

STATE OF NEW HAMPSHIRE**Inter-Department Communication****DATE:** April 22, 2019**AT (OFFICE):** NHPUC

FROM: Paul Kasper 
Assistant Director, Safety Division

SUBJECT: Docket No. DE 19-004 Public Service New Hampshire d/b/a
Eversource Energy
Petition for a License to Construct and Maintain Electric Lines Over and
Across the Dudley Brook in the Town of Brentwood, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
Mary Schwarzer, 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 January 7, 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 (2) two 115 kV transmission lines, designated as the A 126 Transmission Line, and the H 141 Transmission Line, over and across the public waters of the Dudley Brook in the Town of Brentwood, New Hampshire. This is a rebuild of existing transmission lines for a replacement and repair project. ES's existing A126 and H141 transmission lines are being relocated as result of this project using the existing conductors. The existing wood structures are being replaced with new steel monopole structures due to age and environmental damage. See a detailed NHPUC Safety Division map/schematic in Attachments A and B of this recommendation.

The brook crossings are located within ES's utility easements and in-line of the existing alignments. The A126 Line structure on the east side of the brook, Structure #221, will be relocated and constructed 70 feet east of its current location with a Single (Type THS) 65-foot tall steel pole. The other structure on the west side of the brook, Structure 222, will be relocated and constructed 15 feet east of its current location with a Single (Type THS) 70 foot steel pole creating a span of 511 feet between the structures. The H141 line structure on the east side of the brook, Structure #197, will be relocated and constructed 10 feet west of its current location with a Single (Type THS) 65-foot tall steel pole. The other structure on the west side of the brook, Structure #198, will be relocated and constructed 10 feet west of its current location with a Single (Type THS) 70 foot steel pole creating a span of 586.2 feet between the structures . ES provided a location map, a project plan schematic and construction details of the structures as Exhibit 1 and Figure 2 in its attachment to the petition.

The required technical information provided in this petition is said to be based on the 2017 National Electric Safety Code (NESC) C2-2017. Within its petition, ES notes that the proposed crossing has been designed and will be constructed, maintained and operated in accordance with NESC. The A126 conductors will be (3) 477 KCML ACSR cables with 26/7 stranding. The static wire used for the 115kV transmission line will be (1) #8 Alumoweld cable with 7 stranding. The conductors will be sagged using 285 degree F conditions at a maximum tension of 2,000 pounds. In its petition, ES provides sufficient detail to show how all required clearances from the lowest phase wire to the surface of the water will be maintained at (22.4 feet). The H141 conductors will be (1) OPGW fiber optic cable with 84 fibers, (3) 336 KCML ACSR cables with 26/7 stranding. The conductors will be sagged using 285 degree F conditions at a maximum tension of 2,000 pounds. In its petition, ES provides sufficient detail to show how all required clearances from the lowest phase wire to the surface of the water will be maintained at (19.4 feet).

Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition.

The water clearances are taken from NHDES projected 100-year flood levels in this location to be approximately 97 feet. ES uses floodwater elevations for the Dudley Brook in Rockingham County that are identified by NHDES. The Safety Division verified the 97- foot flood level from the NHDES data.

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 Dudley Brook

This public water crossing license application is part of the reliability replacement project on the A126 and H141 (115 kV) Transmission Lines for ES and had not been previously licensed by the Commission and will become licensed under this petition if the Commission grants approval.

The Dudley Brook, a Juncture of unnamed 3rd order stream in Brentwood, New Hampshire, is listed under the category "Public Rivers and Streams" in the Official List of Public Waters (OLPW), under the category "List of Freshwater Public Rivers 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 Dudley Brook. Minimum safe line clearances above the river 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 these crossings will span the Dudley Brook, which is within the ES utility easement in Brentwood, 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 C2-2017....

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

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 C2-2017 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 (2) three-phase 115 kV transmission lines, designated as the A126 line and the H141 line, in Brentwood, 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 Dudley 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 Dudley 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 line, including neutral over and across the public waters of the Dudley Brook, in Brentwood, New Hampshire, as specified in the petition; and
- 2) Issue an Order Nisi and orders for its publication.

Attachments

Attachment A

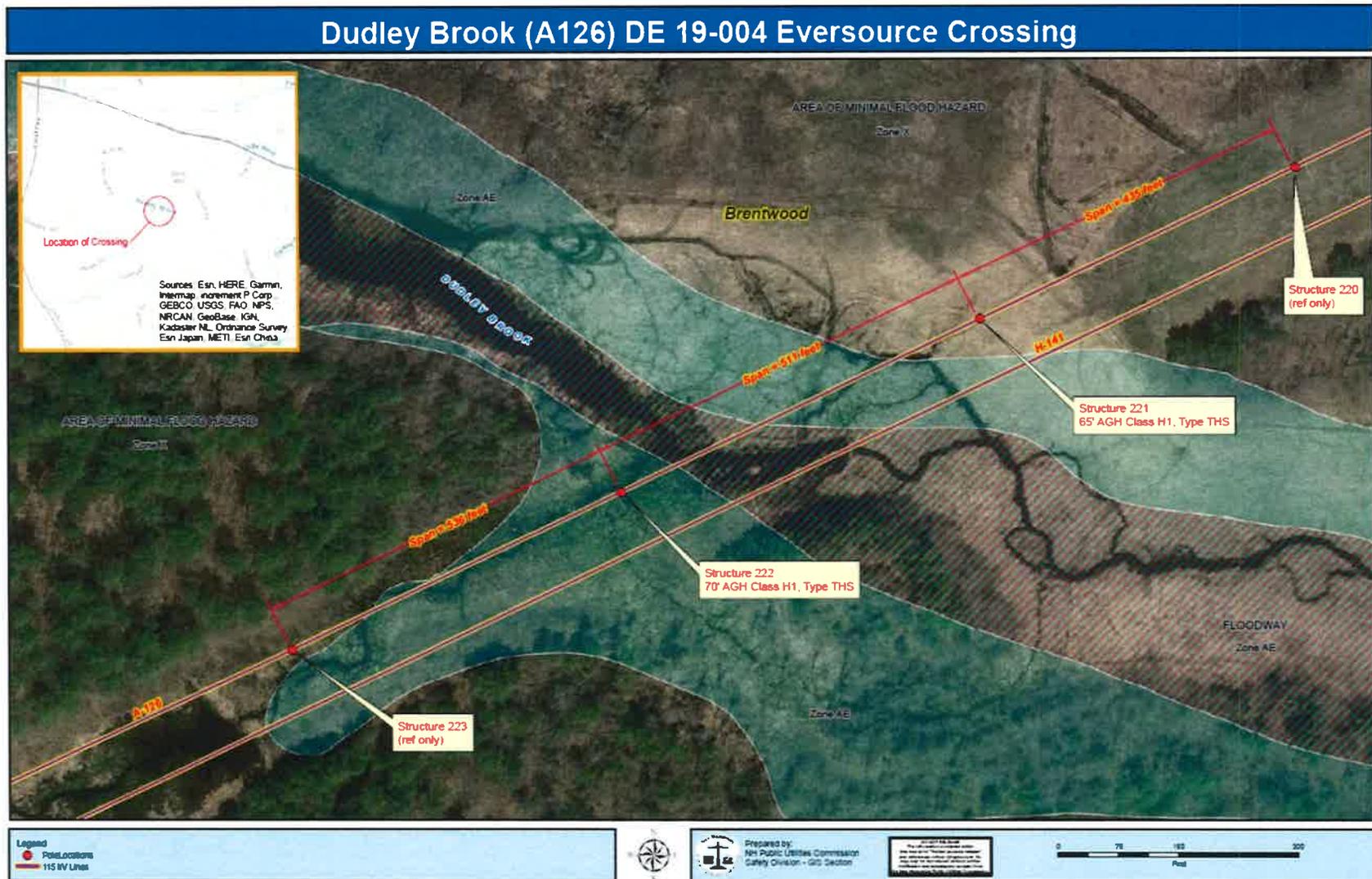


Figure 1: 115kV line, designated as the A126 Transmission Line, is a span of approximately 511 feet between structures #221 and # 222, across the Dudley Brook in Brentwood, NH.

Attachment B

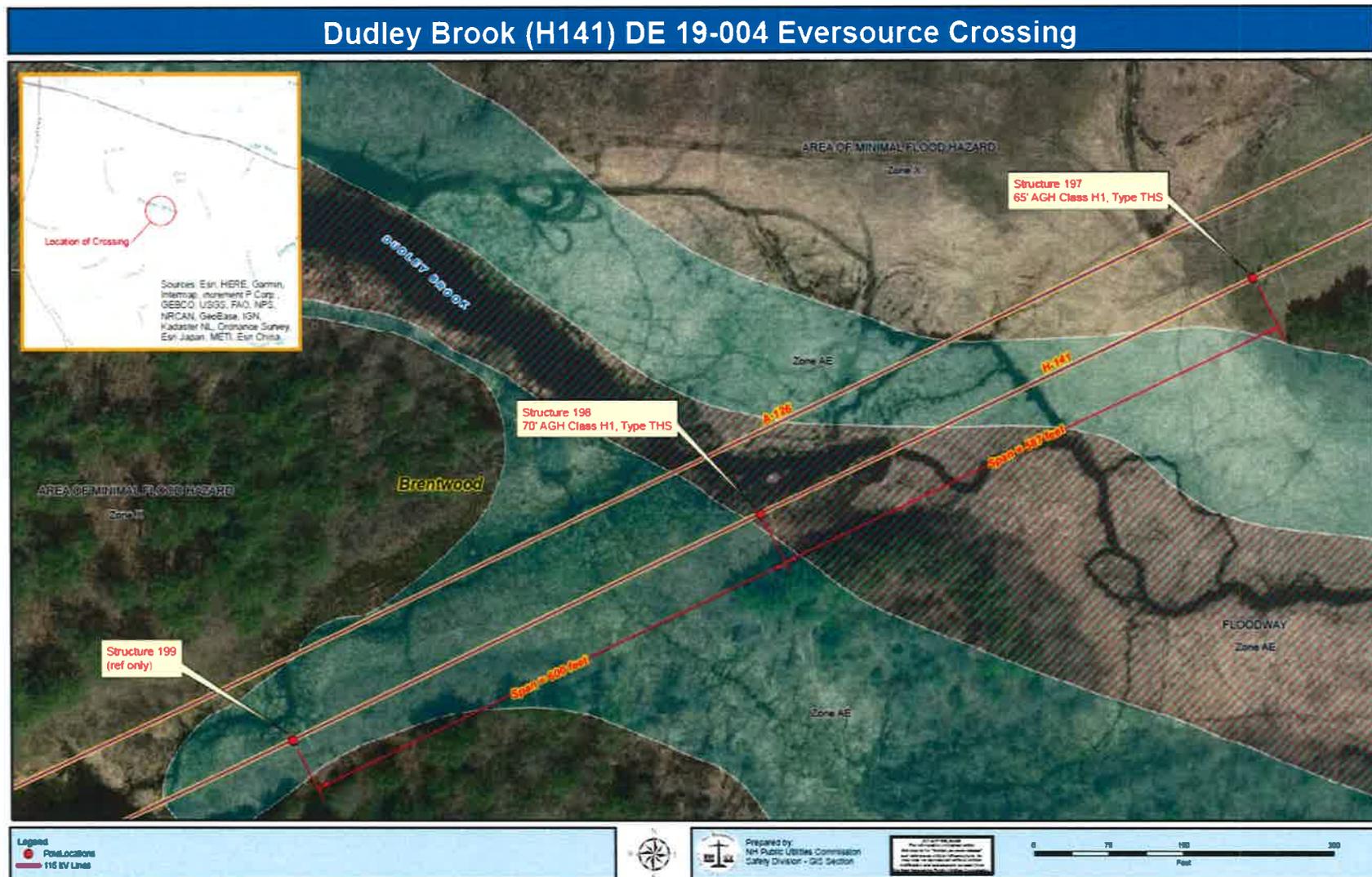


Figure 1: 115kV line, designated as the H141 Transmission Line, is a span of approximately 586.92 feet between structures # 197 and #198, across the Dudley Brook in Brentwood, NH.

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