

STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: July 31, 2020

AT (OFFICE): NHPUC

FROM: Paul Kasper
Assistant Director – Safety Division

SUBJECT: Docket No. DE 19-162 Public Service New Hampshire d/b/a
Eversource Energy
Petition for License to Construct and Maintain Electric Lines Over and
Across the Androscoggin River and Moose Brook and Land Owned by
the State of New Hampshire, in the Towns of Gorham, Whitefield
and Randolph, New Hampshire
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Richard Chagnon, Assistant Director, Electric Division
Brian Buckley, 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 crossing(s) 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 October 03, 2019, Public Service New Hampshire d/b/a Eversource Energy (ES), filed a petition pursuant to RSA 371:17 for a license to re-construct, maintain and operate the Eversource S136 Line, which is a 115 kV transmission line. This is a project to modify or rebuild (14) fourteen structures on its existing S136 Line. No conductors or neutral wire will be replaced in the project. All electric wires shall be transferred from existing structures to new structures replaced at the same locations. The existing static wire will be replaced with (1) .457 OPGW cable. The existing Androscoggin River and the Moose Brook crossings in the Town of Gorham had not been previously licensed by

the Commission. See a detailed NHPUC Safety Division map/schematic in the Attachments A, B, C, D, E, and F of this recommendation.

The S 136 Transmission Line crossings of the State's land parcels associated with the Presidential Rail Trail in the Towns of Whitefield, Gorham, and Randolph, New Hampshire had not been previously licensed, as these parcel were in private ownership when the S 136 Transmission Line was originally constructed, and no Commission license was required. This structure replacement and repair project is part of a capital reliability project - necessary for the S 136 Transmission 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.

In its petition ES states that in 2017 it had completed (3) three structure replacements (Str. 264, 265, and 280) and in 2018 completed (2) structure replacements (230 and 231) along the existing S136 line affecting three spans of State owned rail trail. These crossings will become licensed under this petition.

In ES Exhibit #2 Structure # 58 was not replaced and is constructed with 2-55 ft. OAL Type Cl 3 wood poles The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. 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 conductor to the land surface will be maintained at (31 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 26.5 ft. is required by the NESC Table 232-1 above land.

Structure # 58 was not replaced and is constructed with 2-55 ft. OAL Type Cl 3 wood poles The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. The total span between Str# 58 and Str# 59 is 214 ft. of which 95.6 ft. crosses over State owned land.

In ES Exhibit #3 Structure # 230 is constructed with 3-70 ft. OAL Type Cl H1 steel poles. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. 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 conductor to the land surface will be maintained at (28.8 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 26.5 ft. is required by the NESC Table 232-1 above land.

Structure # 231 is constructed with 2-25 ft. OAL Type Cl H1 steel poles The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR

36/1 cables and (1) .457 OPGW. The total span between Str# 230 and Str# 231 is 360 ft. of which 183.7 ft. crosses over State owned land.

In ES Exhibit #4 Structure # 264 is constructed with 2-60 ft. OAL Type Cl H1 steel poles The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. 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 conductor to the land surface will be maintained at (39.7 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 26.5 ft. is required by the NESC Table 232-1 above land.

Structure # 265 is constructed with 3-60 ft. OAL Type Cl H1 steel poles. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. The total span between Str# 264 and Str# 265 is 926 ft. of which 60 ft. crosses over State owned land.

In ES Exhibit #5 Structure # 280 is constructed with 3-70 ft. OAL Type Cl H1 steel poles The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. 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 conductor to the land surface will be maintained at (48.2 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 26.5 ft. is required by the NESC Table 232-1 above land.

Structure # 281 is constructed with 3-75 ft. OAL Type DA Cl1 wood poles The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW.

Structure # 282 was not replaced and is constructed with 2-75 ft. OAL Type RAX Cl 2 wood poles. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. The total span between Str# 280 and Str# 282 is 939 ft. of which 111.8 ft. crosses over State owned land.

In ES Exhibit #6 Structure # 282 is constructed with 2-75 ft. OAL Type RAX Cl 2 wood poles. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. 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 conductor to the water surface will be maintained at (48.1 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 18.6 ft. is required by the NESC Table 232-1 above the water surface.

Structure # 283 is constructed with 2-75 ft. OAL Type A Cl 3 wood poles. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. The total span between Str# 282 and Str# 28 is 476 ft. of which 29.6 ft. crosses over Moose Brook in the Town of Gorham, New Hampshire.

The water clearance is taken from the 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 Moose Brook in the Town of Gorham, New Hampshire that are identified on FEMA flood map #33007C0989D. The 100-year flood elevation for the river in this location is approximately 889 feet, and is based on the North American Vertical Datum of 1929 (NAVD88). The Safety Division verified the 889-foot flood level from the FEMA flood map.

In ES Exhibit #7 Structure # 293 will be constructed with 3-75 ft. OAL ADS-1 Cl H1 steel poles. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. 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 conductor to the water surface will be maintained at (48.1 feet). Staff verified the computed sags with SAG 10 commercial software using inputs as stated in the petition. Only 18.6 ft. is required by the NESC Table 232-1 above the water surface.

Structure # 294 will be constructed with 3-75 ft. OAL ADS-1 Cl H1 steel poles. The structure will have conductors for the S 136 Transmission Line consisting of (3) 795 kcmil ACSR 36/1 cables and (1) .457 OPGW. The total span between Str# 293 and Str# 294 is 557 ft. of which 243.5 ft. crosses over the Androscoggin River in the Town of Gorham, New Hampshire.

The water clearance is taken from the 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 Androscoggin River in the Town of Gorham, New Hampshire that are identified on FEMA flood map #33007C0994D. The 100-year flood elevation for the river in this location is approximately 796.5 feet, and is based on the North American Vertical Datum of 1929 (NAVD88). The Safety Division verified the 796.5-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 Androscoggin River and the Moose Brook in the Town of Gorham, New Hampshire

This public water crossing license application is part of the reliability Replacement Project on the S 136 Transmission Line for ES and had not been Previously licensed by the Commission

The Moose Brook, Juncture of Perkins Brook 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 Androscoggin River, Juncture of Magalloway River at Lake Umbagog Brook 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.pd>

A New Hampshire Department of Environmental Services (NHDES) Shoreland Permit by Notification application was required for temporary impacts to nontidal wetlands associated with construction activities for the structure replacements that were previously completed, with UMN#s for Gorham and Randolph impacts approved by the NHDES in UMN# 2019- 00269 (Gorham) and UMN #2019-00398 (Randolph). New Hampshire Department of Environmental Services statutory permit by notifications (SPN) have been obtained for the work to be completed in 2020, which is the subject of this petition in SPN #2020-00599 (Whitefield) SPN #2020-00558 (Gorham), and SPN #2020-00592 (Randolph).

The U.S. Army Corps of Engineers (ACOE) does not regulate the subject portion of the Androscoggin River and Moose Brook as a navigable waters. 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 Moose Brook and Androscoggin River in the Town of Gorham, New Hampshire. Minimum safe line clearances above the brook and river surfaces and affected shorelines will be maintained at all times. The use and enjoyment of the brook and river by the public will not be diminished in any material respect as a result of the overhead line crossing.

Review of land ownership of proposed pole structures

In its petition, ES specifies that the re-construction of these land crossings are on the State of New Hampshire owned lands in the Towns of Whitefield, Gorham and Randolph, New Hampshire

Review of NESC code requirements as described in Puc 300

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

each utility shall construct, install, operate and maintain its plant, structures and equipment and lines, as follows:

In accordance with good utility practice;

After weighing all factors, including potential delay, cost and safety issues, in such a manner to best accommodate the public; and

To prevent interference with other underground and above ground facilities, including facilities furnishing communications, gas, water, sewer or steam service.

For purposes of this section, “good utility practice” means in accordance with the standards established by:

The National Electrical Safety Code C2-2012....

ES states that the current crossings have been designed and will be re-constructed, maintained and operated in accordance with 2012 National Electrical Safety Code C2-2012.

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.

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 115 kV transmission line, designated as the S 136 Transmission Line and telecommunication cable over and across the Androscoggin River and Moose Brook and over and across Land owned by the State in the Towns of Whitefield, Gorham and Randolph, 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 Towns of Whitefield, Gorham and Randolph, New Hampshire and without substantially affecting the rights of the public in the public waters of the Androscoggin River and Moose Brook in the Town of Gorham New Hampshire. Minimum safe line clearances above the river and brook surfaces 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 will not be diminished in any material respect as a result of the modification and replacement of the existing overhead line crossings.

This project does not require use and occupancy agreements be in place prior to construction of this crossing from the New Hampshire Department of Transportation.

Safety Division Staff concludes the impact to the public will be de minimis and not measurable. The crossings do not appear to affect the rights of the public in the State lands because minimum safe line clearances above the land surface will be maintained at all times.

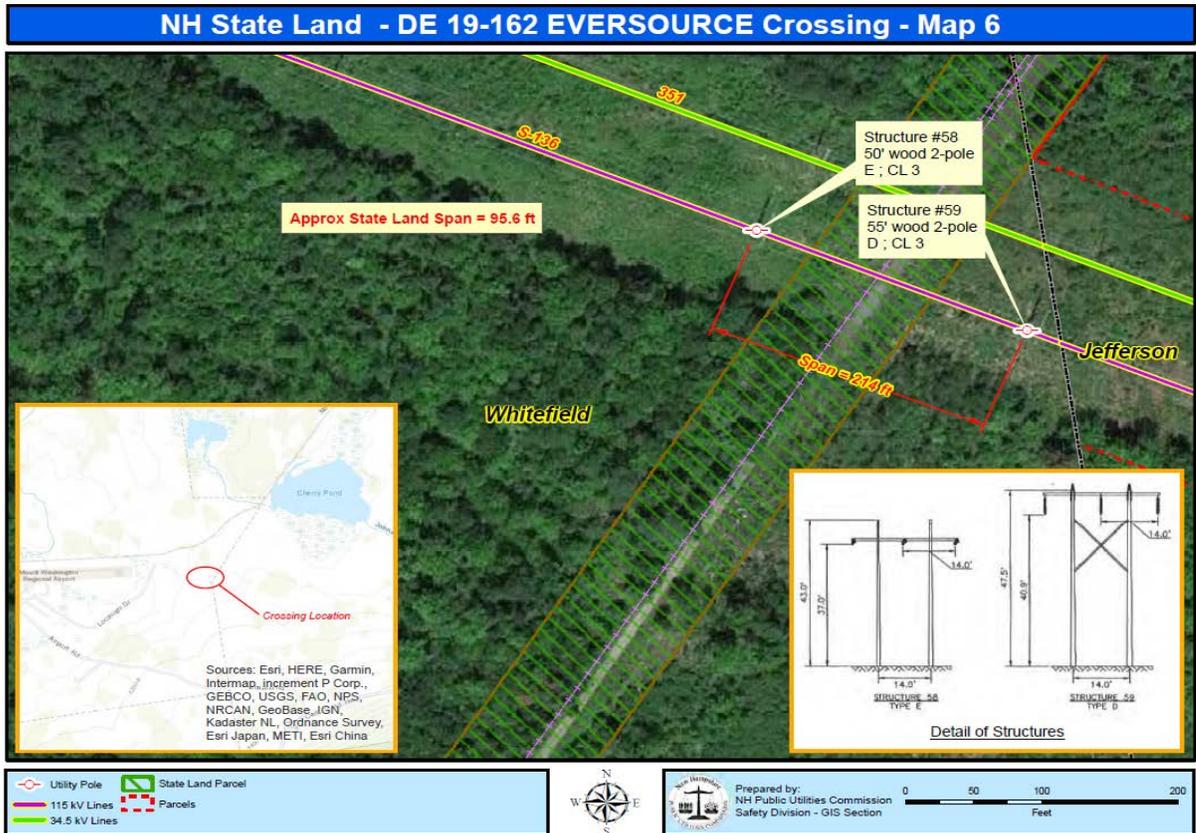
Staff Recommendation:

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 licenses 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 and telecommunication cable over and across the State lands in the Towns of Whitefield, Gorham, and Randolph, 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 and telecommunication cable over and across the public waters of the Moose Brook and Androscoggin River in the Town of Gorham, New Hampshire, as specified in the petition;
- 5) Issue an Order Nisi and orders for its publication.

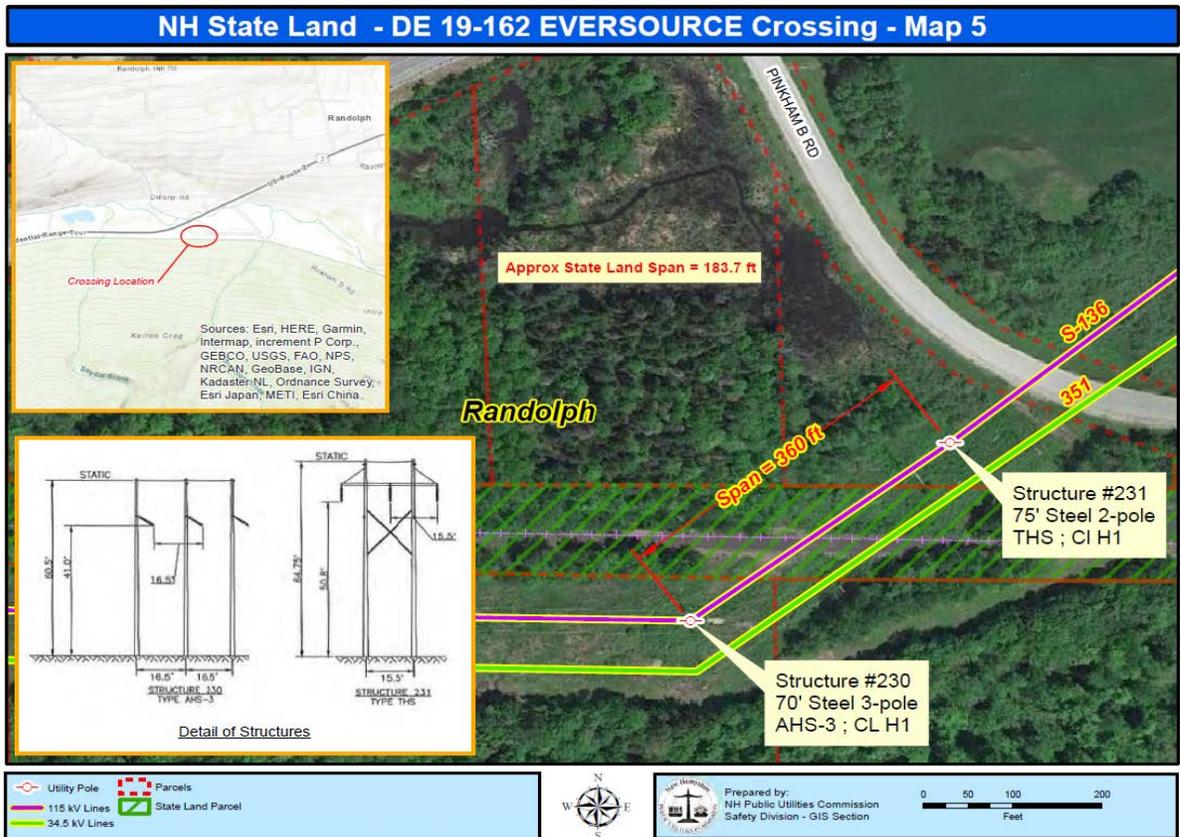
Staff Attachments

Attachment A



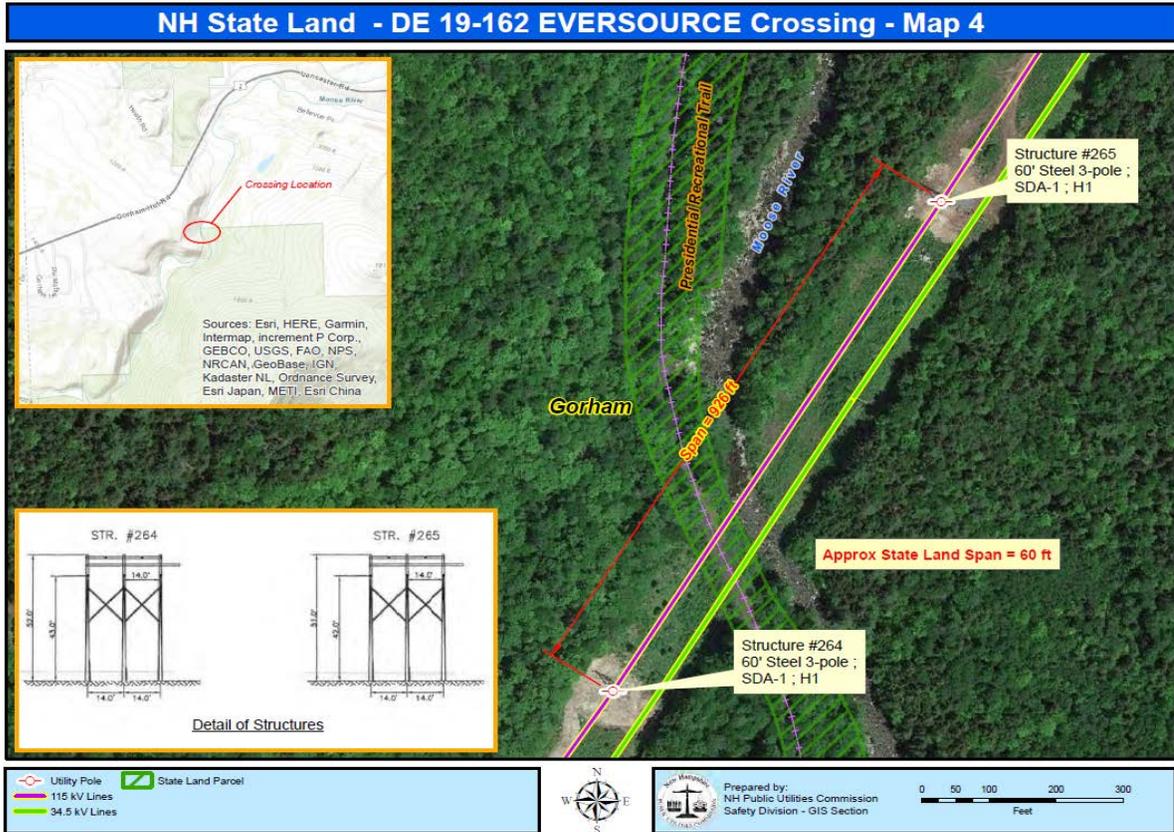
Public Land that is State owned is shown above as green hash marks identified in the petition as State of New Hampshire. The parcel is located in the Town of Whitefield. The license will be for the 115 kV S136 transmission line from Structure # 58 to Structure # 59 crossing approximately 95.6 feet of State owned land. The total span between structures is 214 feet.

Attachment B

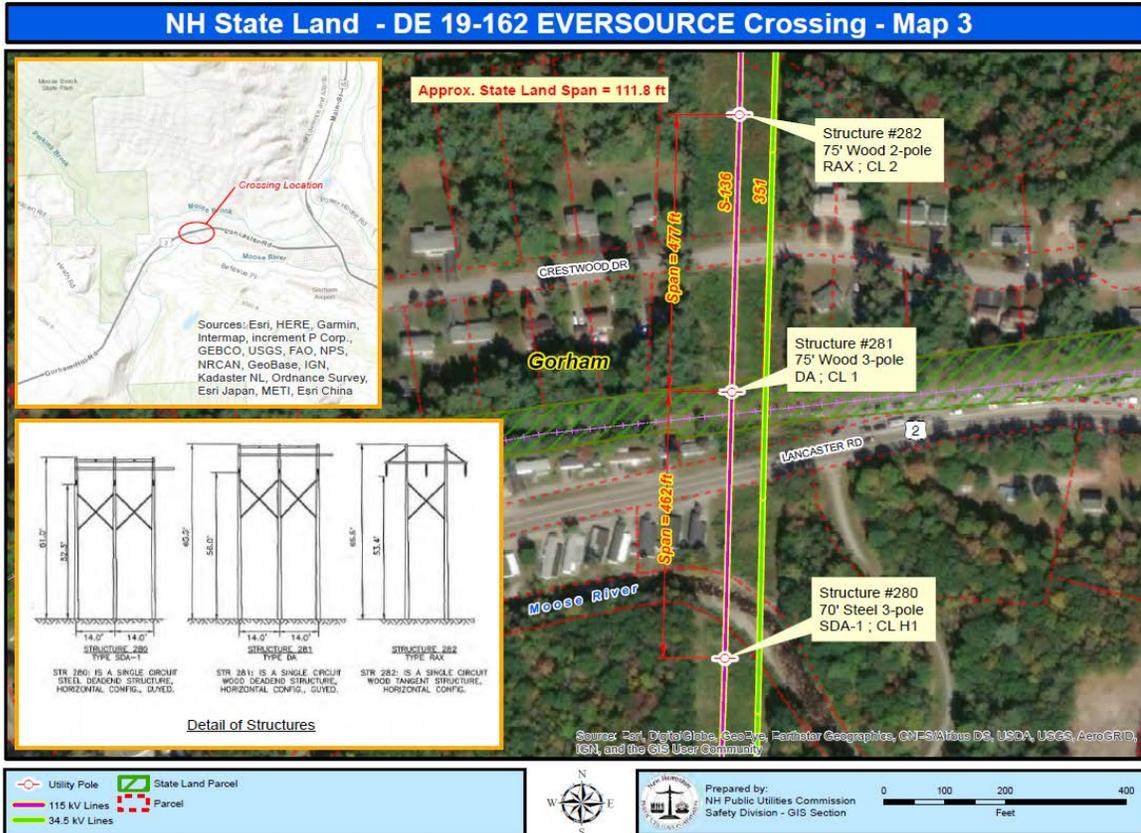


Public Land that is State owned is shown above as green hash marks identified in the petition as State of New Hampshire. The parcel is located in the Town of Randolph. The license will be for the 115 kV S136 transmission line from Structure # 230 to Structure # 231 crossing approximately 183.7 feet of State owned land. The total span between structures is 360 feet.

Attachment C



Public Land that is State owned is shown above as green hash marks identified in the petition as State of New Hampshire. The parcel is located in the Town of Gorham. The license will be for the 115 kV S136 transmission line from Structure # 264 to Structure # 265 crossing approximately 60 feet of State owned land. The total span between structures is 926 feet.



Public Land that is State owned is shown above as green hash marks identified in the petition as State of New Hampshire. The parcel is located in the Town of Gorham. The license will be for the 115 kV S136 transmission line from Structure # 280 to Structure # 282 crossing approximately 11.8 feet of State owned land. The total span between structures is 939 feet.

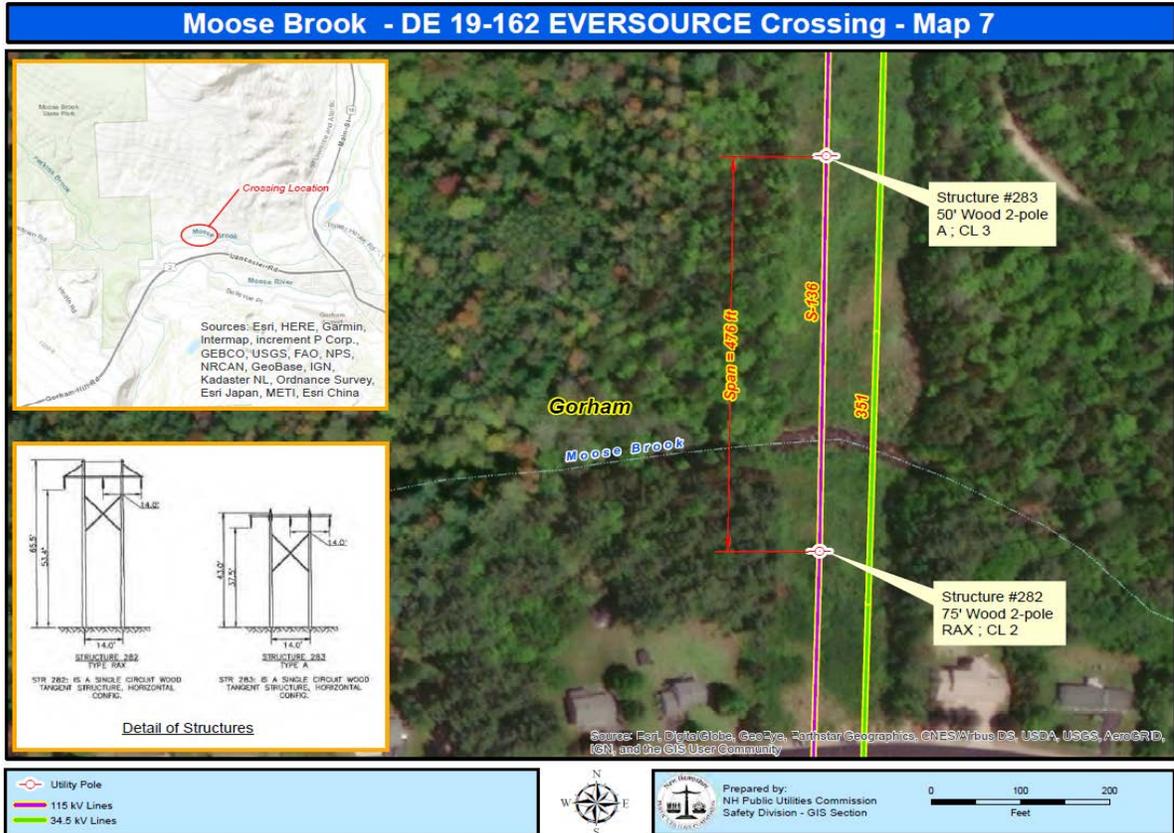


Figure 1: 115kV line, designated as the S 136 Transmission Line, is a span of approximately 476 feet between structures # 282 and # 283, across the Moose Brook in the Town of Gorham, NH. Of which 29.6 feet crosses the public water way.

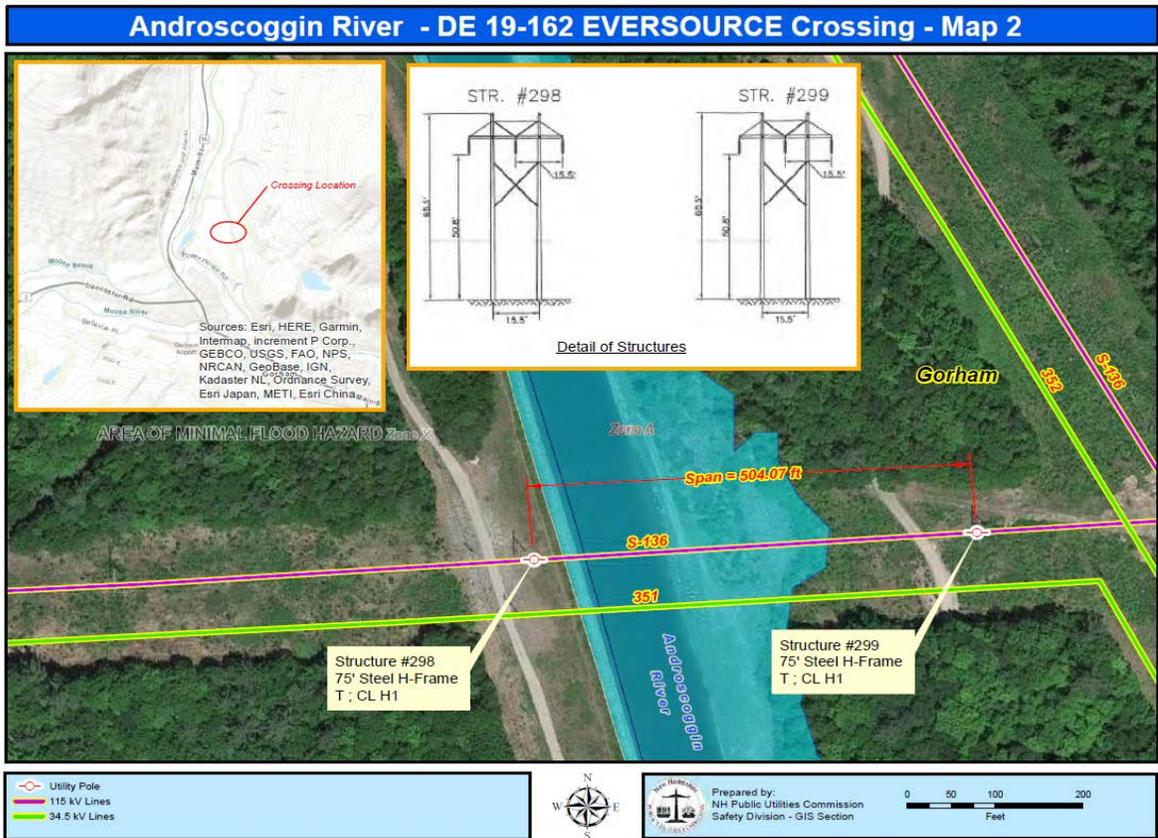


Figure 2: 115kV line, designated as the S 136 Transmission Line, is a span of approximately 557 feet between structures # 298 and # 299, across the Androscoggin River in the Town of Gorham, NH. Of which 243.5 feet crosses the public water way.

Executive.Director@puc.nh.gov

amanda.noonan@puc.nh.gov

brian.buckley@puc.nh.gov

catherine.marsellos@puc.nh.gov

david.wiesner@puc.nh.gov

Erik.newman@eversource.com

Jeremy.Fennell@eversource.com

melissa.price@eversource.com

ocalitigation@oca.nh.gov

Paul.Kasper@puc.nh.gov

randy.knepper@puc.nh.gov

richard.chagnon@puc.nh.gov

susan.gagne@puc.nh.gov

tom.frantz@puc.nh.gov