


STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: August 29, 2019
AT (OFFICE): NHPUC

FROM: Paul Kasper 
Assistant Director – Safety Division

SUBJECT: Docket No. DE 19-099 Public Service Company of New Hampshire
d/b/a Eversource Energy
Petition for Licenses to Construct and Maintain Electric Lines over and
across the Ashuelot River and over and across Land Owned by the State
of New Hampshire in the Town of Winchester, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Mary Schwarzer, Staff Attorney

CC: Randall Knepper, Director, Safety Division

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 crossings not 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 May 23, 2019, Public Service Company of New Hampshire d/b/a Eversource Energy (ES) filed a petition pursuant to RSA 371:17 for one licenses to re-construct, maintain and operate the Eversource 381 line, which is an overhead 345 kV transmission line. This is a project to modify or rebuild one structure (Str#31) on the existing 381 transmission line, and to license replacement of the second structure (Str#30) which was replaced in 2018. No conductors, shield wire or neutral wire were/will be replaced in the project. All wires shall be (or were) transferred from existing wooden structures to new steel structures replaced at the same locations. The existing Ashuelot River crossing had been previously licensed by the Commission, under Order No. 9885, dated February 24, 1970, issued in Docket D-E 5812.

The 381 Line crossing of the State's land parcel in the Town of Winchester, New Hampshire was not previously licensed, as this parcel was a former railroad bed in private ownership when the 381 Line was originally constructed, and no Commission license was required. The existing 381 Line structures and associated transmission components have been subject to environmental damage and require replacement for the line to continue to function safely and reliably. This structure replacement and repair project is part of a capital reliability project necessary for the 381 line to continue to meet current as well as future projected electricity demands. *See* a detailed NHPUC Safety Division map/schematic in the Attachment of this recommendation.

As reported by ES the State of New Hampshire acquired the subject railroad bed, then designated as the Ashuelot Branch, by deed from the Boston and Maine Corporation in 1995 (Cheshire County Registry of Deeds Book 1530, Page 0715), and the acquisition was subject to all agreements or rights in others. At the time of the transfer to the State, Eversource was the holder of a Pole and Wire Agreement from the B&M RR, granted in 1970, for its 345 kV line crossing over the railbed. The 381 Line overhead crossing of the State's land will be newly licensed under this petition. Due to inadvertence or oversight, a crossing petition was not submitted prior to this 2018 work being completed on Str# 30. Consequently, a portion of this petition is to license Str# 30 after the fact.

As shown in ES Exhibit #2, replacement Str# 30 is now constructed with 2-80 ft. CL H3 LD steel poles. The structure has conductors for the 345 kv 381 transmission line consisting of (3) 850.8 kcmil ACSR 45/7 cables and (1) #8 Alumoweld 7 stranding neutral wire. The fiber optic cable is (1) OPGW wire and is vertically attached above the conductors. The conductor clearance requirements were met using the National Electric Safety Code 2017 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 conductors to the land surface will be maintained at 33.2 feet and the conductors over the surface of the Ashuelot River will be maintained at 41.2 feet. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 18.5 ft. is required by the NESC Table 232-1.

As shown in ES Exhibit 2, Str#31 will be constructed with two-100 ft. CL H3 LD steel poles The structure will have conductors for the 345 kv 381 LINE transmission line consisting of (3) 850.8 kcmil ACSR 45/7 cables and (1) #8 Alumoweld 7 stranding neutral wire. The fiber optic cable will be (1) OPGW wire and will be vertically attached above the conductors. The conductor clearance requirements were met using the 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 conductors to the land surface will be maintained at 33.2 feet and the conductors over the surface of the Ashuelot River will be maintained at 41.2 feet. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 18.5 ft. is required by the NESC Table 232-1. The total span between Str#30 and Str#31 is 599.12 feet. .

The water clearances are taken from the Federal Emergency Management Agency (FEMA)'s projected 100-year flood levels. This is more conservative than the 10-year flood levels allowed by the NESC (note 12 to Table 232-i). ES uses floodwater elevations for the Ashuelot River in Cheshire County that are identified on FEMA flood map #33005C0393E. The 100-year flood elevation for the river in this location is approximately 315 feet, and is based on the North American Vertical Datum of 1988 (NAVD88). The Safety Division verified the 315-foot flood level from the FEMA flood map.

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 Ashuelot River

This public water crossing license application is part of the reliability replacement project of the 345 kV 381 Transmission line for ES and had been previously licensed by the Commission under Order No. 9885, dated February 24, 1970, issued in Docket D-E5812.

The Ashuelot River in Winchester, from the dam at Butterfield Pond in Washington to the confluence with the Connecticut River in Hinsdale, is listed in the *Official List of Public Waters (OLPW)*, under *Part 2 List of Freshwater Public Rivers and Streams*. The *OLPW* can be accessed through the following web link:

<http://des.nh.gov/organization/commissioner/pip/publications/wd/documents/olpw.pd>

A New Hampshire Department of Environmental Services (NHDES) State Wetland Permit is required for construction activities near the Ashuelot River. The permit

application was amended in September 2018 and approved by NHDES on December 5, 2018 (NHDES File#2018-00282).

The U.S. Army Corps of Engineers (ACOE) does not regulate the subject portion of the Ashuelot River as a navigable water. As a result, a crossing permit from the ACOE is not required.

ES asserts in the petition that the existing crossing will be exercised without substantially affecting the rights of the public in the public waters of the Ashuelot River. Minimum safe line clearances above the river surface and affected shorelines will be maintained at all times. The use and enjoyment of the river by the public will not be diminished in any material respect as a result of the overhead line crossing.

4. Review of land ownership of existing and proposed pole structures

In its petition, ES specifies that the re-construction of these land and water crossings are on the State of New Hampshire owned land in the Town of Winchester, New Hampshire

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

N.H. Code of Administrative Rules Puc 306.01 *Standard Practice in Construction, Operation and Maintenance*, states in relevant part that:

- (a) each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:
 - (1) In accordance with good utility practice;
 - (2) After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and
 - (3) To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.
- (b) For purposes of this section, “good utility practice” means in accordance with the standards established by:
 - (1) The National Electrical Safety Code....

ES states that the current and proposed crossing have been designed and will be re-constructed, maintained, and operated in accordance with NESC C2-2017.

Safety Division Staff reviewed the specifications related to the design and re-construction of this crossing project as provided in the petition, the attachments, and

all supplemental support documents, and found them to be in conformance with the applicable sections of NESC code 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 re-construct and maintain a three-phase 345 kV transmission line, designated as the 381 line and a fiber optic cable over and across the Ashuelot River and over and across land owned by the State in the Town of Winchester, 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 proposed licenses for these crossings may be exercised without substantially affecting the rights of the public in the State lands in the Town of Winchester and without substantially affecting the rights of the public in the public waters of the Ashuelot River. Minimum safe line clearances above the river surface and affected shorelines will be maintained at all times. The use and of which is the subject of this petition. Minimum safe line clearances above the land surfaces will be maintained at all times. The use and enjoyment by the public of these lands and waters will not be diminished in any material respect as a result of the modification and replacement of the existing overhead line crossings and structures.

This project does not require New Hampshire Department of Transportation use and occupancy agreements be in place prior to construction of these crossings.

Safety Division Staff concludes the impact to the public is not measurable and will be *de minimis*. The land and water crossings do not appear to affect the rights of the public in the State lands and public waters because minimum safe line clearances above the land and surfaces will be maintained at all times. Shorelines will not be affected by this project.

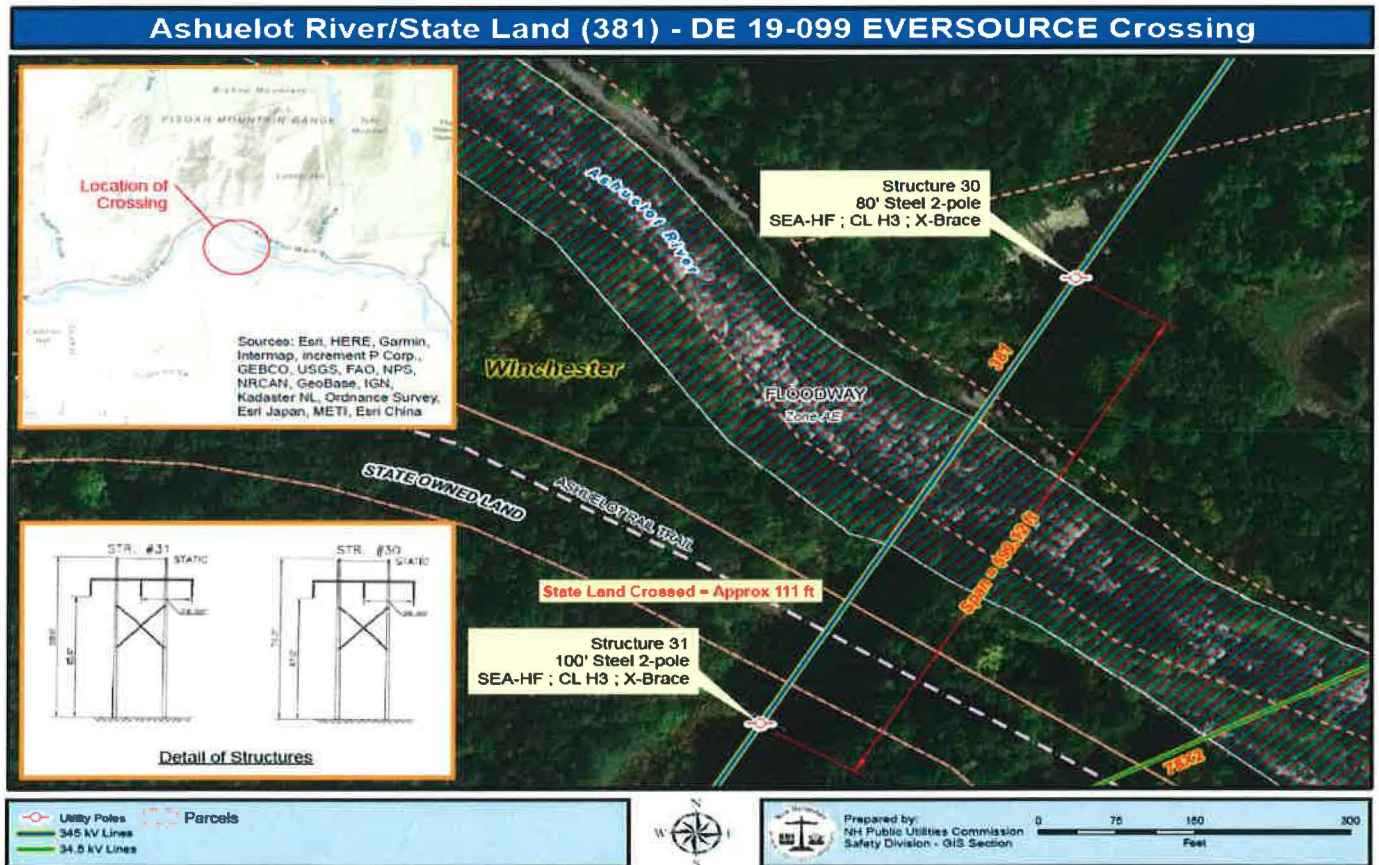
Staff Recommendation:

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 ES requests in this docket may be exercised without substantially affecting the public rights in State lands which are the subject of the petition;
- 2) Grant ES a license to construct, operate and maintain electric lines, including neutral lines and fiber optic cable over and across the State lands in the Town of Winchester New Hampshire, as specified in the petition; and

- 3) Find that the license ES requests in this docket may be exercised without substantially affecting the public rights in the public waters which are the subject of the petition;
- 4) Grant ES a license to construct, operate and maintain electric line, including neutral lines and fiber optic cable over and across the public waters of the Ashuelot River, in Winchester, New Hampshire, as specified in the petition;
- 5) Issue an Order *Nisi* and orders for its publication.

Staff Attachment



Ashuelot River /Public Land that is State owned is shown above as red hash marks identified in the petition and engineering drawings as State of New Hampshire. The parcel is located in the Town of Winchester. The project will require the Commission to grant a public land crossing and river crossing license related to this parcel. The licenses will be for the 345 kV 381 Transmission line from Structure # 30 to Structure # 31 crossing approximately 111 feet of State owned land in the Town of Winchester, NH and creating a total span of 599.12 from Structure #30 to Structure #31 across the Ashuelot River.

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