

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: January 4, 2019

AT (OFFICE): NHPUC

NHPUC 4JAN19PM12:11

FROM: Paul Kasper 
Assistant Director – Safety Division

SUBJECT: Docket No. DE 18-155 Public Service New Hampshire d/b/a
Eversource Energy
Petition for a License to Construct and Maintain Electric Line Over and
Across the Piscataquog River in the Town of Goffstown, New
Hampshire

Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
Paul Dexter, Staff Attorney, Legal Division

CC: Randall 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 October 10, 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 a three-phase 34.5kV distribution line, designated as the 328 line, over and across the public waters of the Piscataquog River in the Town of Goffstown, New Hampshire. The existing 328 Line structures and associated distribution components are approximately 40 years old, have been subject to woodpecker and other environmental damage and require replacement or modification for the line to continue to function safely and reliably. The 328 Line is also being upgraded to allow more capacity to the Town of Goffstown from the Rimmon Substation due to an upcoming transformer retirement at the Glen Lake

Substation. Additionally, underbuilt fiber optic cable is being added to the structures to allow for communication between the Rimmon Substation and the Glen Lake Substation. See a detailed NHPUC Safety Division map/schematic Attachment of this recommendation.

The proposed crossing is located East of Danis Park Road and will span approximately 412 feet between (2) two new steel structures. The structure on the west side of the river, Structure #43, a new tangential structure, constructed with a 60 ft tall Steel Monopole. The other structure on the east side of the river, Structure # 42, is a new tangential structure, constructed with an 80 ft tall Steel Monopole. ES provided a location map, a project plan schematic and construction details of the structures as Exhibits 1 and 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 designed and will be constructed, maintained and operated in accordance with NESC. The design criteria used for the conductors transmitting electrical power at 34.5KV will be 477 AAC cable in a Hendrix type configuration. The neutral will be .0000127 AWA cable vertically orientated approximately 3.5 ft above the conductors. The Fiber Optic will be ADSS-24 Fiber OFS Type and will be vertically attached 10 ft below the conductors. 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 all required clearances from the Fiber Optic Cable to the surface of the water will be maintained at (25.8 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 floodwater elevations for the Piscataquog River in Hillsborough County that are identified on FEMA flood map #33011C0219D. The 100-year flood elevation for the river in this location is approximately 172 feet, and is based on the North American Vertical Datum of 1929 (NAVD29). The Safety Division verified the 172 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 Piscataquog River

This public waters crossing license application is part of a reconstruction of the 328 line for ES and had not been previously licensed. The existing 328 Line will now be licensed under this petition by the Commission.

This portion of the Piscataquog River, is an outflow from the Outlet of Deering Lake Dam in Deering to the confluence with the South Branch in Goffstown and 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 Piscataquog 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 Piscataquog River, which is west of Danis Park Road in the Town of Goffstown, New Hampshire. Structure # 42 will remain in its current location located on the east side of the river within an existing ES 100 ft. wide right of way. Structure #43 will remain in its current location on the west side of the river within the same ES right of way.

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 reconstructed, 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 exhibits 1 and 2, 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 reconstruct and maintain a 34.5 kV distribution line, designated as the 328 line, in Goffstown, New Hampshire. The 328 line is an integral part of ES’s electric distribution system in the area.

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 Piscataquog 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.

A NHDES Standard Wetlands Permit application was submitted and accepted as complete by NHDES on January 18, 2018.

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 Piscataquog 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 and communication line over and across the public waters of the Piscataquog River in Goffstown, New Hampshire, as specified in the petition; and
- 3) Issue an Order Nisi and orders for its publication.

Attachment

Attachment

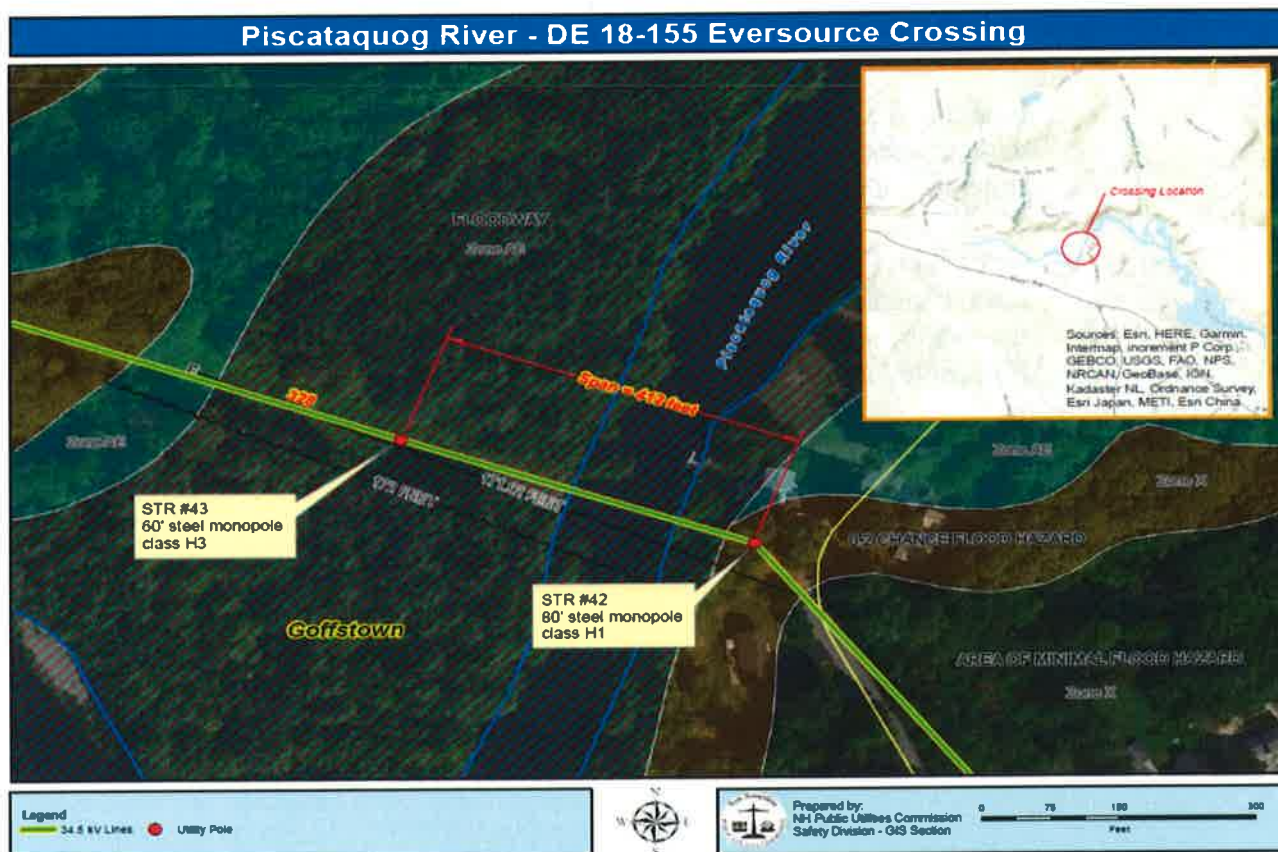


Figure 1: 34.5 KV, designated as the 328 Line, a span of approximately 412 feet from structure to structure, across the Piscataquog River in Goffstown, NH. The structure on the west side of the river is a steel tangential structure; designated Structure #43 will be constructed as a 60 ft. Steel Monopole. The structure on the east side of the river, designated Structure #42 shall be a similar tangential structure, constructed with an 80 foot tall, Steel Monopole. The crossing is approximately 117 feet over the Piscataquog River at this location.

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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Docket #: 18-155-1

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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.