

# STATE OF NEW HAMPSHIRE

## Inter-Department Communication

**DATE:** October 9, 2020

**AT (OFFICE):** NHPUC

**FROM:** Kenneth Walsh  
Utility Analyst IV – Safety Division

**SUBJECT:** Docket No. DE 20-099 Public Service New Hampshire d/b/a  
Eversource Energy  
Supplemental Petition for a License to Construct and Maintain Electric  
Lines Over and across the public waters of the Merrimack River in the  
City of Nashua and the Town of Hudson, New Hampshire  
**Staff Recommendation**

**TO:** Debra Howland, Executive Director  
Thomas Frantz, Director, Electric Division  
Richard Chagnon, Assistant Director, Electric Division  
Lynn Fabrizio, Staff Attorney  
Randall Knepper, Director, Safety Division  
Paul Kasper, Assistant 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 23, 2020, Public Service New Hampshire d/b/a Eversource Energy (ES), filed a supplemental petition pursuant to RSA 371:17 for a license to re-construct, maintain and operate the Eversource P134 line, which is a three phase 115 kV transmission line. This is a project to replace a static line on the P134 Line with optical ground wire (OPGW), which will include crossing the Merrimack River between existing structures 53 and 54. No other wires will be replaced as part of this OPGW installation project. In addition to this petition, in 2017 as a result of a storm hardening project, ES previously replaced original wood structures 53 and 54 with weathered steel structures without obtaining PUC licensing amendments at that time. ES seeks to include this after the fact by this petition.

The existing Merrimack River crossing had been previously licensed by the Commission, under Order No. 9846, dated December 30, 1969, issued in Docket D-E 5775.

This static line replacement and repair project is part of a capital reliability project necessary for the P134 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 proposed modification begins on the east side of the Merrimack River in the Town of Hudson at Structure #53, which is located to the west of Executive Drive, and continues in a west-southwesterly direction crossing the Merrimack River into Structure #54, which is located in the City of Nashua.

In ES Exhibit #2, original wood Structure # 53 had been replaced without a petition in 2017, which was constructed with (3)-56.5 ft. OAL Type SDA-2, Class H-1 weathered steel poles. The structure replacement at that time included the transfer of all existing conductors for the P134 line, which consists of (3) 795 kcmil ACSR 26/7 cables and (2) 7#8 Alumoweld static wires. One of the existing static lines will be replaced with (1) 48 fiber optical ground wire. Both static and telecommunication lines will be vertically attached above the conductors. The conductor cable clearance requirements were met using the National Electrical Safety Code (NESC) conditions at 285 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 the required clearance from the conductor cables to the water surface will be maintained at (37.3 feet). Only 30.1 feet clearance is required by the NESC Table 232-1. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

Structure # 54 had also been previously replaced without a petition in 2017 with (3)-52 ft. OAL Type SDA-2, Class H-1 weathered steel poles. The structure replacement at that time included the transfer of all existing conductors for the P134 line, which consists of (3) 795 kcmil ACSR 26/7 cables and (2) 7#8 Alumoweld static wires. One of the existing static lines will be replaced with (1) 48 fiber optical ground wire. Both static and telecommunication lines will be vertically attached above the conductors. This crossing creates a total span of 702 ft. between structures 53 and 54 with 458.4 ft. spanning public waters.

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 Merrimack River in Hillsborough County that are identified on FEMA flood map #33011C0656D, effective September 9, 2009. The 100-year flood elevation for the river in this location is approximately 112 feet, and is based on the North American Vertical Datum of 1988 (NAVD88). The Safety Division verified the 112-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 P134 line for ES and had been previously licensed by the Commission under Order No. 9846, dated December 30, 1969, issued in Docket D-E 5775.

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:

<https://www.des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pdf>

The crossing project requires a New Hampshire Department of Environmental Services statutory permit by notification (SPN) if construction access and work activities involve the temporary minor alteration of non-tidal wetlands, non-tidal surface waters, and banks adjacent to non-tidal surface waters and is applicable to the public water crossings. ES asserts the 2017 replacement of Structures 53 and 54 did not require a Utility Maintenance Notification (UMN, predecessor to current SPN permitting process) as this project fell under the exemption provisions at the time of the structure replacement. ES further asserts the replacement of the fiber optic cable will not disturb the ground or surface waters and as such, no SPN will be required from the State of New Hampshire. However, ES will be submitting for SPN’s for work in Nashua and Hudson for impacts unrelated to the OPGW replacement project that will cross the Merrimack River.

The U.S. Army Corps of Engineers (USACOE) regulates the subject portion of the Merrimack River as a federal-designated navigable water. ES previously consulted with

the USACOE regarding their general permit authorization # NAE-2010-02435. The USACOE in a letter dated January 30, 2012, amended Permit Special Condition #1 to require that at no time and under no circumstances can any wires at or under 115 kV be no lower than Elevation 148.91 feet on the North American Vertical Datum of 1988 (NAVD88). The NESC mandates where the USACOE has issued a crossing permit, clearances of that permit will govern (note 21 to Table 232-1). Therefore, the P134 line has been down-rated to reduce the maximum sag conditions in order to comply with the USACOE clearance requirements and their permit approval. All other terms and conditions of the original USACOE authorization permit remain in full force and effect.

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.

#### **4. Review of land ownership of proposed pole structures**

In its petition, ES specifies that the re-construction of this water crossing is over the public waters of the Merrimack River in the City of Nashua and the Town of Hudson, New Hampshire.

#### **5. Review of NESC code requirements as described in Puc 300**

Under N.H. Code Admin. Rules Puc 306, each utility is required to 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 that section, “good utility practice” means in accordance with the standards established by the “National Electrical Safety Code C2-2012.”

ES states that the current crossings have been designed and will be re-constructed, maintained, and operated in accordance with the NESC C2-2012.

Safety Division Staff reviewed the specifications related to the design and re-construction of this crossing project as described in the petition, the attachments, and all supplemental support documents, and found them to be in conformance with the applicable sections of NESC 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 re-construct and maintain a three-phase 115 kV transmission line, designated as the P134 line, static line and related fiber optic cable over and across public waters of the Merrimack River owned by the State in the City of Nashua and the Town of Hudson, New Hampshire. This transmission line is an integral part of ES's electric transmission system in this 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 Merrimack River in the City of Nashua and the Town of Hudson. 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. The use and enjoyment by the public of these waters will not be diminished in any material respect as a result of the modification and replacement of the existing overhead line crossing.

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.

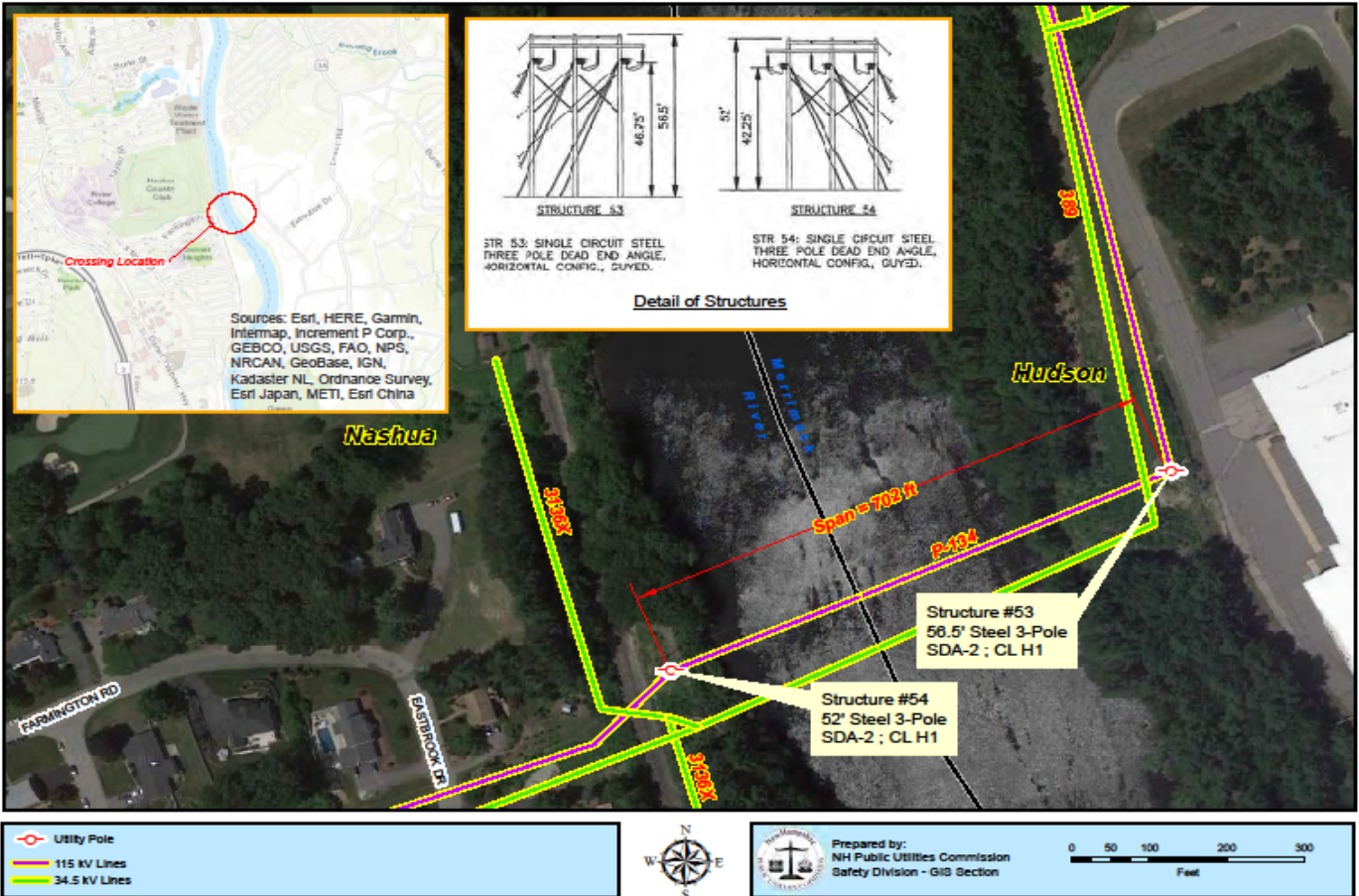
### **Staff Recommendation:**

Based on the results of its review of the supplemental 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 public waters which are the subject of the petition;
- 2) Grant ES a license to construct, operate and maintain electric lines and telecommunication cables over and across the public waters in the City of Nashua and the Town of Hudson, New Hampshire, as specified in the petition; and
- 3) Issue an Order Nisi and orders for its publication.

Attachment

## Merrimack River - DE 20-099 Eversource Crossing



**Public Water** as shown above identified in the petition and engineering drawings as State of New Hampshire. The public water crossing is located in the Town of Hudson and the City of Nashua. The project will require the Commission to grant a water crossing license related to this project. The license will be for the 115 kV P134 transmission line from Structure # 53 to Structure # 54 crossing approximately 458.4 feet of public water creating a total span between structures of 702 feet across the Merrimack River in the Town of Hudson and the City of Nashua, NH.

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