

# STATE OF NEW HAMPSHIRE

## Inter-Department Communication

**DATE:** October 20, 2020  
**AT (OFFICE):** NHPUC

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

**SUBJECT:** Docket No. DE 20-165 Public Service New Hampshire d/b/a Eversource Energy  
Petition for a License to Construct and Maintain Electric Lines Over and across the public waters of the Exeter River in the Town of Danville and state-owned land in the Town of Sandown, 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:

- October 7, 2020 Petition with October 19, 2020 Supplemental 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 October 19, 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 R193 line, which is a three phase 115 kV transmission line. This is a project to replace four (4) existing wood structures with steel structures over two spans. No conductor or static wires will be replaced at these two spans as the existing conductors will be installed on the new structures.

The first span of this project begins at structure #297B, which is located south of Sandown Road in Danville. The R193 line then heads west crossing the Exeter River to structure #298. The

second span begins at structure #300, which is located south of North Danville Road in Sandown. The R193 line then heads west crossing state-owned land Rockingham Recreational Trail to structure #301. See a detailed NHPUC Safety Division map/schematic in the Attachment of this recommendation.

In ES Exhibit #2, original wood structure #297B, will be replaced with (3)-57 ft. OAL Type ADS-1, Class H-9 steel poles. All existing conductors to include (3) 477 kcmil 26/7 ACSR conductors and (2) 7#8 Alumoweld static wires for the R193 line will be installed on the new structures and the static wires 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 (22.05 feet) to the 100-year flood elevation. Staff verified the flood elevation and the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 18.6 feet clearance is required by the NESC Table 232-1.

Original wood Structure #298 will be replaced with (2)-61.0 ft. OAL Type T, Class H-1 steel poles. All existing conductors to include (3) 477 kcmil 26/7 ACSR conductors and (2) 7#8 Alumoweld static wires for the R193 line will be installed on the new structures and the static wires will be vertically attached above the conductors. This crossing creates a total span of 490.2 ft. between structures 297B and 298 with 57.6 ft. spanning public waters.

In ES Exhibit #3, original wood structure #300, will be replaced with (2)-52 ft. OAL Type T, Class H-1 steel poles. All existing conductors to include (3) 477 kcmil 26/7 ACSR conductors and (2) 7#8 Alumoweld static wires for the R193 line will be installed on the new structures and the static wires 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 land surface will be maintained at (30.7 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 28.1 feet clearance is required by the NESC Table 232-1.

Original wood Structure #301, will be replaced with (2)-61 ft. OAL Type T, Class H-1 steel poles. All existing conductors to include (3) 477 kcmil 26/7 ACSR conductors and (2) 7#8 Alumoweld static wires for the R193 line will be installed on the new structures and the static wires will be vertically attached above the conductors. This crossing creates a total span of 416.9 ft. between structures 300 and 301 with 44.6 ft. spanning state-owned land.

## **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 Exeter River Exeter**

This public water crossing license application is part of the reliability replacement Project on the R193 line for ES and had not been previously licensed by the Commission either due to lack of oversight or because the locations did not constitute public waters at the time of construction of the R193 line.

The Exeter River, from the headwaters at the Route 102 bridge in Chester to its confluence with Great Brook in Exeter 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. The current rebuild project will require SPN's and shoreland permits by notification (PBN) due to the impact as a result of this rebuild project. ES asserts these will be obtained prior to commencement of this project.

The U.S. Army Corps of Engineers (USACOE) does not regulate the subject portion of the Exeter River in Danville as a federal-designated navigable water. Therefore, no crossing permit is required from USACOE.

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 Exeter River or the state-owned land in Sandown. Minimum safe line clearances above the river surface and affected shorelines and the state-owned land will be maintained at all times. The use and enjoyment of the river by the public and the Rockingham Recreational Trail will not be diminished in any material respect as a result of the overhead line crossings.

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

In its petition, ES specifies the reconstruction of the water crossing is over the public waters of the Exeter River in Danville, New Hampshire and the land crossing is over state-owned land in Sandown.

## **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 rebuild and maintain a three-phase 115 kV transmission line, designated as the R193 line. 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 these crossings may be exercised without substantially affecting the rights of the public in the public waters of the Exeter River crossing in Danville as well as the state-owned land in Sandown. The use and enjoyment by the public of these waters and lands will not be diminished in any material respect as a result of the modification and replacement of the existing overhead line crossings.

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 because minimum safe line clearances above the water and land surfaces 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 license ES requests in this docket may be exercised without substantially affecting the public rights in public waters and state-owned land which are the subject of the petition;
- 2) Grant ES a license to construct, operate and maintain electric lines over and across the public waters in Danville and state-owned land in Sandown, New Hampshire, as specified in the petition;
- 3) Issue an Order Nisi and orders for its publication.

Attachment



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