce Lake, in Antrim, New Hampshire, as specified in the petition; and
3. Issue an Order Nisi and orders for its publication.

Attachment

Staff Attachment

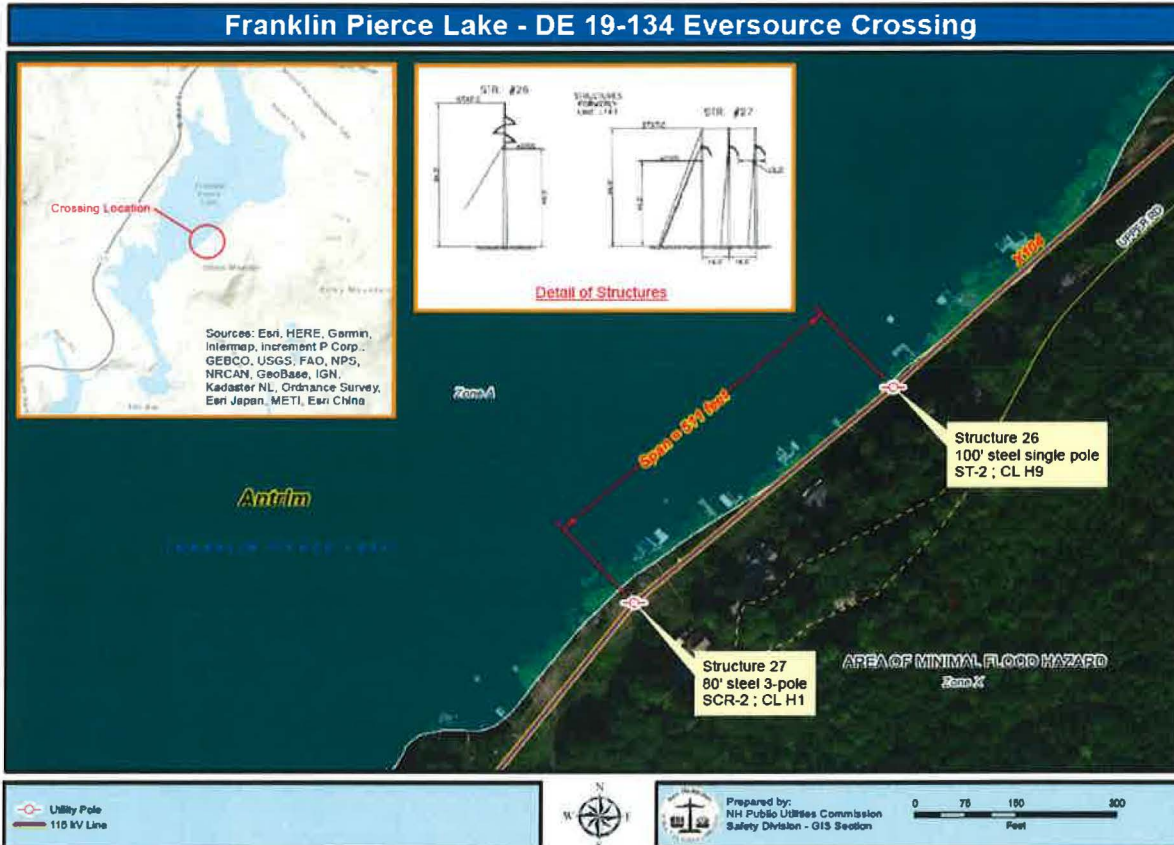


Figure 1: 115kV line, designated as the X104 Line, is a span of approximately 511 feet between structures # 26 and #27, across the Franklin Pierce Lake in Antrim, NH.

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