

STATE OF NEW HAMPSHIRE

Intra-Department Communication

DATE: November 4, 2021

AT (OFFICE): NH Dept. of Energy

FROM: Kenneth Walsh *KGW*
Utility Analyst IV – Division of Enforcement

SUBJECT: CR2021-012 Eversource Energy
Petition for License and License Amendment to Construct and Maintain
Electric Lines Over and Across State Owned Land in Goffstown and Hooksett,
and Public Waters Goffstown, Hooksett, and Manchester, 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
Randall Knepper, 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, replacement 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 October 20, 2021, Public Service New Hampshire d/b/a Eversource Energy (Eversource, or the Company) filed a petition for a license pursuant to RSA 371:17 to construct and maintain the Eversource 0161 Line, which is an existing 115kV transmission line that crosses State land in Goffstown and Hooksett, and public waters in Goffstown, Hooksett and Manchester.

On November 1, 2021, Eversource filed a replacement petition as requested by Safety Bureau to account for clarification on prior licenses, amendments, and facility changes.

Segments of the 0161 Line have been previously licensed to include Structures #6 to #7 over the Merrimack River in Hooksett (Dockets DE 74-153 pursuant to PUC Order 11,580 and DE 96-370), and Structures #20 to #21 over State owned land in Hooksett and Structures #72 to #73 over State owned land in Goffstown (Docket DE 20-073 pursuant to PUC Order 26,416). ES seeks an after-the-fact license for the 2020 replacement of Structures #38 and #39 over public waters of the Black Brook in Manchester and Goffstown and the 1974 replacement of Structures #73 and #74 over State owned land and the public waters of the Piscataquog River in Goffstown.

This proposed project is to replace (1) existing OPGW communications cable (Structures #1 through #22) and (1) existing pole-top shield wire (Structures #22 through #74) with a new OPGW communications cable. The (3) existing transmission conductors will remain unchanged. With the exception of Structures # 38 and #39, which were replaced from wood to weathered steel in 2020 without a license, and Structures #73 and #74, which were replaced in 1974 without a license, all structures will remain unchanged.

Common to all these noted structures, existing conductors consist of (3) ACSR 795 26/7 kcmil conductors. One existing OPGW communications cable (Structures #1 through #22) and one existing shield wire (Structures #22 through #74) will be replaced with (1) fiber optical ground wire (Structures #1-22 with 144 OPGW fiber, and Structures #22-74 with 48 OPGW fiber) across the entire circuit, which will be vertically attached above the conductors.

The conductor cable clearance requirements were met using the National Electrical Safety Code (NESC) based on the design conditions at 285 deg F. for all crossings within this petition. This scenario was the governing condition, which yielded the greatest sag and lowest clearance. Only 16.1 feet clearance is required by the NESC Table 232-1 for spaces and ways subject to pedestrians or restricted traffic only. Only 20.1 feet is required by the NESC Table 232-1 for areas traversed by vehicles such as cultivated, grazing, forest and orchard lands, industrial sites, commercial sites. Only 20.1 feet is required for roads, streets and other areas subject to truck traffic. Only 30.1 feet is required for water areas suitable for sailboating with surface area over 20 to 200 acres. Only 18.6 feet clearance is required for water areas not suitable for sail boating. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

The scope of this project begins at Structure #6 in Hooksett approximately 1,370 feet east of the intersection of Gosselin Ave. and NH Route 3A. The 0161 Line then heads southwest crossing State owned land in Hooksett and Goffstown, Black Brook in Manchester and Goffstown, and State owned land and the Piscataquog River in Goffstown with this project ending at Structure #74.

The water crossing over the Merrimack River in Hooksett spans 920.6 feet between Structures #6 and #7 with 504.6 feet spanning public waters.

The land crossing in Hooksett spans 396.6 feet between Structures #20 and #21 with 20.5 feet spanning State owned land.

The water crossing over the Black Brook in Manchester and Goffstown spans 683.6 feet between Structures #38 and #39 with 23.3 feet spanning public waters. See Safety Map #1.

The land crossing in Goffstown spans 364.3 feet between Structures #72 and #73 with 225.3 feet spanning State owned land. See Safety Map #2.

The land crossing in Goffstown spans 964.0 feet between Structures #73 and #74 with 579.9 feet spanning State owned land. See Safety Map #2.

The water crossing over the Piscataquog River in Goffstown spans 964.0 feet between Structures #73 and #74 with 99.6 feet spanning public waters. See Safety Map #2.

The following table provides the summary of this petition with all crossings to include structure numbers, types, spans, ES design criteria, and NESC compliance:

Dept. of Energy Safety Bureau Summary Table

Eversource O161 - State Land and Waterbody Crossing Details						
Structure	Type	Span (Pole to Pole)	Distance (feet)	Minimum NESC Table 232-1 Clearance (ft.)	ES Vertical Design Clearance (ft.)	Complies with NESC Table 232- 1 (Y/N)
6	75.0' steel single pole, ST-1, Bruce Lake 5089	6-7	920.6	30.1	34.3	Y
7	70.0' steel single pole, SDE, Bruce Lake 5089					
20	66.0' steel single pole, ST-1, CLH9	20-21	396.6	20.1	51.9	Y
21	88.5' steel single pole, ST-1, CLH9					
38	70.0' steel single pole, ST-1, CLH9	38-39	683.6	18.6	56.2	Y
39	88.5' steel single pole, ST-1, CLH9					
72	70.3' steel single pole, ST-1, CLH9	72-73	364.3	20.1	44.9	Y
73	70.8' steel single pole, SDE					
74	62.7' steel single pole, SDE	73-74	964	20.1/18.6	50.3/67.6	Y

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 these locations of the State owned land in Goffstown and Hooksett, and public waters in Goffstown, Hooksett and Manchester.

Segments of the 0161 Line have been previously licensed as noted with several after-the-fact licenses

In Goffstown and Manchester, Black Brook from the juncture of Purgatory Brook in Goffstown, in Hooksett, the Merrimack River from the juncture of Pemigewasset and Winnepesaukee Rivers in Franklin, and in Goffstown, the Piscataquog River from the juncture of an unnamed 3rd order stream in Weare are all listed under the category “Public Rivers and Streams” in the 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>

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

The U.S. Army Corps of Engineers (ACOE) does not regulate the subject portions of Black Brook nor the Piscataquog River as navigable waters, but the Merrimack River is regulated by ACOE. ES asserts the scope of work is covered by the ACOE Self-Verification process.

4. Review of land ownership of proposed pole structures

In its petition, Eversource specifies that the previously replaced and unlicensed structures and wires to be replaced pursuant to this petition cross State owned land in Goffstown and Hooksett and public waters in Goffstown, Hooksett, and Manchester, New Hampshire.

5. 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.

6. Review of public need and public impact

The 0161 transmission line is an integral part of Eversource’s existing electric transmission system in New Hampshire. The crossing locations identified in the petition are in Goffstown, Hooksett, and Manchester. The Company asserts in its petition that the existing crossings will be exercised without substantially affecting public rights in the identified State land located in Goffstown and Hooksett and public waters in Goffstown, Hooksett, and Manchester.

The Safety Bureau verified that minimum safe line clearances above the land and public waters will be maintained at all times, and determined that public use and enjoyment of the State owned land and public waters will not be diminished in any material respect as a result of the proposed overhead line crossings.

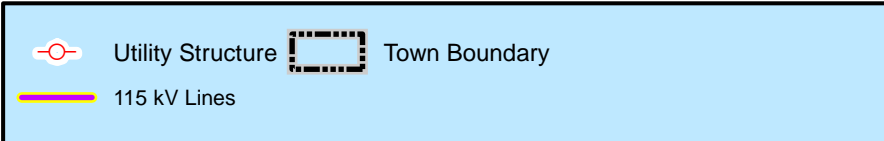
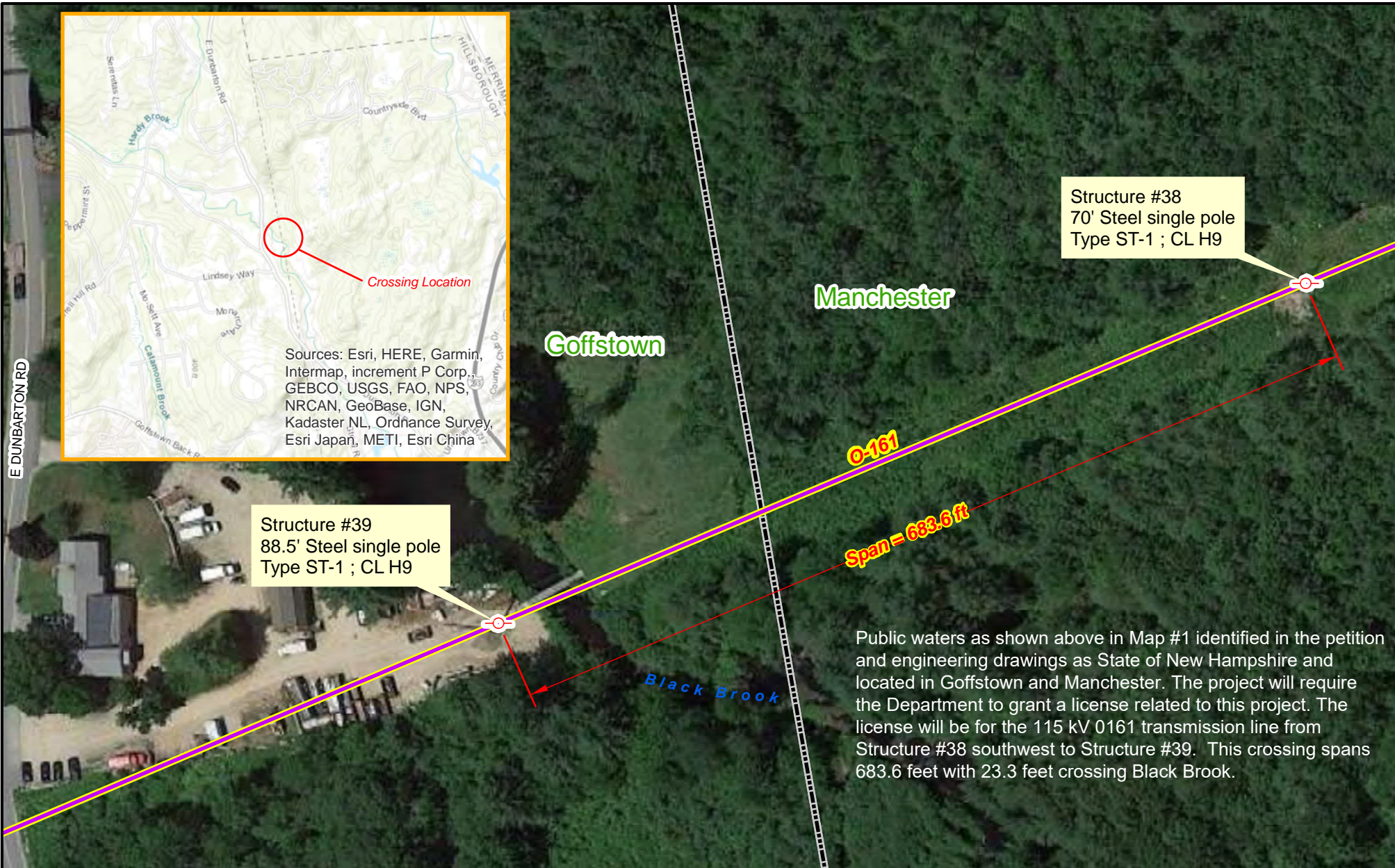
Safety Bureau Recommendation:

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

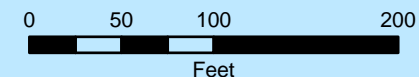
- 1) Find that the license Eversource requests in this docket may be exercised without substantially affecting the public rights in State owned land and public waters; and
- 2) Grant Eversource a license to construct, install, operate, and maintain electric lines and communication cables pursuant to RSA 371:17 and Puc 306.01, over and across State owned land in Goffstown and Hooksett and public waters in Goffstown, Hooksett, and Manchester, New Hampshire, as specified in the petition.

Attachments

Black Brook - CR 21-012 Eversource Crossing (Map 1)



Prepared by:
NH Department of Energy
Enforcement Division
Safety Bureau



Piscataquog River & State Land (NH Fish & Game) - CR 21-012 Eversource Crossing (Map 2)

