

# STATE OF NEW HAMPSHIRE

## Intra Department Communication

**DATE:** December 02, 2021

**AT (OFFICE):** NH Dept. of Energy

**FROM:** Jason C List *JCL*  
GIS/Utility Analyst I – Division of Enforcement

**SUBJECT:** CR2021-021 Public Service New Hampshire d/b/a Eversource Energy  
Petition for License to Construct and Maintain Electric Lines Over and Across  
the Merrimack River in Merrimack & Litchfield, New Hampshire  
Division of Enforcement, **Safety Bureau Recommendation**

**TO:** Jared Chicoine, Interim Commissioner, Department of Energy  
Christopher Ellms, Jr., Deputy Commissioner, Department of Energy

**CC:** Thomas Frantz, Director of Regulatory Division  
Richard Chagnon, Regulatory Division  
Lynn Fabrizio, Division of Enforcement  
Paul Kasper, Division of Enforcement

The Division of Enforcement'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, if any;
- 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 November 12, 2021, Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition for a license pursuant to RSA 371:17 to construct, maintain and operate the Eversource 380 Line, which is a 345kV transmission line, over and across public waters in Merrimack and Litchfield.

The public water crossing was most recently licensed in Docket DE 10-322 under Order 25,190 which replaced Structure 91 from wood to steel equivalent. Structure 90 was later replaced in 2016 to steel equivalent and was not licensed due to an oversight. This current petition, therefore, is the result of an oversight by Eversource Energy and an addition of a new fiber optical ground wire (OPGW).

This proposed project is to include structure 90 at the east side of the Merrimack River which was replaced in 2016 to steel equivalent. Also included is the replacement of one existing pole-top shield wire with OPGW communication wire. The (3) existing conductors and the existing OPGW communication wire shall remain unchanged.

One existing pole-top shield wire will be replaced with (1) 48 fiber optical ground wire (OPGW) being vertically attached above the conductors. The conductor cable clearance requirements were met using the National Electrical Safety Code (NESC) conditions at 285 deg F. for the crossing within this petition. This scenario was the governing condition, which yielded the greatest sag and lowest clearance. Only 34.5 feet clearance is required by the NESC Table 232-1 for waters suitable for sailing over 20 to 200 acres. The Safety Bureau verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

The scope of this project begins in Litchfield at Structure #90 (Custom Type A, 2 pole steel) approximately 1,700 feet west of where the 380 Line crosses Charles Bancroft Hwy (NH RT 3A) in Litchfield then heading west crossing the Merrimack River to Structure #91 (Custom Type DE, 3 pole steel) in Merrimack.

This crossing creates a total span of 985.6 feet with 562.5 feet spanning the Merrimack River between Structures #90 and #91. See attached Safety Bureau Map.

The water clearances to the projected 100-year flood elevations were confirmed by Safety Bureau 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 (as modified by N.H. House Bill 2 on June 3, 2021)**

371:17 Licenses for New Poles (2021, 91:260, eff. July 1, 2021)

**3. Review of existing license(s) and permissions previously granted by the PUC for this location of the Public Waters in Litchfield and Merrimack.**

The public water crossing over the Merrimack River was previously licensed in Docket DE 10-322 under Order 25,190.

Merrimack River is listed under the category “Public Rivers and Streams” in the NH Official List of Public Waters (OLPW). 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>

ES asserts environmental impacts from this project will require permits from the NH Department of Environmental Services and that ES will obtain these before commencing work.

The U.S. Army Corps of Engineers (ACOE) does regulate the subject portion of the Merrimack River as navigable waters and the scope of work discussed in this petition at that crossing location is covered through the Self-Verification process under the ACOE New Hampshire Programmatic General Permit #4.

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

In its petition, ES specifies that the replacement of the OPGW communication wire will be accomplished within existing right-of-way easements thereby mitigating impacts and concerns of property owners affected by the project scope.

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

The Safety Bureau reviewed the specifications related to the design and re-construction of this crossing project as described in the petition, attachments, and all supplemental support documents and corrections filed by the Company and found them to be in conformance with N.H. Admin. Rule Puc 306 and applicable sections of NESC C2-2012.

#### **5. Review of public need and public impact**

In order to meet the reasonable requirements of electric service to the public, ES proposes to replace existing a pole-top shield wire with a new OPGW and maintain a 345 kV transmission line designated as the 380 Line over and across public water in Litchfield and Merrimack, 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 crossing will be exercised without substantially affecting the rights of the public in the subject public waters in Litchfield and Merrimack. Minimum safe line clearances above the river surface and affected shorelines will be always maintained. The use and enjoyment of the river by the public will not be diminished in any material respect because of the overhead line crossing.

The Safety Bureau concludes the impact to the public will be de minimis and not measurable. The crossing does not appear to affect the rights of the public because minimum safe line clearances above the river surface will be always maintained.

#### **The Safety Bureau Recommendation:**

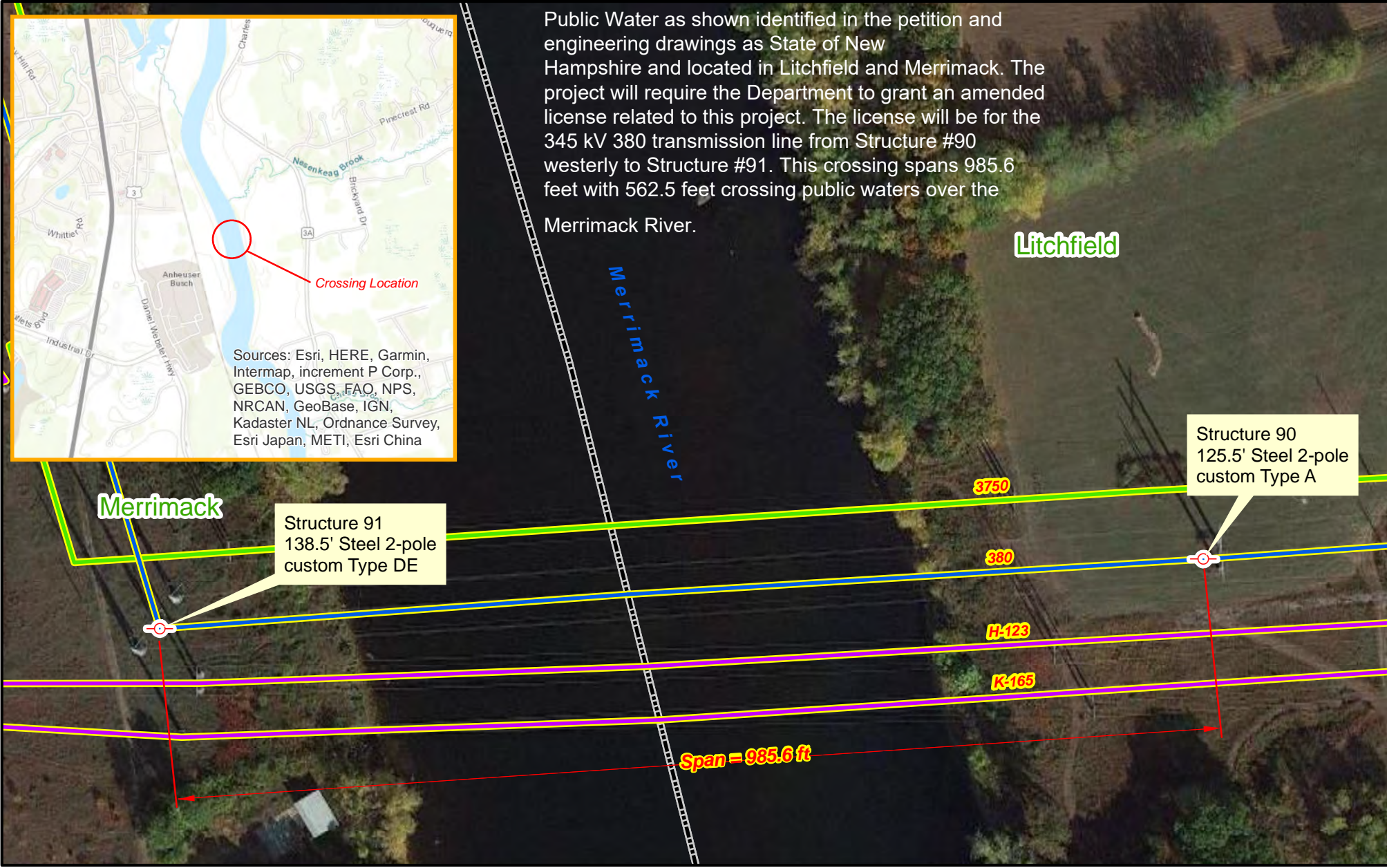
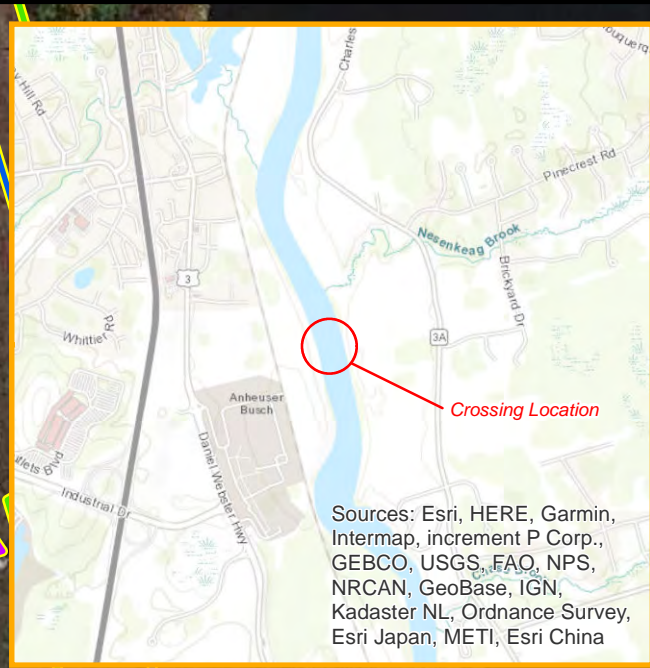
Based on the results of its review of the petition, its attachments, and all other supporting documents filed to this docket, the Safety Bureau recommends that the Department:

- 1) Find that the license ES requests in this docket may be exercised without substantially affecting the public rights of the public water, which is the subject of the petition;
- 2) Grant ES a license to construct, operate and maintain electric lines and communication cables over and across the public waters of the Merrimack River in Litchfield and Merrimack, New Hampshire, as specified in the petition;
- 3) Issue a license and orders for its publication.

Attachment

# Merrimack River - CR 2021-021 Eversource Crossing

Public Water as shown identified in the petition and engineering drawings as State of New Hampshire and located in Litchfield and Merrimack. The project will require the Department to grant an amended license related to this project. The license will be for the 345 kV 380 transmission line from Structure #90 westerly to Structure #91. This crossing spans 985.6 feet with 562.5 feet crossing public waters over the Merrimack River.



	345 kV Lines		Utility Structure
	115 kV Lines		
	34.5 kV Lines		



Prepared by:  
NH Department of Energy  
Enforcement Division  
Safety Bureau

