STATE OF NEW HAMPSHIRE SITE EVALUATION COMMITTEE

Docket No. 2015-05

Joint Application of New England Power Company d/b/a National Grid and Public Service Company of New Hampshire d/b/a Eversource Energy for a Certificate of Site and Facility

ORDER ACCEPTING APPLICATION

INTRODUCTION

On August 5, 2015, New England Power Company d/b/a National Grid (NEP) and Public Service Company of New Hampshire (PSNH) d/b/a Eversource Energy (collectively Applicant) filed a joint application for a certificate of site and facility (Application) with the Site Evaluation Committee (Committee). The Application seeks the issuance of a Certificate of Site and Facility (Certificate) approving the siting, construction and operation for a new 345 kV electric transmission line (Project).

On September 23, 2015, the Subcommittee reviewed the Application and determined that it contained sufficient information for the Subcommittee to carry out the purposes of RSA 162-H. This Order memorializes that determination.

DESCRIPTION OF THE PROJECT

The proposed transmission line will be constructed in an existing developed transmission line corridor between NEP's Tewksbury 22A Substation in Tewksbury, Massachusetts and PSNH's Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The Project will consist of approximately 18 miles of new 345 kV transmission line (3124 Line.) The Project will also require the relocation of existing facilities along some sections of the corridor, including the existing 115 kV line (Y-151 Line), in order to accommodate the proposed 3124 Line. The Project will traverse the Towns of Pelham, Windham, Hudson and Londonderry.

Specifically, the Project will consist of four segments, three of which will be located in the State of New Hampshire.

Segment #1

Segment #1 will be located entirely within in the Commonwealth of Massachusetts.

NEP - Segment #2

Segment #2 will be owned by NEP and will extend from the Massachusetts border to a location in the Town of Hudson where the Project transitions from NEP to PSNH ownership. Specifically, there are two ROW configurations associated with this Segment: (1) from Mile 6.5 of the Project to Mile 14.1 of the Project (Part A); (2) from Mile 14.1 of the Project to Mile 14.6 of the Project (Part B). The Part A segment contains three existing overhead transmission lines designated as the following lines from west to east: (1) 230 kV O-215 Line; (2) 115 kV Y-151 Line; and (3) 230 kV N-214 Line. Part B contains the following existing overhead transmission lines: (1) 230 kV O-215 Line; and (2) 230 kV N-214 Line. The Applicant seeks to reconfigure Part A of Segment #2. Specifically, the Applicant seeks to relocate the existing Y-151 Line to the western side of the existing ROW and to install the new 3124 Line in the ROW previously occupied by Y-151 Line so that Part A will contain the following overhead transmission lines: (1) 230 kV O-215 Line; (2) 230 kV N-214 Line; (3) 115 kV Y-151 Line (as relocated); and (4) 3124 Line.

New structures for the Y-151 Line will be erected approximately 28.5 feet east of the western edge of the ROW. The existing Y-151 Line will be cut off in this new alignment and the old structures that supported the Y-151 Line will be removed from the ROW. The Y-151 Line will diverge from the main ROW at a point north of Bockes Road in Hudson.

The new 3124 Line will be located in the center of the ROW approximately 91.5 feet to the east of the existing O-215 Line and approximately 91.5 feet to the west of the existing N-214 Line. In order to support the 3124 Line in Segment 2, 86 new structures will be constructed. The new structures will include the following: (1) narrow base H-Frame suspension structures; (2) self-supporting narrow based H-Frame deadend structures; (3) self-supporting three pole deadend structures; and (4) a self-supporting single pole deadend structure. All structures within Segment 2 of the 3124 Line will be steel structures with a weathering finish. The narrow based H-Frame suspension structures will utilize direct embed foundation. The self-supporting narrow based H-Frame deadend, self-supporting three pole deadend structures, and self-supporting single pole deadend structures will be set on reinforced concrete caisson foundations. It may become necessary to use different foundation types. Average structure height of the 3124 Line in Segment 2 will be approximately 80 feet above grade. The energized conductors of the new 3124 Line will be twin-bundled 1590 kcmil aluminum conductor, steel reinforced (ACSR) "Falcon" (54/19) conductors. All conductors will have a non-specular or flat finish. 18 inch spacers will be utilized in all spans and in the jumper loops. The 3124 Line will be shielded by two static wires in all locations. The static wires on the western side of the new structures will be 3/8" Extra High Strength (EHS) seven steel strand wire and the static wire on the eastern side of the structures will be a 48 count Fiber Optic Ground Wire (OPGW).

The relocated Y-151 Line will encompass approximately 87 structures with an average height of approximately 75 feet above grade. The majority of structures will feature delta davit arm suspension structures and delta davit arm deadend structures featuring single and double insulator assemblies. Other proposed structures on the Y-151 line include H-Frame deadend structures, H-Frame switch structures, three pole deadend structures; single pole deadends and

single pole switch structures. Single monopoles will utilize direct embed foundations while the remainder of the 115 kV structure types will be set on reinforced concrete caisson foundations. The use of alternative foundations may be warranted. Currently existing 4/0 copper conductor will be upgraded to single 795 kcmil ACSS "Drake" (26/7) HS285 conductor. All conductor installed on the Y-151 Line will have a non-specular finish. The Line will be shielded by a single static wire that will be a 144 count OPGW.

PSNH – Segments 3 and 4

A steel pole H-Frame construction with a self-wearing finish will be utilized at Segments 3 and 4. The tangent structures will be two-pole direct embed H-Frame structures. Angle and deadend structures will primarily be three-pole direct embed structures with structural guying similar to the existing wood H-Frame three pole structures. However, a two-pole H-Frame deadend structure near Mammoth Road (Str 264) and a monopole deadend transposition structure near the Scobie Pond 345 kV Substation (Str 287) will be self-supported structures with reinforced concrete caisson foundations.

For all direct embed foundations the steel poles will be placed within corrugated steel culverts then backfilled with select backfill and compacted in lifts. The pull-off and deadend structures will require the addition of structural guying to maintain structure stability. Log anchors will be utilized in upland locations and screw anchors will be utilized in environmentally sensitive areas. The use of grouted rock anchors at some locations may be required. Alternative foundation types, *i.e.* concrete caisson and helical/battered pile foundations can also be used.

Twin bundled 1590 kcmil ACSR "Falcon" (54/19) conductors will be used for the 3124 Line. 18 inch spacers will be used in all spans and in the jumper loops to keep each of the conductors apart. The 3124 Line will be shielded by two OPGW static wires in all locations.

Both static wires will be 48 count OPGW. For the last span into the Scobie Pond 345 kV Substation, both static wires will be 19 #10 alumoweld standard guy 19#10. Alumoweld wire may be upgraded to 19#6 alumoweld.

Segment #3

Segment #3 consists of approximately 3.9 miles of PSNH ROW from the ownership line of demarcation with NEP in Hudson, NH to where the new 3124 Line will depart the generally north-south corridor running parallel to NEP's ROW and turns northeasterly towards the Scobie Pond 345 kV Substation in Londonderry, New Hampshire. Segment 3 extends from Mile 14.6 to Mile 18.5 of the Project. Currently, this Segment contains the 345 kV 326 Line, which is located 31.5 feet from the western edge of a 216.5-foot wide ROW. The 3124 Line will be installed approximately 100 feet to the east of the existing 326 Line and approximately 85 feet from the western edge of the existing ROW. Approximately 90 feet of vegetation clearing within the unoccupied eastern edge of ROW will be required to construct the new 3124 Line. Segment 3 will encompass 37 structures consisting of the following: (1) H-Frame suspension structures; (2) guyed three pole suspension pull-off structures; and (3) guyed three pole deadend structures.

Segment #4

Segment #4 will begin from the point that the PSNH ROW diverges from running parallel with the NEP ROW and will continue east to the Scobie Pond 345 kV Substation for approximately 5.9 miles. The new 3124 Line will be installed in the center of the existing ROW. Approximately 50 feet of vegetation will have to be cleared from the center of the ROW so that the Line can be constructed. The ROW already contains overhead distribution circuits and the following overhead transmission lines: (1) 345 kV 380 Line; (2) 345 kV 326 Line; (3) 115 kV Z119 Line; and (4) 115 kV X116 Line. No reconfiguration of the existing transmission of

distribution lines is required.

Segment #4 will include 52 structures of the following five general structure types: (1) H-Frame suspension and deadend structures; (2) guyed three pole suspension pull-off structures; (3) guyed three pole deadend structures; (4) a two-pole deadend structure; and (5) a monopole deadend transposition structure and is more particularly described as follows:

- A. <u>Mile 18.5 to Mile 20.4 and Mile 20.4 to Mile 20.5</u> ROW width is approximately 460 feet. After construction of the new 345 kV 3124 line, these sections of the ROW will consist of the following transmission lines (from west to east): (1) 345 kV 380 line; (2) 345 kV 326 line; (3) 345 kV 3124 line; (4) 115 kV Z119 line; and (5) 115 kV X 116 line. The new 3124 Line will be located along a centerline alignment that does not contain any existing facilities approximately 100 feet to the east of the existing 326 line and approximately 87.5 feet to the west of the existing Z119 line. Approximately 50 feet of vegetation will have to be removed to accommodate construction of the new 3124 Line in this sector.
- B. <u>Mile 20.5 to Mile 20.6 and Mile 20.6 to Mile 21.6</u> ROW width is approximately 635 feet. After construction of the new 345 kV 3124 line, these sections of the ROW will consist of the following transmission lines (from west to east): (1) 345 kV 380 line; (2) 345 kV 326 line; (3) 345 kV 3124 line; (4) 115 kV S188 line; (5) 115 kV X 116 line; and (6) 115 kV Z119 line. The new 3124 Line will be located 100 feet to the east of the existing 326 line and approximately 70 feet to the west of the existing S188 line. Approximately 50 feet of vegetation will have to be removed to accommodate construction of the new 3124 Line in this sector.
- C. <u>Mile 21.6 to Mile 21.7</u> ROW width is approximately 635 feet. After construction of the new 345 kV 3124 line, these sections of the ROW will consist of the following transmission and distribution lines (from west to east): (1) 34.5 kV 3184 line; (2) 345 kV 380 line; (3) 345 kV 326 line; (4) 345 kV 3124 line; (5) 115 kV R187 line; (6) 115 kV X 116 line; (7) 115 kV Z119; (8) 34.5 kV 365 line; (9) 3128 distribution line. The new 3124 Line will be located 100 feet to the east of the existing 326 line and approximately 70 feet to the west of the existing R187 line. Approximately 50 feet of vegetation will have to be removed to accommodate construction of the new 3124 Line in this sector.
- D. <u>Mile 21.7 to Mile 23</u> ROW width is approximately 535 feet. After construction of the new 345 kV 3124 line, these sections of the ROW will consist of the following transmission and distribution lines (from west to east): (1) 345 kV 380

line; (2) 345 kV 326 line; (3) 345 kV 3124 line; (4) 115 kV R187 line; (5) 115 kV X116 line; (6) 115 kV Z119; and (7) 34.5 kV 365 line. The new 3124 Line will be located 100 feet to the east of the existing 326 line and approximately 70 feet to the west of the existing R187 line. Approximately 50 feet of vegetation will have to be removed to accommodate construction of the new 3124 Line in this sector.

- E. <u>Mile 23.0 to Mile 23.8</u> ROW width is approximately 535 feet. After construction of the new 345 kV 3124 line, these sections of the ROW will consist of the following transmission lines (from west to east): (1) 345 kV 380 line; (2) 345 kV 326 line; (3) 345 kV 3124 line; (4) 115 kV R187 line; (5) 115 kV X116 line; and (6) 115 kV Z119. The new 3124 Line will be located 100 feet to the east of the existing 326 line and approximately 70 feet to the west of the existing R187 line. Approximately 50 feet of vegetation will have to be removed to accommodate construction of the new 3124 Line in this sector.
- F. <u>Mile 23.8 to Mile 24.1</u> ROW width is approximately 535 feet. After construction of the new 345 kV 3124 line, these sections of the ROW will consist of the following transmission lines and distribution circuits supported by a double circuit structure (from west to east): (1) 345 kV 380 line; (2) 345 kV 326 line; (3) 345 kV 3124 line; (4) 115 kV R187 line; (5) 115 kV X116 line; (6) 115 kV Z119; (7) double circuit 32W4; and (8) 32W3 distribution lines. The new 3124 Line will be located 100 feet to the east of the existing 326 line and approximately 70 feet to the west of the existing R187 line. Approximately 50 feet of vegetation will have to be removed to accommodate construction of the new 3124 Line in this sector.
- G. <u>Mile 24.1 to the Scobie Pond 345 kV Substation</u> After construction of the new 345 kV 3124 line, these sections of the ROW will consist of the following transmission lines (from west to east): (1) 345 kV 380 line; (2) 345 kV 326 line; and (3) 345 kV 3124 line. The new 3124 Line will be located east of the existing 326 line. Removal of vegetation will be required to accommodate construction of the new 3124 Line in this sector.

A new 345 kV transmission line terminal will be constructed at the Scobie Pond 345 kV

Substation. The new terminal addition consists of one line terminal structure, two circuit

breakers, five manual and one motor operated disconnect switches, three surge arrestors, and

three coupling CCVTs. No yard expansion or fence modifications will be required.

STATE AGENCY RESPONSES

Pursuant to RSA 162-H:7, IV all State agencies identified as having permitting or other regulatory authority were notified of the filing of the Application and asked to conduct a preliminary review to ascertain if the Application contained sufficient information for the agency's purposes.

The Department of Safety, Office of the Fire Marshal (Fire Marshal) responded on September 2, 2015 indicating that the Application contained no "issues relating to the application of the State Fire or Building Code from the Office of the State Fire Marshal."

The Department of Environmental Services (DES), Water Division responded and indicated that the Project would require four Wetlands Permits, a Shoreland Protection Permit, an Alteration of Terrain Permit and a Water Quality Certificate. In its correspondence dated September 4, 2015 and September 11, 2015 DES responded that the information contained in the Application was complete for the purpose of technical review and to determine whether to issue permits or certificates.

The Department of Cultural Resources, Division of Historical Resources (DHR) reviewed the Application and provided comments on September 8, 2015. DHR reports that the project will require federal review under Section 106 of the National Historic Preservation Act and that the United States Army Corps of Engineers (USACOE) is the designated lead agency for that review. DHR also reported that it had reviewed the Applicant's due diligence findings with respect to above ground architectural resources and that there is no potential effect to resources listed or eligible to be listed on the National Register of Historic Places. Therefore the Application is complete with respect to studies of above-ground historic resources. With regard to archeological resources, the DHR reported that Segments 3 and 4 of the Project require no further studies and that the Application is complete with regard to those segments. DHR noted

that a Phase IA archeological survey identified 130 archeologically sensitive areas within the Segment 2 corridor of the Project. DHR notes a disagreement with USACOE because USACOE recognizes only 21 of the 130 sensitive areas. However, DHR also notes that the Applicant has agreed to further testing of all archeologically sensitive areas within the Section 2 corridor thereby "avoiding further discussion of jurisdictional issues and the potential destruction of archeological resources." With that understanding the Application provides sufficient information for review by the Subcommittee.

On September 11, 2015, the Department of Transportation responded that the Application contained sufficient information for its needs. The Department of Transportation's jurisdiction to issue permits and to exercise regulatory authority extends to the following permits/licenses:

Aerial Utility Permit required for Rte. 111 in Windham

Aerial Utility Permit required for I-93 in Londonderry

Aerial Utility Permit required for the Londonderry Rail-Trial

Railroad Crossing and Temporary Use Agreement for the Londonderry Rail-Trail

Temporary Driveway Permit on Rte. 28 in Londonderry

On September 14, 2015 the Public Utilities Commission (PUC) Safety Division responded that the Application contained sufficient information for the agency to consider whether licenses should be granted to cross Beaver Brook in Hudson and to cross state lands in Londonderry.

SUFFICIENCY AND ACCEPTANCE OF APPLICATION

On September 23, 2015, at a duly noticed public meeting, the Committee voted to accept the Application.

A comprehensive review of the Application reveals that the Applicant has provided all information required by RSA 162-H and by the Site Evaluation Committee rules codified at NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES, Site 301. Based upon the preliminary review of the Application by the Committee as required by RSA 162-H:7, IV, the Committee finds that the Application contains sufficient information to carry out the purposes of RSA 162-H. The Application is hereby accepted and deemed to seek the issuance of a Certificate of Site and Facility for an energy facility as defined in RSA 162-H:2, VII.

Therefore, the Application is hereby accepted as of the date set forth below and this matter shall proceed in accordance with the procedures set forth at RSA 162-H and all governing administrative regulations.

So ordered this 5th day of October 2015:

F. Anne Ross Designee, General Counsel, Public Utilities Commission Presiding Officer

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Kathryn M. Bailey Commissioner, Public Utilities Commission

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Jeffrey Rose Commissioner, Department of Resources and Economic Development

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Michele Roberge Designee, Department of Environmental Services

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Richard Boisvert Designee, Department of Cultural Resources

Roger Hawk Public Member

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Patricia Weathersby Public Member