

STATE OF NEW HAMPSHIRE

Inter-Department Communication

NHPUC 20-FEB-18 12:20

DATE: February 20, 2018

AT (OFFICE): NHPUC

FROM:

Randy Knepper
Director – Safety Division



SUBJECT:

Docket No. DE 17-159 Public Service New Hampshire d/b/a
Eversource Energy
Petition for a License to Construct and Maintain Electric Lines Over
and Across the Bearcamp River in the Town of Tamworth, New
Hampshire
Staff Recommendation

TO:

Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
Alex Speidel, Hearing Examiner, Legal 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 October 20, 2017, 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 a three-phase 12.47 kV distribution line, designated as the 3116X1 circuit, over and across the public waters of the Bearcamp River in the Town of Tamworth, New Hampshire. This is a relocation of an existing circuit. ES's existing 3116X1 circuit is being relocated a result of a New Hampshire Department of Transportation bridge rehabilitation project. See a detailed NHPUC Safety Division map/schematic in Attachment A of this recommendation.

The proposed crossing is located approximately 15 feet west of the Tamworth Rd/Route 113 bridge and will span approximately 211 feet between two new wood structures. The structure on the southern side of the river, #8/247, is a tangential

structure, constructed with a single Class-2, 50 foot tall CCA pole. The structure on the northern side of the river, number #8/246, is a tangential structure, constructed with a single Class-2, 50 foot tall CCA pole. ES provided a location map, a project plan schematic and construction details of the structures as Exhibits 1 through 4 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 design criteria used for the conductors transmitting electrical power at 12.47 kV will be #2 HD Copper cable with 7/1 stranding. The neutral will be 2/0 ACSR cable with 6/1 stranding. The conductors will be sagged using 100 degree F conditions at a maximum tension of 2,000 pounds. The neutral will be sagged also using 100 degree F conditions at a maximum tension of 2,000 pounds. In its petition, PSNH provides sufficient detail to show how all required clearances from neutral wires to the surface of the water will be maintained (37.1 feet). It should be noted that the low point of the sag is not at the midspan as a result of the lower height of pole #8/247 and the proximity of the pole to the Bear Camp River. 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 10 year flood levels allowed by the NESC (note 18 to Table 232-1). ES uses flood water elevations for the Bearcamp River in Grafton County that are identified on FEMA flood map #33003C04600. The 100-year flood elevation for the river in this location is approximately 469 feet, and is based on the North American Vertical Datum of 1929 (NAVD29). The Safety Division verified the 469 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 Bearcamp River

This public waters crossing license application is part of the relocated 3116X1 circuit for ES and had not been previously licensed by the Commission.

The Bearcamp River, from the outflow of a stream in Sandwich, 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 proposed crossing will be exercised without substantially affecting the rights of the public in the public waters of the Bearcamp 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 proposed pole structures

In its petition, ES specifies that the construction of this crossing will span the Bearcamp River, which is adjacent to the NH Route 113 bridge. Proposed pole #8/247 will be located on the southerly side of the river within existing NH DOT right of way (Whittier Rd). Proposed structure #8/246 will be located on the northerly side of the river within the NH DOT right of way (Tamworth Rd).

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 construct and maintain a three-phase 12.47 kV distribution line, designated as the 3116X1 circuit, in Tamworth, New Hampshire. The 3116X1 circuit is an integral part of ES’s electric distribution system in the area. ES’s existing 3116X1 circuit is being relocated as a result of a NH DOT project to rebuild and widen the existing bridge

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 Bearcamp 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 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 proposed crossing does not appear to affect the rights of the public in the public water of the Bearcamp 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 lines, including neutral over and across the public waters of the Bearcamp River in Tamworth, New Hampshire, as specified in the petition; and
- 3) Issue an Order Nisi and orders for its publication.

Attachment

Attachment A

Q:\Safety\GIS DATA\Electric\River Crossings

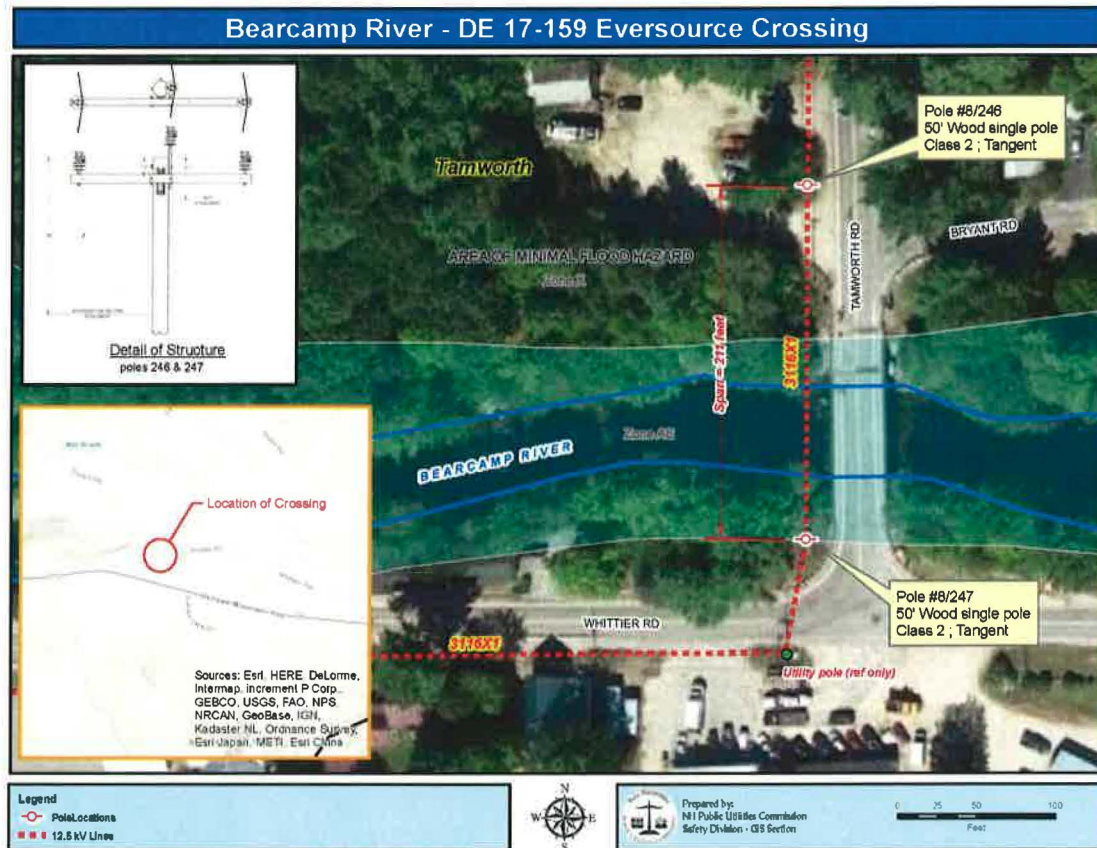


Figure 1: 12.47 kV, designated as the 3116X1 Line, a span of approximately 211 feet, across the Bearcamp River in Tamworth, NH. The structure on the southern side of the river is a fiberglass cross arm tangential structure, designated #8/247 and will be constructed with a single Class-2, 50 foot tall, CCA pole. The structure on the northern side of the river, designated #8/246 shall be a similar tangential structure, constructed with a single Class-2, 50 foot tall, CCA pole. The span of the river is approximately 80 ft at the northern and southern banks.

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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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.**