

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: August 12, 2020

AT (OFFICE): NHPUC

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

SUBJECT: Docket No. DE 20-034 Public Service New Hampshire d/b/a
Eversource Energy
Petition for a License to Construct and Maintain Electric Lines Over
and Across the Isinglass River in the Town of Strafford, New
Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Lynn Frabrizio, Senior 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 March 12, 2020 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) 345 kV transmission line, designated as the 385 line, over and across the public waters of the Isinglass River in the Town of Strafford, New Hampshire. This is a rebuild of the existing transmission line for a replacement and repair project. ES's existing 385 line is not being relocated as result of this project using the existing conductors. The existing wood structures are being replaced with (2) new double steel pole structures due to age and environmental damage. This crossing was previously licensed by the PUC pursuant

to Order 25483 in Docket # DE 12-176. See a detailed NHPUC Safety Division map/schematic in the Attachments of this recommendation.

The river crossing is located within ES's utility easements and in-line of the existing alignments. The 385 line structure on the east side of the river, Structure #87, will be constructed with a 2 – Pole Weathered Steel 75-foot tall CL H3 structure within 20 feet of the existing wood structure. The other structure on the west side of the river, Structure #88, will be constructed with a 2 – Pole Weathered Steel 105-foot tall CL H3 structure approximately 70 feet from the existing wood structure, creating a span of 609.2 feet between the structures. 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 2017 National Electric Safety Code (NESC) C2-2012. Within its petition, ES notes that the proposed crossing has been designated the 385 Line and will be constructed, maintained and operated in accordance with NESC. The 385 line conductors will be (1) # 8 Alumoweld 7 stranding static wire, (6) 850.8 Kcmil ACSR cables with 45/7 stranding and (1) 24 fiber OPGW wire. The conductors will be sagged using 212 degree F conditions at a maximum tension of 24,300 pounds. In its petition, ES provides sufficient detail to show how all required clearances from the lowest phase wire to the surface of the water will be maintained at (49.0 feet).

Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 23.2 ft. is required by the NESC Table 232-1.

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 Isinglass River in the Town of Strafford that are identified on FEMA flood map #33017C0170D. The 100-year flood elevation for the river in this location is approximately 271 feet, and is based on the North American Vertical Datum of 1988 (NAVD88). The Safety Division verified the 271-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 Isinglass River.

This public water crossing license application is part of the reliability replacement project on the 385 (345 kV) Transmission Line for ES and had been previously licensed by the Commission pursuant to Order 25483 in Docket # DE 12-176.

The Isinglass River, From the outflow of Bow Lake Dam in Strafford to its confluence with the Cocheco River in Rochester 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>

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 Isinglass 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 Isinglass River, which is within the ES utility easement in Strafford, 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 345 kV transmission line, designated as the 385 line, in Strafford, 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 Isinglass 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.

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 Isinglass 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 Isinglass River, in Strafford, New Hampshire, as specified in the petition; and
3. Issue an Order Nisi and orders for its publication.

Staff Attachment

Attachment

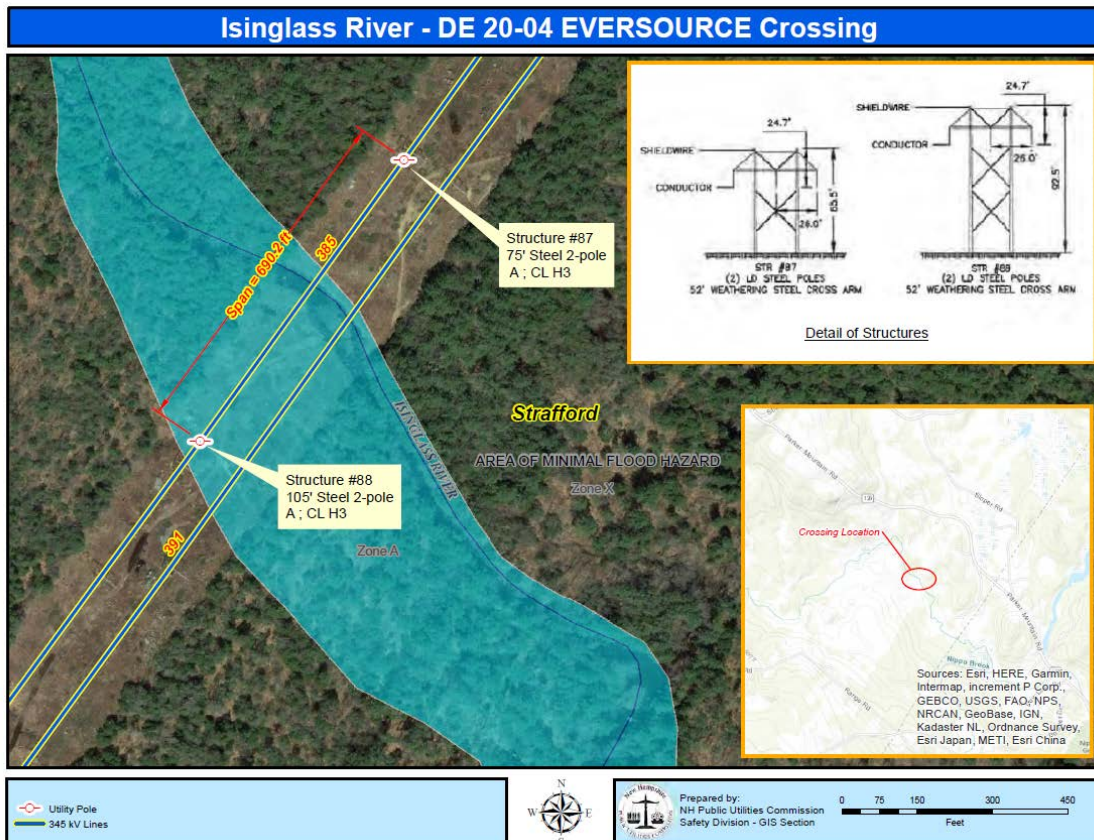


Figure 1: 345kV line, designated as the 385 Line, is a span of approximately 690.22 feet between structures #87 and #88, across the Isinglass River in the Town of Strafford, New Hampshire with 35.3 feet crossing public waters.

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