

STATE OF NEW HAMPSHIRE

Inter-Department Communication

NHPUC 7NOV19PM2:09

DATE: November 07, 2019

AT (OFFICE): NHPUC

FROM: Paul Kasper *PK*
Assistant Director, Safety Division

SUBJECT: Docket No. DE 19-146 Public Service New Hampshire d/b/a
Eversource Energy Petition for a License to Construct and Maintain
Electric Lines and Fiber Optic Cable Over and Across the Baboosic
Brook in the Town of Merrimack, New Hampshire

Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Brian Buckley, Staff Attorney, Legal Division

CC: Randy 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 crossing(s) already 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 September 04, 2019 Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition pursuant to RSA 371:17 for a license to construct and maintain (1) 115 kV transmission line, designated as the B143 Line, over and across the public waters of the Baboosic Brook in the Town of Merrimack, New Hampshire. This is a rebuild of the existing transmission line for a replacement and repair project. ES's existing B143 Line is not being relocated as a result of this project and will be using the existing conductors. The existing wood structures are being replaced with (2) new double steel pole structures due to age and environmental damage. See a detailed NHPUC Safety Division map/schematic in the Attachments of this recommendation.

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The brook crossings are located within ES's utility easements and in-line of the existing alignments. The B143 line structure on the north side of the brook, Structure #135, will be constructed with a 2 – Pole Type T, Steel 70-foot tall AGH, structure. Structure #136, will be constructed with a 2 – Pole Type T, Steel 80-foot tall AGH, structure, creating a span of 472 feet between the structures. Structure #137, will be constructed with a 2 – Pole Type T, Steel 70-foot tall AGH, creating a span of 440.25 feet between Str.# 136 and Str# 137. Structure #138 will be constructed with a 2 – Pole Type T, Steel 70-foot tall AGH, creating a span of 428.50 feet between the structures # 137 and # 138. Structure #139 will be constructed with a 2 – Pole Type T, Steel 75-foot tall AGH, creating a span of 522.80 feet between the structures # 138 and # 139. ES provided a location map, a project plan schematic and construction details of the structures as Exhibit 2 in its attachment to the petition.

The Baboosic Brook is subject to flooding, and the flood ways when compromised can create individual crossings beyond the 3 indicated in ES's petition when in flood conditions. For the purpose of this license staff recommends that the flood ways be included as part of the crossings in this petition.

The required technical information provided in this petition is said to be based on the 2012 National Electric Safety Code (NESC) C2-2012. Within its petition, ES notes that the proposed crossing has been designated the B143 line and will be constructed, maintained and operated in accordance with NESC. The B143 line conductors will be (2) # 8 Alumoweld 7 stranding static wire, (3) 795 Kcmil ACSR cables with 36/1 stranding. The fiber optic cable, (1) ADSS 72 fiber cable clearance requirements were met using the NESC heavy conditions (0.5 inch radial ice) and at 32 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 fiber optic cable to the water surface will be maintained at (15.2 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

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). ES uses floodwater elevations for the Baboosic Brook in Hillsborough County that are identified on FEMA flood map #33015C0388D. The 100-year flood elevation for the brook in this location is approximately 176 feet, and is based on the North American Vertical Datum of 1988 (NAVD88). The Safety Division verified the 176 foot flood level from the FEMA flood map.

A New Hampshire Department of Environmental Services (NHDES) Utility Maintenance Notification is required for construction access and work activities which involve the temporary impact of nontidal wetlands, nontidal surface waters, and banks adjacent to nontidal surface waters under 1 acre and is applicable to the State land crossings. This project is designated UMN Permit File number 2019-00268.

A NHDES Shoreland Permit “Permit by Notification Application” is required for construction activities within 250 feet of a NHDES Protected shoreland. A permit by notification application is pending.

A crossing permit from The U.S. Army Corps of Engineers (ACOE) is not required.

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 Baboosic Brook.

This public water crossing license application is part of the reliability replacement project on the B143 (115 kV) Transmission Line for ES and had not been previously licensed by the Commission and will become licensed under this petition if the Commission grants approval.

The Baboosic Brook, the Juncture of Joe English Brook in Amherst is listed under the category “Public Brooks and Streams” in the Official List of Public Waters (OLPW), under the category "List of Freshwater Public Brooks and Streams. The entire list of public waters can be accessed through the following web link:

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

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 Baboosic Brook. Minimum safe line clearances above the brook surface and affected shorelines will be maintained at all times. The use and enjoyment of the brook 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 pole structures

In its petition, ES specifies that the rebuilding of this crossing will span the Baboosic Brook, which is within the ES utility easement in Merrimack, NH.

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

N.H. Code of Administrative Rules Puc 306 requires:

- (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 C2-2012....

ES states that the proposed crossing has been designed and will be constructed, maintained and operated in accordance with 2017 National Electrical Safety Code C2-2012.

Safety Division Staff reviewed the specifications related to the design and 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 rebuild and maintain a 115 kV transmission line, designated as the B143 line, in Merrimack, New Hampshire.

ES asserts in the petition that the proposed license for this crossing may be exercised without substantially affecting the rights of the public in the public waters of the Baboosic Brook. Minimum safe line clearances above the brook surface and affected shorelines will be maintained at all times. The use and enjoyment of the brook by the

public will not be diminished in any material respect as a result of the overhead line crossing.

Safety Division Staff concludes the impact to the public will be *de minimis* and not measurable. The proposed crossing does not appear to affect the rights of the public in the public water of the Baboosic Brook because minimum safe line clearances above the water surface 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 the public waters which are the subject of the petition;
2. Grant ES a license to construct, operate and maintain electric lines, including fiber optic cable over and across the public waters of the Baboosic Brook, in Merrimack, New Hampshire, as specified in the petition; and
3. Issue an Order Nisi and orders for its publication.

Attachment

Staff Attachment

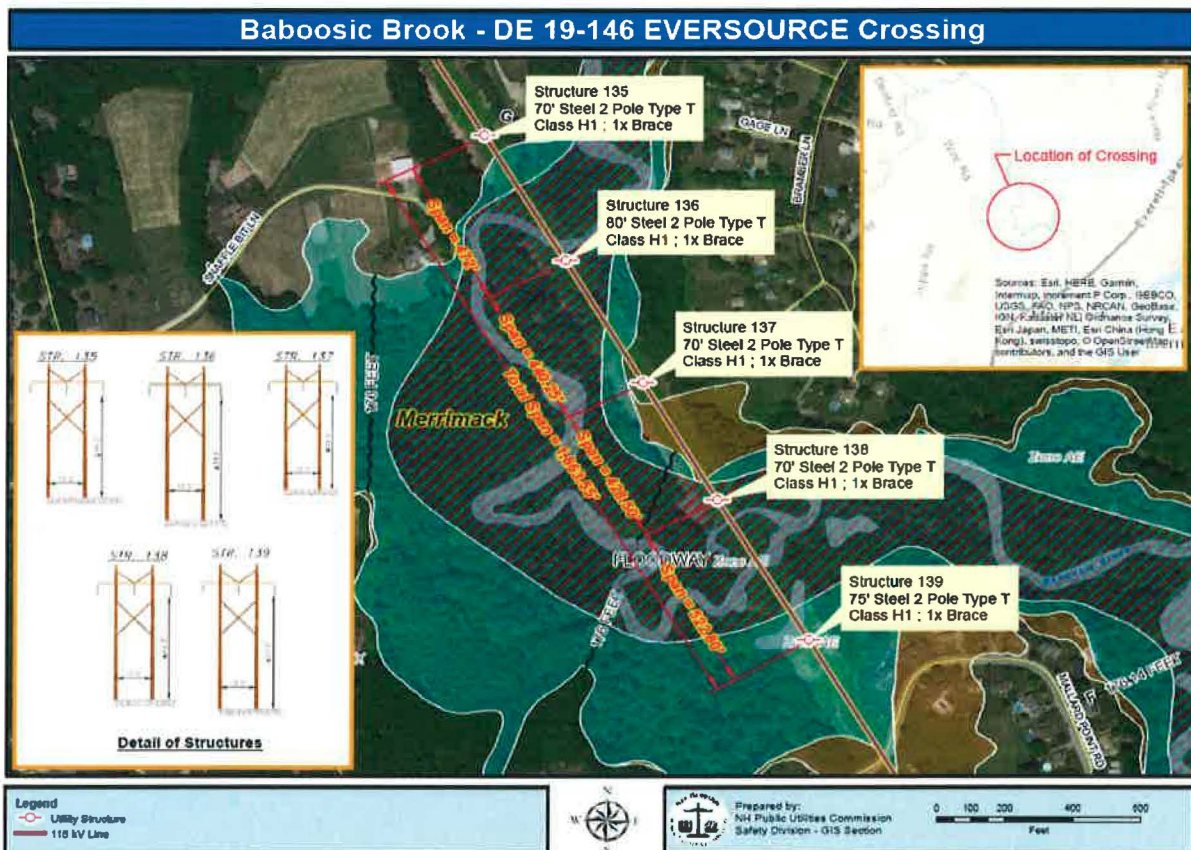


Figure 1: 115kV line, designated as the B143 Line, is a span of approximately 1863.55 feet between structures # 135 and #139, across the Baboosic Brook in Merrimack, NH.

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