


STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: May 7, 2018

AT (OFFICE): NHPUC

FROM: Randy Knepper 
Director – Safety Division

SUBJECT: Docket No. DE 17-155 Public Service New Hampshire d/b/a Eversource Energy
Petition for a License to Construct and Maintain Electric Lines Over and Across the Androscoggin River in the City of Berlin, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
David Shulock, Director, 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 17, 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 two three-phase 4.16 kV distribution lines, designated as the 2H1 and 2H2 circuits, over and across the public waters of the Androscoggin River in the City of Berlin, New Hampshire. This is a relocation of existing circuits for a road reconstruction project. ES's existing 2H1 and 2H2 circuits are being relocated, a result of a City of Berlin road improvement project along NH Route 16. See a detailed NHPUC Safety Division map/schematic in Attachment A of this recommendation.

The proposed crossing is located approximately 15 feet south of the Community Street and High Street dead ended roadways and will span approximately 268 feet between two new wood structures. The structure on the northwestern side of the river,

#225/Y, is a tangential structure, constructed with a single Class-1, 50 foot tall CCA pole. The structure on the eastern side of the river, number #410/A1, is a tangential structure, constructed with a single Class-1, 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 4.16 kV will be (3) 477 ACSR cable with 19 stranding. The neutral will be 2/0 ACSR cable with 7 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.). 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 Androscoggin 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 Androscoggin River

This public waters crossing license application is part of the relocated 2H1 and 2H2 circuits for ES and had not been previously licensed by the Commission.

The Androscoggin River, from the juncture of Magalloway River at Lake Umbagog, 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 Androscoggin 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 Androscoggin River, which is 300 feet west of NH Route 16 and High Street to the northern end of Community Street. Proposed pole #225/Y will be located on the Northwest side of the river within existing City of Berlin right of way (Main Street). Proposed structure #410A/1 will be located on the southeast side of the river within an ES ROW at the northwest end of Community Street. When the petition was filed, ES at the time owned the property. ES continues to own the pole and land upon which it is located. This portion of the property was not sold as part of the sale of hydro electric generation equipment auction monitored ultimately approved in Commission Order 26,080 issued 11/29/2017.

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 4.16 kV distribution line, designated as the 2H1 and 2H2 circuits, in Berlin, New Hampshire. The 2H1 and 2H2 circuits are an integral part of ES’s electric distribution system in the area. ES’s existing 2H1 and 2H2 circuits are being relocated as a result of a City of Berlin, NH road construction project.

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 Androscoggin 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 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 proposed crossing does not appear to affect the rights of the public in the public water of the Androscoggin 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 Androscoggin River in Berlin, 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

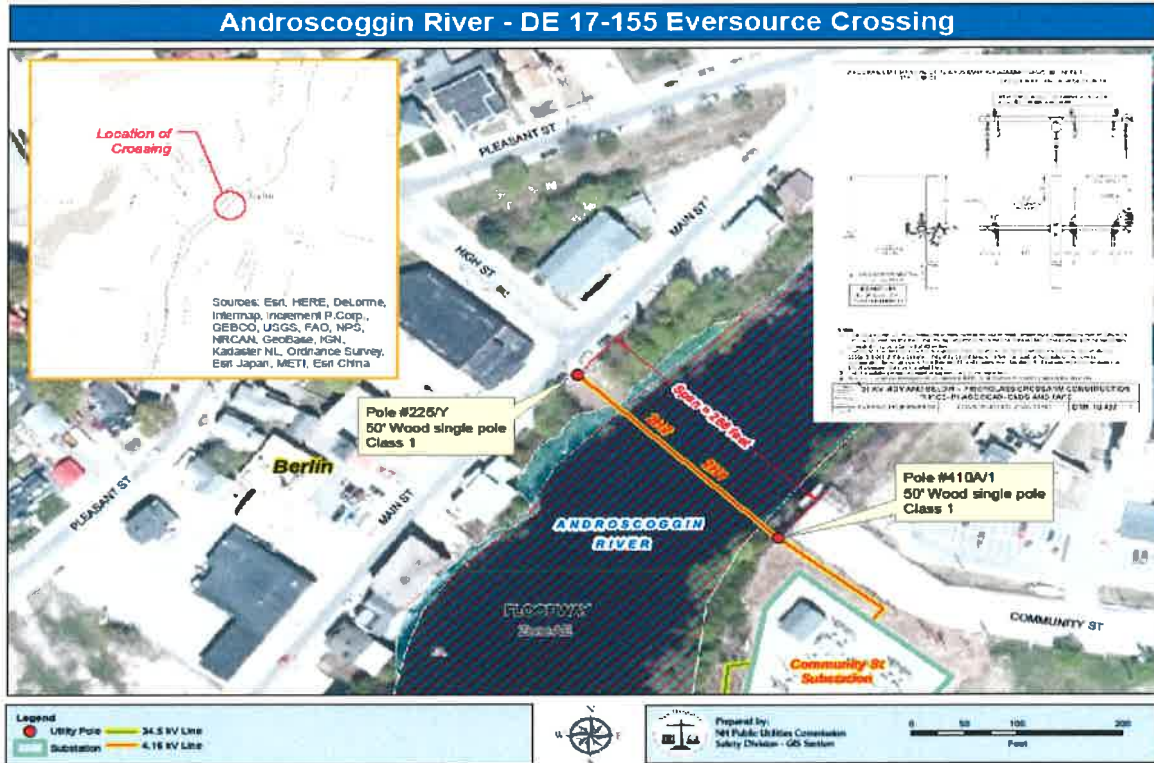


Figure 1: 4.16 kV, designated as the 2H1 and 2H2 Circuits, a span of approximately 270 feet, across the Androscoggin River in Berlin, NH. The structure on the northwest side of the river is a fiberglass cross arm tangential structure, designated #225/Y and will be constructed with a single Class-1, 50 foot tall, CCA pole. The structure on the southeast side of the river, designated #410A/1 shall be a similar tangential structure, constructed with a single Class-1, 50 foot tall, CCA pole. The span of the river is approximately 190 Ft. at the northwest and southeast 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.