

STATE OF NEW HAMPSHIRE

Intra-Department Communication

Date: September 18, 2023

At (Office): NH Dept. of Energy

From: Bryan J Flynn BJF
Utility Analyst IV – Enforcement Division

Subject: **CRE 2023-021** New England Power Company
Application for License to Construct and Maintain Electric Lines Over and
Across 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 of Enforcement Division
Elizabeth Nixon, Director of Electric Regulatory Support Division
Andrew Harmon, Hearings Examiner, Enforcement Division

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

- Application contents, revised application contents, and history.
- Applicable State statutes.
- Review of existing crossing(s) previously licensed by the State of New Hampshire, if any.
- Review of land ownership and 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
- Recommendations

1. Application Contents and History

On September 7, 2023, New England Power Company (NEP), submitted an application, pursuant to RSA 371:17, for a license to construct and maintain a portion of the G33 Line in Hinsdale, New Hampshire. The NEP G33 Line is a 69 kV electrical transmission line that crosses the public waters of the Connecticut River from Vermont into the state of New Hampshire. NEP requests that the Department of Energy (The Department) issue a license for the purpose of rerouting the line to fulfill asset-separation requirements at the Vernon Substation as well as conductor replacement. Enforcement Division staff have reviewed the application, exhibits, and all supporting documentation.

NEP is preparing to relocate its existing assets from the Vernon Substation to a proposed substation at a nearby site in Vernon, Vermont, which will be called the Huntington Substation #3206 (the "Huntington Substation"). This project will re-route and connect the G33 Line from the Vernon Substation to the Huntington Substation. As part of the project, NEP will replace the existing conductor with new 795 kcmil high-tension conductor to span the Connecticut River. The new line will be operated at 69 kV, although it has been designed to a 115 kV standard consistent with long-term planning needs. The project also involves replacing the existing copper-weld shield wire on the line with 5/8" optical ground wire and 1/2" extra high strength shield wire.

The location of the public water crossing is depicted on the Overview Map provided by NEP as Exhibit 2. A more detailed description of the crossing location is as follows:

The re-routed G33 Line will span the Connecticut River between Structure 612 in Hinsdale, NH and a proposed Structure 613 in Vernon, VT. Structure 612 will be modified and reused. It is located on a peninsula approximately one mile southwest of the intersection of Stage Rd and Prospect St in Hinsdale.

- The proposed structure locations create a span of 1,272 feet between Structure 612 and Structure 613 with 1,090 ft. crossing public water.

The following table illustrates the structure and span details provided in the application, as well as required NESC clearance and the design clearance at the crossing span:

New England Power Company G33 Line Crossing Proposed Design Details CRE 2023-021						
Structure Number	Structure Type	Measured Span	Distance (Feet)	Minimum NESC Table 232-1 Clearance (Feet)	NEP Design Clearance (Feet)	Complies with NESC 232-1 (Y/N)
612	Steel H-frame	612 - 613	1,272	36.1	40.6	Y

2. New Hampshire statute referenced in application (modified by NH House Bill 1258, 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.

3. Review of existing license(s) and permissions previously granted by the State of New Hampshire, including additional permitting requirements, for this crossing over public waters in Hinsdale, New Hampshire

Originally constructed in the early 1930's, the NEP G33 line, which crosses the public waters of the Connecticut River was first licensed in 1953 by the New Hampshire Public Utilities Commission through Order # 6217 wherein the G33 Line is identified as BF-V 1914-24-30. The crossing at the Connecticut River was rebuilt in 2010 without licensure due to oversight.

A New Hampshire Department of Environmental Services ("NHDES") Shoreland Permit by Notification ("PBN") will be required for impacts to the 250-foot protected shoreland of the Connecticut River associated with the project. NEP attests that the required PBN will be obtained prior to commencement of construction.

The application states that an NHDES Alteration of Terrain Permit will be required for access road upgrades in order to reach Structure 612 with heavy equipment. This authorization is being obtained in connection with a separate NEP project that will also require the access road upgrades and will be obtained prior to the commencement of construction.

The U.S. Army Corps of Engineers ("ACOE") regulates the Connecticut River as navigable waters and work at this crossing location must be licensed under the ACOE New Hampshire Programmatic General Permit #2. NEP attests that licensing will be accomplished prior to commencement of work.

RSA 271:20 requires the New Hampshire Department of Environmental Services (NHDES) to maintain a list of all public waters. NHDES designates the section of the Connecticut River in Hinsdale as public waters “From the outlet of Fourth Connecticut Lake to the New Hampshire/Massachusetts state line.” The official list of public waters can be found on their website using the following link:

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

4. Review of land ownership at proposed pole structures

The proposed work in New Hampshire will be accomplished within existing right-of-way easements, thereby mitigating impacts and concerns of property owners affected by the scope of the project. A list of abutters was provided with the application by NEP for notification.

5. Review of National Electric Safety Code (NESC) requirements as described in PUC 300

The crossing of the G33 Line over and across public water, shown on the Plan and Profile Drawings provided by NEP (exhibit 2), has been designed and will be constructed in accordance with the National Electrical Safety Code (NESC).

NEP shall own, maintain, and operate the clearance of the Connecticut River crossing at a height no less than what is required by the 2012 NESC Table 232-1, which is 36.1 feet for 115 kV wires over water areas suitable for all boating including lakes, ponds, reservoirs, tidal waters, rivers, streams, and canals with an unobstructed surface area of 200 to 2,000 acres. The actual minimum height over the Connecticut River exceeds the minimum NESC requirements, as depicted on NEP Exhibit 2. The project has been designed to meet 115 kV clearance requirements in the event the line is operated at 115 kV in the future.

All conductors and wires have been depicted on Exhibit 2 submitted by NEP to show the minimum clearance over the Connecticut River at maximum sag conditions. NEP referenced FEMA flood maps when establishing 100-year flood elevations for the water crossing spans.

Enforcement Division staff reviewed the specifications of the proposed replacement work and proposed structure locations and found them to be in conformance with N.H. admin. Rule PUC 306. The minimum clearance requirements based on the design conditions at 392 deg F and the FEMA 10-year flood-level elevation have been met. Staff verified the depicted sag clearances using Sag10 commercial software with the data inputs provided in the application.

6. Review of public need and impact

The NEP G33 line runs between Bellows Falls Sub in Rockingham, VT and the Vernon Sub in Vernon, VT (proposed Huntington Sub), supplying supplemental generation to the transmission systems if necessary. New England Power Company declares that the license, if granted, may be exercised without substantially affecting the use and enjoyment of public waters because safe clearances will be

maintained at all times and appropriate precautions to ensure the safety of recreational users will be undertaken while the work is performed. The Enforcement Division's review of design specifications verified that minimum safe clearances above the Connecticut River will be maintained during and after construction; and therefore, determines that public use and enjoyment of said waters will not be diminished in any respect as a result of the proposed project.

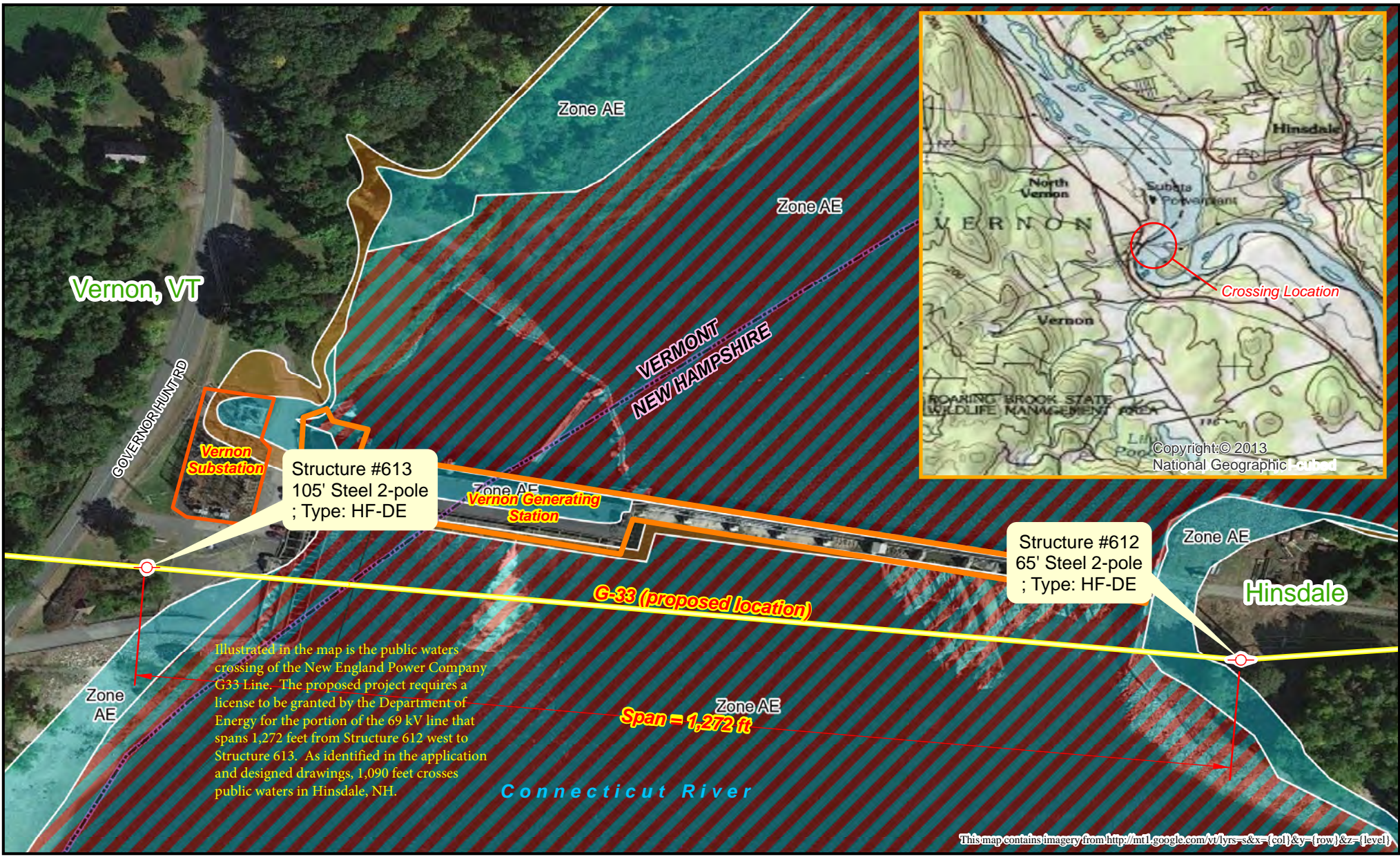
7. Enforcement Division Recommendations

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 New England Power Company requests in the application may be exercised without substantially affecting civic rights to public waters; and,
 2. Grant New England Power Company a license to construct and maintain electric lines pursuant to RSA 371:17 and PUC 306.01, over and across public waters in Hinsdale, New Hampshire, as specified in the application.
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Attachment:

Connecticut River - CRE 2023-021 NEPC Crossing



This map contains imagery from <http://mt1.google.com/vt/lyrs=s&x={col}&y={row}&z={level}>

Utility Structure	Flood Hazard Zones Regulatory Floodway 1% Annual Chance Flood Hazard 0.2% Annual Chance Flood Hazard
69 kV Line	



Prepared by:
NH Department of Energy
Enforcement Division

