

STATE OF NEW HAMPSHIRE**Inter-Department Communication****DATE:** December 19, 2019**AT (OFFICE):** NHPUC

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

SUBJECT: Docket No. DE 19-148 Public Service New Hampshire d/b/a Eversource Energy
Petition for a License to Construct and Maintain Electric Lines Over and across the Merrimack River in the Towns of Bedford and City of Manchester, New Hampshire, and Over and Across Land Owned by the State in the Town of Bedford, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Paul Dexter, Staff Attorney

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) not 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 September 11, 2019, Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition pursuant to RSA 371:17 for a license to re-construct, maintain and operate the Eversource 324 line, which is a 34.5 kV distribution line. This is a project to modify or rebuild (2) two structures on its existing 324 distribution line. No conductors or neutral wire will be replaced in the project. All wires shall be transferred from existing structures to new structures replaced at the same locations. The existing Merrimack River crossing had been previously licensed by the Commission, under Order No. 12,219, dated April 21, 1976, issued in Docket DE 76-22.

The 324 line crossing of the State's land parcel in the Town of Bedford, New Hampshire had not been previously licensed, as this parcel was in private ownership when the 324 line was originally constructed, and no Commission license was required. This structure replacement and repair project is part of a capital reliability project - necessary for the 324 line to continue to meet current as well as future projected electricity demands. See a detailed NHPUC Safety Division map/schematic in the Attachment of this recommendation.

The State's land parcel consists of an old railroad bed situated east off Iron Horse Drive in Bedford, and is designated as Tax Map 35, Lot 15, on the Town of Bedford's tax records.

In ES Exhibit #2 Structure # 39 will be constructed with 3-85 ft. OAL Type 10.638 steel poles. The structure will have conductors for the 324 line consisting of (3) 266 kcmil ACSR 6/7 cables and (1) 266 ACSR 6/7 stranding neutral wire. The neutral wire will be sagged using 120 degree F conditions at a maximum tension of 6,680 pounds. 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 neutral wire to the land surface will be maintained at (36.8 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 28 ft. is required by the NESC Table 232-1 above water.

Structure # 40 had been previously replaced without a petition in 2017 with 3-70 ft. OAL Type 10.638 steel poles. The structure has conductors for the 34.5 kv 324 distribution line consisting of (3) 266 kcmil ACSR 6/7 cables and (1) 266 ACSR 6/7 stranding neutral wire. The neutral wire will be sagged using 120 degree F conditions at a maximum tension of 6,680 pounds. 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 neutral wire to the land surface will be maintained at (36.8 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 15.5 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 Merrimack River in Hillsborough County that are identified on FEMA flood map #33011C0387D. The 100-year flood elevation for the river in this location is approximately 125 feet, and is based on the North American Vertical Datum of 1929 (NAVD88). The Safety Division verified the 125-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 Merrimack River

This public water crossing license application is part of the reliability replacement Project on the 324 line for ES and had been previously licensed by the Commission under Order No. 12,219, dated April 21, 1976, issued in Docket DE 76-22.

The Merrimack River, From the Bedford/ Merrimack Town line to the New Hampshire/ Massachusetts state line 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>

A New Hampshire Department of Environmental Services (NHDES) Shoreland Permit by Notification application is required for construction activities in the vicinity of the Merrimack River. The permit by notification will be submitted prior to construction

The U.S. Army Corps of Engineers (ACOE) regulates the subject portion of the Merrimack River as a federal-designated navigable water. Eversource previously consulted with the ACOE and was advised by the ACOE that, when wire and cable clearances will increase over those presently in place, no ACOE permit modifications are required. The rebuild of Structures 39 and 40 for the Merrimack River crossing will entail raising the 324 line within the existing Eversource right of way corridor, so a permit modification by the ACOE will not be required.

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 Merrimack 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.

Review of land ownership of proposed pole structures

In its petition, ES specifies that the re-construction of this land crossing are on the State of New Hampshire owned land in the Town of Bedford, New Hampshire

Review of NESC code requirements as described in Puc 300

N.H. Code of Administrative Rules Puc 306 requires:

each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:

In accordance with good utility practice;

After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and

To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.

For purposes of this section, "good utility practice" means in accordance with the standards established by:

The National Electrical Safety Code C2-2012....

ES states that the current crossing has been designed and will be re-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 re-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.

Review of public need and public impact

In order to meet the reasonable requirements of electric service to the public, ES proposes to re-construct and maintain a three-phase 34.5 kV distribution line, designated as the 324 line and neutral wire over and across the Merrimack River and over and across Land owned by the State in the Towns of Merrimack and Bedford New Hampshire. This distribution line is an integral part of ES's electric transmission system in this area.

ES asserts in the petition that the proposed licenses for these crossings may be exercised without substantially affecting the rights of the public in the State lands in the Town of Bedford and without substantially affecting the rights of the public in the public waters of the Merrimack River. Minimum safe line clearances above the river surface and affected shorelines will be maintained at all times. The use and of which is the subject of this petition. Minimum safe line clearances above the land surfaces will be maintained at all times. The use and enjoyment by the public of these lands will not be diminished in any material respect as a result of the modification and replacement of the existing overhead line crossings.

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 crossings do not appear to affect the rights of the public in the State lands because minimum safe line clearances above the land surface will be maintained at all times.

Staff Recommendation:

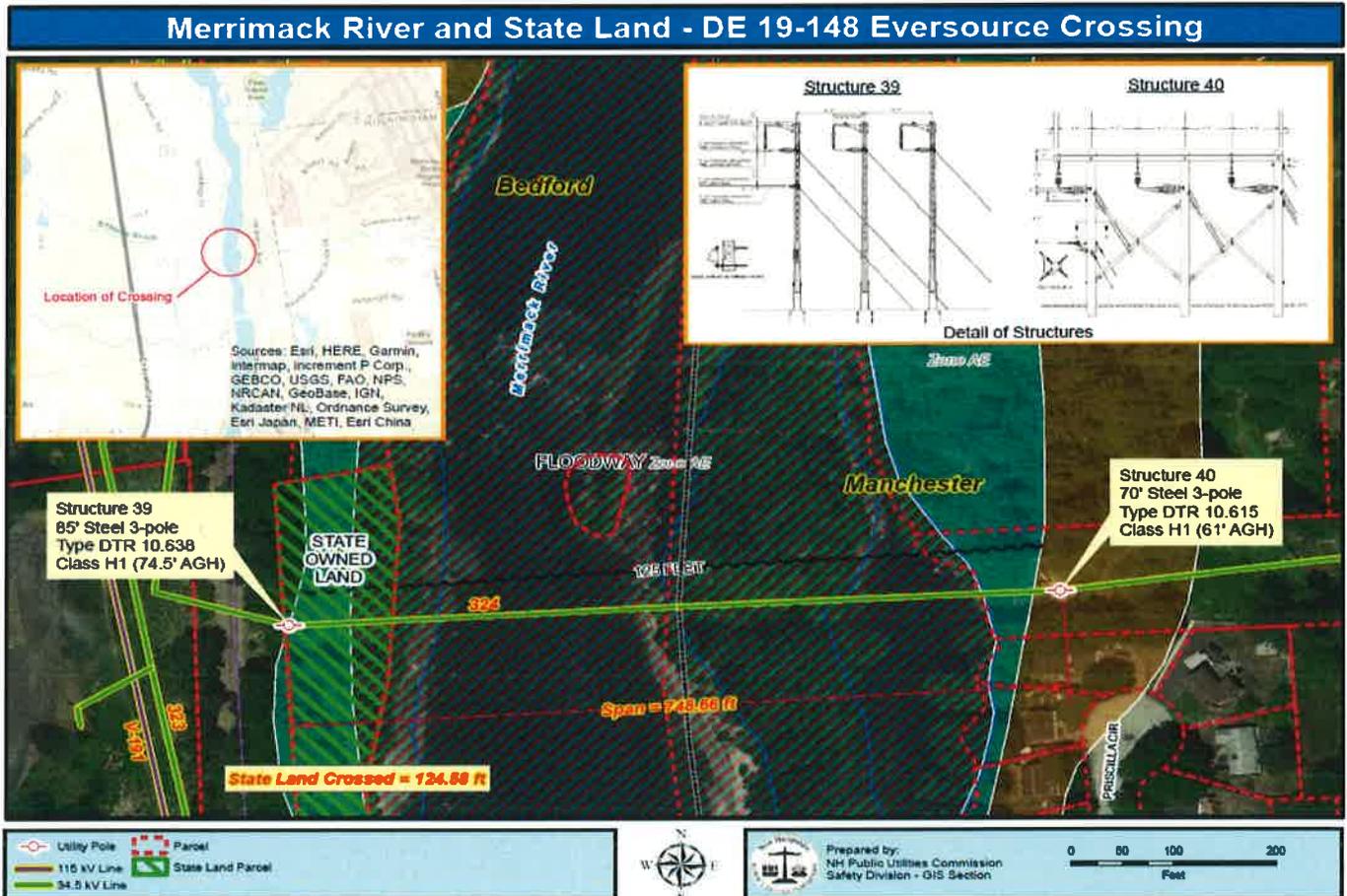
Based on the results of its review of the petition, its attachments, and all other supporting documents filed to this docket, the Safety Division Staff recommends that the Commission:

- 1) Find that the licenses ES requests in this docket may be exercised without substantially affecting the public rights in State lands 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 State lands in the Town of Bedford New Hampshire, as specified in the petition; and

- 3) 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;
- 4) Grant ES a license to construct, operate and maintain electric line, including neutral over and across the public waters of the Merrimack River, in the Town of Bedford and City of Manchester, New Hampshire, as specified in the petition;
- 5) Issue an Order Nisi and orders for its publication.

Attachment

Attachment



Public Land that is State owned is shown above as green hash marks identified in the petition and engineering drawings as State of New Hampshire. The parcel is located in the Town of Bedford. The project will require the Commission to grant a public land crossing license and grant a water crossing license related to this project. The license will be for the 34.5 kV 324 distribution line from Structure # 39 to Structure # 40 crossing approximately 124.58 feet of State owned land in the Town of Bedford and creating a total span between structures of 748.66 feet across the Merrimack River in the Town of Bedford and City of Manchester, NH.

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