

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: December 17, 2020

AT (OFFICE): NHPUC

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

SUBJECT: Docket No. DE 20-200 Public Service New Hampshire d/b/a Eversource Energy
Petition for a License Amendment to Construct and Maintain Electric Lines Over and across the public waters of the North River in Nottingham and the public waters of the Oyster River in Lee, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
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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) previously 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 December 11, 2020, Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition for a license amendment pursuant to RSA 371:17 to construct, maintain and operate the Eversource L175 line over two public water crossings, which is a three phase 115 kV transmission line. This is a project to replace four (4) existing wood structures with steel structures. All existing conductors and communications fiber optical ground wire (OPGW) will be transferred to the steel replacement structures.

The two subject public water crossings were previously licensed by the PUC as noted in Docket 09-277 pursuant to Order 25,073.

This rebuild project is part of a capital reliability project necessary for the L175 line to continue to meet current as well as future projected electricity demands. Structure replacements are required as the existing wood poles have been subjected to environmental damage, rot, woodpeckers, and insect damage.

The scope of this project in Nottingham is located to the east of Route 152 (also known as Stage Road) and the overpass of the North River at Structure # 43 then traversing east to Structure # 44. The scope of this project in Lee is located at the Route 155, Lee Road overpass on the Oyster River, beginning west of the overpass at Structure #125 then heading east crossing Route 155 and the Oyster River to Structure #126. See a detailed NHPUC Safety Division map/schematic in the Attachment of this recommendation.

North River, Nottingham:

In ES Exhibit #2, original wood Structure #43 will be replaced with (1)-84.0 ft. OAL Type ST-1, Class H-9 steel pole. All (3) existing ACSR 1590 kcmil conductors and the (1) existing 24 fiber optical ground wire (OPGW) for the L175 line will be transferred to the new structures. The telecommunication line (OPGW) 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 100-year flood elevation water surface will be maintained (at 25.7 feet). Staff verified 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 for water areas not suitable for sail boating.

Original wood Structure #44 will be replaced with (1)-84.0 ft. OAL Type ST-1, Class H-9 steel pole. All (3) existing ACSR 1590 kcmil conductors and the (1) existing 24 fiber optical ground wire (OPGW) for the L175 line will be transferred to the new structures. The telecommunication line (OPGW) will be vertically attached above the conductors. This crossing creates a total span of 549.5 ft. between structures 43 and 44 with 62.7 ft. spanning public waters.

Oyster River, Lee:

In ES Exhibit #3, original wood Structure #125 will be replaced with (1)-84.0 ft. OAL Type ST-1, Class H-9 steel pole. All (3) existing ACSR 1590 kcmil conductors and the (1) existing 24 fiber optical ground wire (OPGW) for the L175 line will be transferred to the new structures. The telecommunication line (OPGW) 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 100-year flood elevation water surface will be maintained (at 45.3 feet). Staff verified 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 for water areas not suitable for sail boating.

Original wood Structure #126 will be replaced with (1)-84.0 ft. OAL Type ST-1, Class H-9 steel pole. All (3) existing ACSR 1590 kcmil conductors and the (1) existing 24 fiber optical ground wire (OPGW) for the L175 line will be transferred to the new structures. The telecommunication line (OPGW) will be vertically attached above the conductors. This crossing creates a total span of 648.3 ft. between structures 125 and 126 with 30.2 ft. spanning public waters.

Three (3) of the replacement structures (43, 125, and 126) will be relocated within 10 feet of their current locations and one (1) structure (44) will be moved approximately 20 feet to facilitate replacement and future maintenance.

The water clearances to the projected 100-year flood elevations were confirmed by Safety Division staff. 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).

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 North River in Nottingham and the Oyster River in Lee.

The two public water crossings over the North River in Nottingham and the Oyster River in Lee were previously licensed by the PUC in DE 09-277, Commission Order 25,073.

The North River, from the juncture of an unnamed 3rd order stream 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 Oyster River in Lee from the juncture of Duby Brook in Madbury is listed under the same category. The entire list of public waters can be accessed through the following web link:

<https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/olpw.pdf>

The crossings project requires a New Hampshire Department of Environmental Services statutory permit by notification (SPN) 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 North River in Nottingham or the Oyster River in Lee as federal-designated navigable waters. Therefore, no crossing permit is required from USACOE.

4. Review of land ownership of proposed pole structures

In its petition, ES specifies that the re-construction of these water crossings is over the public waters of the North River in Nottingham and the Oyster River in Lee, 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 rebuild and maintain a three-phase 115 kV transmission line, designated as the L175 line, conductors, and related fiber optic communication cable over and across public waters of the North River in Nottingham and the Oyster River in Lee, 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 existing crossings will be exercised without substantially affecting the rights of the public in the public waters of the North River in Nottingham and the Oyster River in Lee. Minimum safe line clearances above the river surfaces and affected shorelines will be maintained at all times. The use and enjoyment of the rivers by the public will not be diminished in any material respect as a result of the 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 in the State waters because minimum safe line clearances above the water surfaces will be maintained at all times.

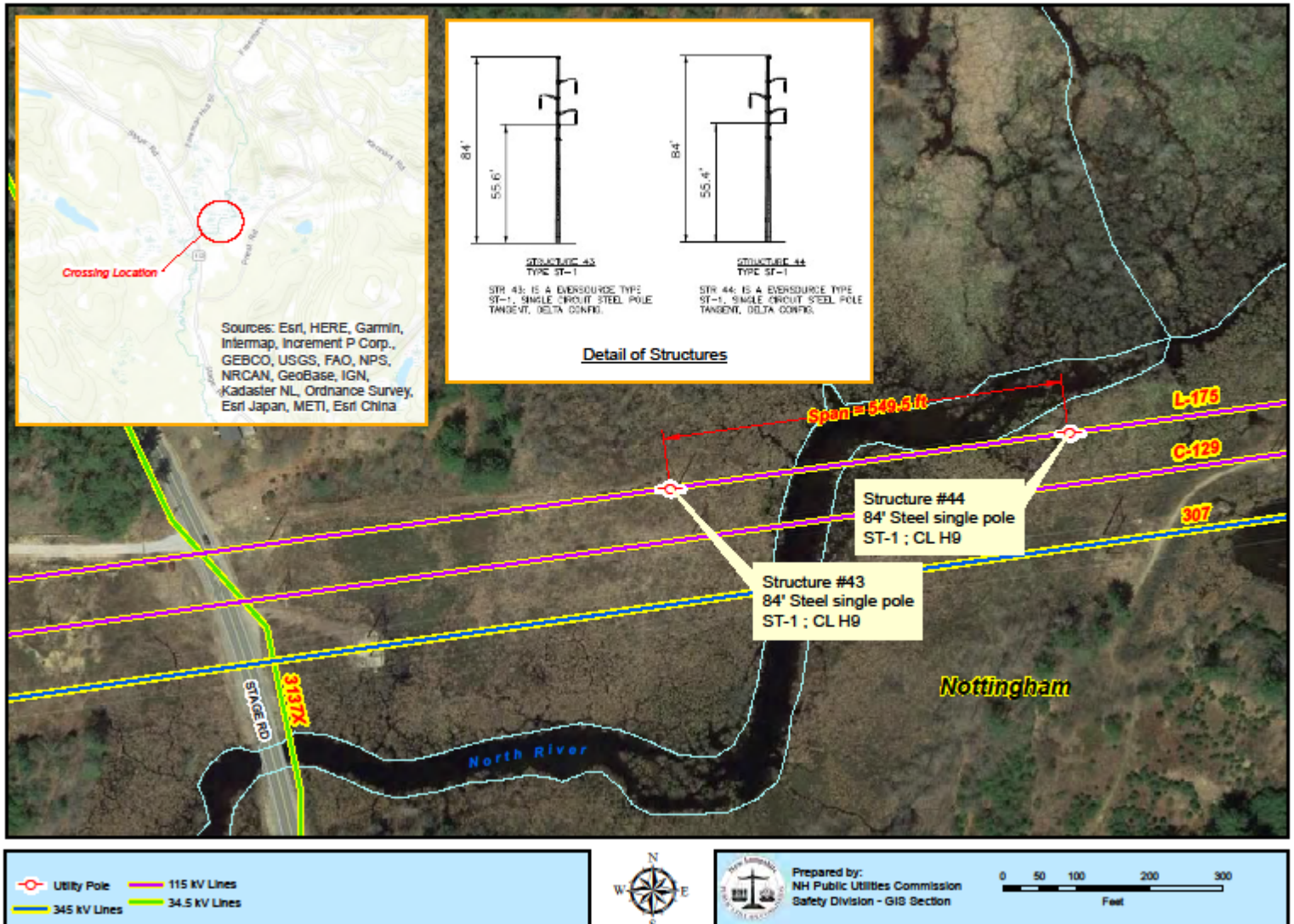
Staff Recommendation:

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 and amended 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 and amended license to construct, operate and maintain electric lines and telecommunication cables over and across the public waters of the North River in Nottingham and the Oyster River in Lee, New Hampshire, as specified in the petition;
- 3) Issue an Order Nisi and orders for its publication.

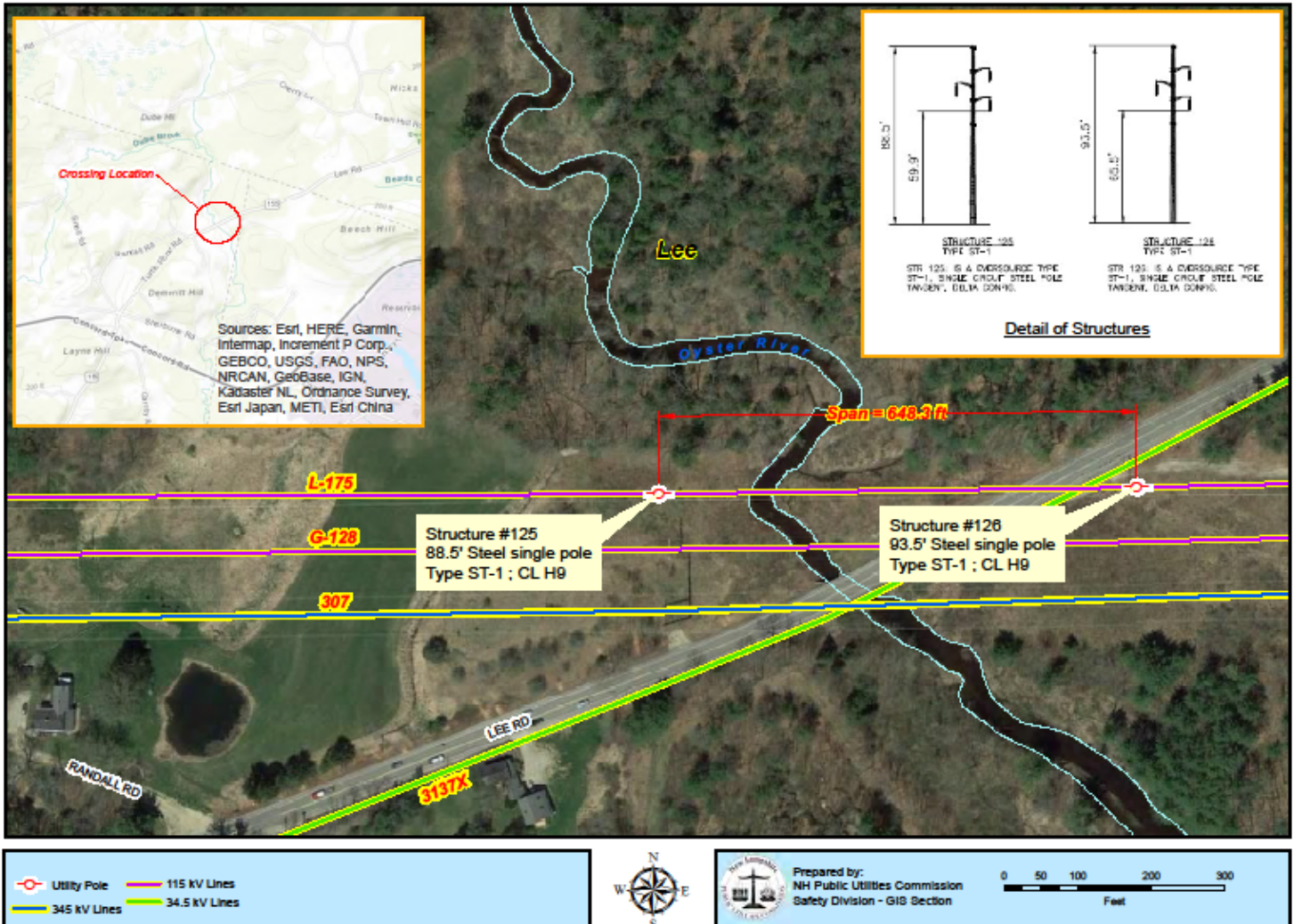
Attachment

North River - DE 20-200 Eversource Crossing



Public Water as shown above identified in the petition and engineering drawings as State of New Hampshire. The public water crossings are located in Nottingham and Lee. The project will require the Commission to grant an amended water crossing amended license related to this project. The license will be for the 115 kV L175 transmission line. Map 1 depicts the crossing from Structure #43 east to #44, which spans approximately 549.5 feet with 62.7 feet crossing public waters over the North River in Nottingham.

Oyster River - DE 20-200 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 Lee. The project will require the Commission to grant an amended water crossing license related to this project. The license will be for the 115 kV L175 transmission line. Map 2 depicts the crossing from Structure #125 east to Structure #126 spanning approximately 648.3 feet with 30.2 feet crossing public waters over the Oyster River in Lee.

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