

STATE OF NEW HAMPSHIRE

Intra-Department Communication

DATE: November 2, 2022

AT (OFFICE): NH Dept. of Energy

FROM: Gary Raymond GMR
Utility Analyst IV – Division of Enforcement

SUBJECT: CRE 2022-024 Eversource Energy
Application for License to Construct and Maintain Electric Lines Over
and Across State-Owned Land and Public Waters in Hinsdale, New
Hampshire **Staff Recommendation**

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

CC: Thomas Frantz, Director of Regulatory Support Division
Paul Kasper, Director, Enforcement Division
Elizabeth Nixon, Director-Electric Regulatory Support Division
Andrew Harmon, Hearings Examiner, Enforcement Division

Review by the Division of Enforcement (DOE) of the above application consisted of the following elements:

- Application contents, replacement application contents, and history;
- Applicable State statutes;
- 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. Application contents and history.

On October 24, 2022, Public Service New Hampshire d/b/a Eversource Energy (Eversource, ES or the Company) filed an application for a license pursuant to RSA 371:17 to install and maintain an OPGW wire on the Eversource 379 Line, an existing 345kV transmission line, over and across public waters and state-owned land in Hinsdale, New Hampshire.

As part of its ongoing efforts to improve system reliability, Eversource is replacing an existing shield wire with an OPGW wire between the Vernon Substation in Vernon, Vermont and the Northfield Mountain Substation in Northfield, Massachusetts. The OPGW wire will be located in

part on the 381 Line, a 345kV line owned and operated by Eversource from the Northfield Mountain Substation to 381 Line, Structure 1 (which portion of new OPGW is the subject of a separate application filed concurrently herewith CRE 2022-025) and in part on the 379 Line, commencing at Structure 592 and continuing west to the Vernon Substation. The portion of the new OPGW located upon the 379 Line crosses the Connecticut River and state-owned land, which crossings are the subject of this application. The existing pole top ADSS shield wire will be removed and replaced with an OPGW wire having the specifications and configuration shown on the Cable Schedule and Structure Details on Exhibit 2. The three existing phase conductors and the existing static wire at the crossing spans shall remain unchanged.

The conductor cable clearance requirements were met using the National Electrical Safety Code (NESC) based on the design conditions at 212 deg F. for the crossings within this application. This scenario was the governing condition, which yielded the greatest sag and lowest clearance. Per NESC 40.8 feet for 345kV wires over water areas suitable for sailboating including lakes, ponds, reservoirs, tidal waters, rivers, streams, and canals with an unobstructed surface area of 200 to 2000 acres in respect to the public water crossing and 32.8 feet for 345kV wires over track rails of railroads in respect to the state-owned land. The actual minimum height over the public water and state-owned land is depicted on Exhibit 2 submitted by ES and exceeds the respective minimum requirements. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the application.

Wire specifications and loading conditions to establish maximum sag for the crossing spans that are the subject of this application are as indicated on Profile View and Cable Schedule of Exhibit 2 submitted by ES. Flood elevation for the Connecticut River crossing span used in calculating clearance is based on the max operating elevation of the Vernon Dam. Per NESC (note 17 to Table 232-1) for controlled impoundments, the surface area and corresponding clearances shall be based upon the design high water level.

The location of the public water crossing and state-owned land, which is the subject of this application, is depicted on the Overview Map as Exhibit 1 submitted by ES and DOE Map attached to this recommendation.

The 379 Line crosses the public waters of the Connecticut River and state-owned land, encompassing a rail trail that runs along the east side of the Connecticut River in the Town of Hinsdale and crosses into the town of Vernon, Vermont between structures 592 to 594. Which span commences immediately southwest of where the 379 Line crosses Brattleboro Road (aka NH Route 119), which is approximately 2,200 feet west of the intersection of Dexter Road. The water crossing extends southwest to the western bank of the Connecticut River in the Town of Vernon, Vermont, which is approximately 680 feet to the Vernon Substation that is located just north of the Vermont Yankee Nuclear Facility. The crossing contains two upland areas, one of which is state land crossing included in this application, between Structures 592 and 593.

The location of Structures 592 to 593 creates a total span of 2,089.4 feet, with a span of 76.9 feet over and across state-owned land.

The location of Structures 592 to 594 creates a total span of 4,039.2 feet, with a span of 2,675.9 feet over and across the Connecticut River.

The following table provides the summary of this crossing application, setting forth the structure numbers, types, spans, ES design criteria, and NESC compliance confirmation.

Department of Energy Enforcement Division Summary Table

| Eversource 379 - State Land and Waterbody Crossing Details | | | | | |
|--|--|----------------------|--|------------------------------------|--------------------------------------|
| Structures | Type | Span Distance (feet) | Minimum NESC Table 232-1 Clearance (ft.) | ES Vertical Design Clearance (ft.) | Complies with NESC Table 232-1 (Y/N) |
| 592-593 State Land | 592 – 149.5' Steel Lattice Tower 593 – 224' Steel Lattice Tower | 2,089.4 | 32.8 | 68.5 | Y |
| 592-593 Water | 592 – 149.5' Steel Lattice Tower 593 – 224' Steel Lattice Tower | 2,089.4 | 40.8 | 73.1 | Y |
| 593-594 Water | 593 – 224' Steel Lattice Tower 594 – 149.5' Steel Lattice Tower | 1,949.9 | 40.8 | 44.3 | Y |

2. New Hampshire statute referenced in application (as modified by N.H. House Bill 1258 on August 22, 2022).

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, modify a previously licensed installation, or license a previously constructed installation, it shall apply to the department of energy 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 department of energy may prescribe. Every corporation and individual desiring to cross any public water or land for any purpose herein defined shall apply to the department of energy for a license in the same manner prescribed for a public utility. The department of energy may condition any license issued under this paragraph in any manner necessary to assure that the license may be exercised without substantially affecting the public rights in public waters or state-owned lands. Using a non-adjudicative process, the department of energy may reject incomplete or improperly filed applications, and shall, also using non-adjudicative process, issue or deny the license within 90 days of receiving a complete application and all information subsequently requested of an applicant.

371:17 Licenses for New Poles (eff. Aug. 20, 2022)

3. Review of existing license(s) and permissions previously granted by the PUC for this location over public waters and state-owned land in Hinsdale, New Hampshire.

The public water crossing at the Connecticut River was previously licensed in 1969 under D-E5643 (Order No. 9728).

The state-owned land that is the subject of this application previously was operated as a railroad owned by Boston and Maine Corporation. The 379 Line has been previously licensed by Boston and Maine Corporation in 1970. The railroad property is now owned by the State of New Hampshire and is included in this application so that the entire line will be fully licensed.

From the juncture of Scott Brook in Pittsburg, NH, the Connecticut River in Hinsdale, New Hampshire is 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 a New Hampshire Department of Environmental Services (NHDES) Statutory Permit Notification (SPN) will be required for temporary impacts associated with temporary work areas at specific structure locations and will be obtained prior to commencement of construction. Due to the aerial nature of the work, temporary work areas within the protected shoreland area on either side of the Connecticut River are not necessary, thus a NHDES Shoreland Permit by Notification (PBN) is not required.

The U.S. Army Corps of Engineers (ACOE) does regulate the subject portion of the Connecticut River as navigable waters and the scope of work discussed in this application at the crossing location is covered through Self-Verification process under the ACOE New Hampshire Programmatic General Permit #4, provided that there will be no decrease in existing clearances, which is the case with the scope of the contemplated project.

4. Review of land ownership of proposed pole structures.

In its application, Eversource specifies that the OPGW installation work will be accomplished within existing right-of-way easements, thereby mitigating impacts and concerns of property owners affected by the project scope.

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

The Enforcement Division staff reviewed the specifications related to the OPGW installation work of this crossing project as described in the application, attachments, and all supplemental

support documents 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 379 Line is an integral part of Eversource's existing electric transmission system in New Hampshire. The crossing location identified in the application is located in the town of Hinsdale, New Hampshire. The Company asserts in its application that the existing crossing will be exercised without substantially affecting public rights in the identified public waters and state-owned land in New Hampshire.

The Enforcement Division staff verified that minimum safe line clearances above the public waters will be maintained at all times and determined that the license of the proposed OPGW installation work may be exercised without substantially affecting the public rights in public waters or state-owned lands.

7. Enforcement Division Recommendation:

Based on the results of its review of the application, attachments, and all other supporting documents, the Enforcement Division recommends that the Department:

- 1) Find that the license Eversource requests in this application may be exercised without substantially affecting the public rights in public waters or state-owned lands; and
- 2) Grant Eversource a license to construct and maintain electric lines pursuant to RSA 371:17 and Puc 306.01, over and across public waters and state-owned land in Hinsdale, New Hampshire as specified in the application.

Attachments:

State Land & Connecticut River - CRE 2022-024 Eversource Crossing



Structure #592
149.5' Steel Tower
Type Lattice Tower

Hinsdale

Span = 2,089.4 ft

State of New Hampshire
Map 14 - Lot 0NH

Structure #593
224' Steel Tower
Type Lattice Tower

State Land Crossed = 76.9 ft

State-Owned Land as shown above in Map identified in the application and engineering drawings as State of New Hampshire and located in Hinsdale. The project will require the Department to grant a license for the 345 kV transmission line from Structure 592 southwest to Structure 593. This crossing spans 2,089.4 feet with 76.9 feet crossing public state-owned land.

Public Water as shown above in Map identified in the application and engineering drawings as State of New Hampshire and located in Hinsdale. The project will require the Department to grant a license for the 345 kV transmission line from Structure 592 southwest to Structure 594. This crossing spans 4,039.2 feet with 2,675.9 feet crossing public waters of the Connecticut River.

- Utility Structure
- 345 kV Line
- 115 kV Line
- Trail
- State Land Parcel
- Town Parcel

Structure #594
149.5' Steel Tower
Type Lattice Tower

Span = 1,949.9 ft

NEW HAMPSHIRE
VERMONT

Vernon

This map contains imagery from <http://mtl.google.com/vt/lyrs=s&x={col}&y={row}&z={level}>

Flood Hazard Zones

- Regulatory Floodway
- 1% Annual Chance Flood Hazard
- 0.2% Annual Chance Flood Hazard



Prepared by:
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