

**STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE**

Docket No. 2015-05

**Re: 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**

October 4, 2016

ORDER AND CERTIFICATE OF SITE AND FACILITY WITH CONDITIONS

WHEREAS, New England Power Company d/b/a National Grid (NEP) and Public Service Company of New Hampshire (PSNH) d/b/a Eversource Energy (collectively the Applicant) filed a joint application for a Certificate of Site and Facility (Application) to site, construct and operate a new 345 kV electric transmission line (Project) to be located between the NEP-owned Tewksbury 22A Substation in Tewksbury, Massachusetts and the PSNH-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire;

WHEREAS, the Project will consist of four segments. Segment #1 will be located in the Commonwealth of Massachusetts. 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 (between NEP Structure #150 and PSNH Structure #200 located south of David Drive in Hudson, New Hampshire). Segment #3 will extend from Mile 14.6 of the Project (Hudson, New Hampshire) to Mile 18.5 of the Project to where the new 3124 Line will depart to the north-south corridor running parallel to NEP's right-of-way and turn northerly towards the Scobie Pond 345 kV Substation in Londonderry, New Hampshire. Segment #4 will begin from the point that the PSNH right-of-way diverges from running parallel with the NEP right-of-way and continues east to the Scobie Pond 345 kV Substation for approximately 5.9 miles;

WHEREAS, a new 345 kV transmission line terminal will be constructed at the Scobie Pond 345 kV Substation and no yard expansion or fence modifications will be required;

WHEREAS, the construction of the Project will require development of marshaling yards, laydown areas, and a number of permanent and temporary access ways;

WHEREAS, the Subcommittee has held public meetings and hearings regarding the Application, including Public Information Sessions, pursuant to RSA 162-H:10, I-a, on October 29, 2015, and November 4, 2015, in Windham and Pelham, respectively; Public Hearings pursuant to RSA 162-H:10, I-c, on December 8, 2015, and December 9, 2015, in Hudson and

Londonderry, respectively; and adjudicatory proceedings on June 13 and 14, 2016, to hear evidence regarding the Application;

WHEREAS, the Subcommittee has received and considered both oral and written comments from the public concerning the Application;

WHEREAS, the Subcommittee finds that, subject to the conditions herein, the Applicant has adequate financial, technical, and managerial capability to assure construction and operation of the Project in continuing compliance with the terms and conditions of this Certificate;

WHEREAS, the Subcommittee finds that, subject to the conditions herein, the Project will not unduly interfere with the orderly development of the region, with due consideration having been given to the views of municipal and regional planning commissions and municipal governing bodies;

WHEREAS, the Subcommittee finds that, subject to the conditions herein, the Project will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety;

WHEREAS, the Subcommittee finds that, subject to the conditions herein, the Project will be in the public interest; and

WHEREAS, on October 4, 2016, herewith, the Subcommittee has issued a Decision Granting a Certificate of Site and Facility with Conditions (Decision).

NOW THEREFORE, it is hereby ORDERED that the Application of New England Power Company d/b/a National Grid and Public Service Company of New Hampshire d/b/a Eversource Energy, as amended, is approved subject to the conditions set forth herein and this Order shall be deemed to be a Certificate of Site and Facility pursuant to RSA 162-H:4; and it is,

Further Ordered that the Decision dated October 4, 2016, and any conditions contained therein, are hereby made a part of this Order; and it is,

Further Ordered that the Applicant may site, construct, and operate the Project as outlined in the Application, as amended, subject to the terms and conditions of the Decision and this Order and Certificate; and it is,

Further Ordered that this Certificate is not transferable to any other person or entity without the prior written approval of the Site Evaluation Committee (Committee); and it is,

Further Ordered that the Applicant shall immediately notify the Committee of any change in ownership or ownership structure, or its affiliated entities, and shall seek approval of the Committee of such change; and it is,

Further Ordered that all permits and/or certificates recommended by the New Hampshire

Department of Environmental Services (DES), including the Wetlands Permit, the Alteration of Terrain Permit, and the Shoreland Permit, shall issue and this Certificate is conditioned upon compliance with all conditions of said permits and/or certificates which are appended hereto as Appendix I; and it is,

Further Ordered that DES is authorized to monitor the construction and operation of the Project to ensure that the terms and conditions of the Wetlands Permit, the Alteration of Terrain Permit, the Shoreland Permit, and the Certificate are met, however; any actions to enforce the provisions of the Certificate must be brought before Committee; and it is,

Further Ordered that DES is authorized to specify the use of any appropriate technique, methodology, practice or procedure approved by the Subcommittee within the Certificate, as may be necessary, to effectuate conditions of the Certificate, the Wetlands Permit, the Alteration of Terrain Permit, and the Shoreland Permit; and it is,

Further Ordered that this Certificate is conditioned upon compliance with the Section 404 General Permit (the New Hampshire Programmatic General Permit) and the 401 Water Quality Certification (WQC # 2012-404P-002); and it is,

Further Ordered that DES is authorized to monitor the construction and operation of the Project to ensure that terms and conditions of the Section 404 General Permit (the New Hampshire Programmatic General Permit) and the 401 Water Quality Certification (WQC # 2012-404P-002) are met, however, any actions to enforce the provisions of the Certificate must be brought before the Committee; and it is,

Further Ordered that DES is authorized to specify the use of any appropriate technique, methodology, practice or procedure approved by the Subcommittee within the Certificate, as may be necessary, to effectuate conditions of the Section 404 General Permit (the New Hampshire Programmatic General Permit) and the 401 Water Quality Certification (WQC # 2012-404P-002); and it is,

Further Ordered that, in the event that new information or evidence of historic sites, archeological sites, or other archeological resources is found within the area of potential effect of the Project, the Applicant shall immediately report said findings to New Hampshire Department of Historic Resources (DHR) and the Committee; and it is,

Further Ordered that the Applicant shall notify DHR of any change in the construction plans of the Project and of any new community concerns for any archeological resources, historic sites, or other cultural resources affected by the Project; and it is,

Further Ordered that DHR is authorized to specify the use of any appropriate technique, methodology, practice, or procedure associated with archaeological, historical and other cultural resources effected by the Project, however; any action to enforce the conditions must be brought before the Committee; and it is,

Further Ordered that all permits and/or approvals recommended by the New Hampshire

Department of Transportation (DOT) shall issue and this Certificate is conditioned upon compliance with all conditions of said permits and/or approvals; and it is,

Further Ordered that DOT is authorized to monitor the construction and operation of the Project to ensure that terms and conditions of the Certificate and permits and approvals issued by DOT are met, however; any actions to enforce the provisions of the Certificate must be brought before the Committee; and it is,

Further Ordered that DOT is authorized to specify the use of any appropriate technique, methodology, practice or procedure approved by the Subcommittee within the Certificate, as may be necessary, to effectuate conditions of the Certificate and permits and certificates issued by DOT; and it is,

Further Ordered that all licenses recommended by the New Hampshire Public Utilities Commission (PUC) shall issue and this Certificate is conditioned upon compliance with all conditions of said licenses; and it is,

Further Ordered that PUC is authorized to monitor the construction and operation of the Project to ensure that terms and conditions of the licenses issued by NHPUC and the Certificate are met, however; any actions to enforce the provisions of the Certificate must be brought before Committee; and it is,

Further Ordered that PUC is authorized to specify the use of any appropriate technique, methodology, practice or procedure approved in the Orders *Nisi* issued by NHPUC or in the Certificate, as may be necessary, to effectuate conditions of the Certificate and licenses issued by NHPUC; and it is,

Further Ordered that the Applicant shall: (i) submit a report to the Committee every 10 years indicating any change in the need for the Project to ensure the continued reliability of the regional bulk transmission system; (ii) promptly notify the Committee of any retirement obligation that arises; and (iii) submit to the Committee a decommissioning plan in accordance with then-applicable rules, upon any imposition of a decommissioning obligation, or prior to the retirement of any part of the Project; and it is,

Further Ordered that the Applicant shall employ traffic controls in accordance with the 2009 edition of the Manual on Uniform Control Devices and DOT policies; and it is,

Further Ordered that the Applicant, in consultation with the PUC's Safety Division, shall measure actual electro-magnetic fields associated with operation of the Project both before and after construction of the Project during peak-load, along each section number listed in Tables 12 and 13 of the Application; and it is,

Further Ordered that the Applicant shall file the results of the electro-magnetic fields measurements conducted pursuant to the conditions of the Certificate with the Committee; and it is,

Further Ordered that, if the results of the electro-magnetic fields measurements exceed the guidelines of the International Committee on Electromagnetic Safety or the International Commission on Non-Ionizing Radiation Protection, the Applicant shall file with the Committee a mitigation plan designed to reduce the levels so that they are lower than the Commission's or Committee's standards; and it is,

Further Ordered that the Applicant shall comply with DOT's guidance on traffic control and blasting during construction of the Project; and it is,

Further Ordered that, within 45 days of an ISO-NE filing, the Applicant shall notify the Committee if the Applicant's forecasted or actual expenditures for the entire Project, between Tewksbury, Massachusetts (Tewksbury 22A) and Londonderry, New Hampshire (Scobie Pond Substation), as filed by the Applicant with its ISO-NE Regional System Planning forecast updates, exceed the projected cost for the entire Project by an amount equal to or greater than 25 percent; and it is,

Further Ordered that, within 30 days of the date of commercial operation, the Applicant shall submit to the Committee its forecasted and actual expenditures for the entire Project, and its allocation of such expenditures to the New Hampshire portion of the Project; and it is,

Further Ordered that the Applicant shall construct the Project within three (3) years of the date of the Certificate and shall file as-built drawings of the Project with the Committee no later than the date of commercial operation of the Project; and it is,

Further Ordered that the Committee's Administrator is delegated with the authority to review drawings that will be submitted by the Applicant pursuant to this Order, and confirm conformity with the proposed Project; and it is,

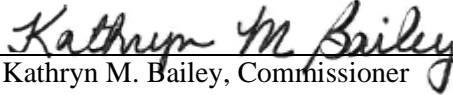
Further Ordered that the Stipulation between Counsel for the Public and the Applicant, attached as Appendix II, shall be a part of this Order and the Conditions contained therein shall be conditions of this Certificate; and it is,

Further Ordered that all Conditions contained in this Certificate and in the Decision shall remain in full force and effect unless otherwise ordered by the Committee.

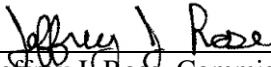
By Order of the Site Evaluation Subcommittee this fourth day of October, 2016.



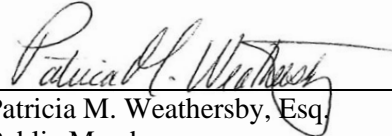
F. Anne Ross, General Counsel, Designee
Public Utilities Commission



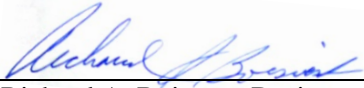
Kathryn M. Bailey, Commissioner
Public Utilities Commission



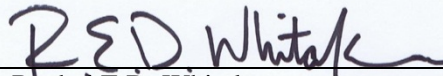
Jeffrey J. Rose, Commissioner
Dept. Resources and Econ. Development



Patricia M. Weathersby, Esq.
Public Member



Richard A. Boisvert, Designee
Dept. of Cultural Resources
Division of Historical Resources



Rachel E.D. Whitaker
Alternate Public Member



Michele Roberge
Dept. of Environmental Services
Air Resources Division

APPENDIX I – PERMITS AND CERTIFICATES



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES



Thomas S. Burack, Commissioner
FINAL DECISION AND CONDITIONS

June 9, 2016

Pamela G. Monroe, Administrator
NH Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, NH 03301

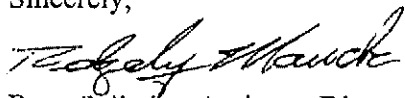
Re: Joint Application of New England Power Co (d/b/a National Grid) and Public Service
Co. of NH (d/b/a Eversource Energy) for Merrimack Valley Reliability Project
NH Site Evaluation Committee Docket No. 2015-05

Dear Ms. Monroe:

This letter is to notify you that the New Hampshire Department of Environmental Services (DES) Water Division staff have completed their technical review of the subject application and have made a final decision on the parts of the application that relate to DES permitting or regulatory authority relative to an Alteration of Terrain permit, Wetland permit, and 401 Water Quality Certificate. DES recommends approval of the application with the conditions that are enclosed with this letter.

This concludes DES review of the project which we hope will assist the SEC to complete its project evaluation process and render a final decision. If you have any questions, please contact me at 271-2951 or email at: Rene.Pelletier@des.nh.gov

Sincerely,


for Rene Pelletier, Assistant Director
Water Division

cc: Michael J. Iacopino, Counsel NHSEC
Brian Buonamano, Asst. Attorney General, NH Department of Justice
Thomas S. Burack, Commissioner, NHDES
Clark Freise, Asst. Commissioner, NHDES
Eugene J. Forbes, Water Division Director, NHDES

401 WATER QUALITY CERTIFICATION – FINAL CONDITIONS

FINAL 401 WATER QUALITY CERTIFICATION CONDITIONS:

The proposed Activity¹ involves the discharge of dredge or fill material into surface waters of the U.S. and, therefore, requires a federal Clean Water Act (CWA) Section 404 (33 U.S.C. 1344) permit from the U.S. Army Corps of Engineers (Corps). In accordance with Section 401 of the CWA (33 U.S.C. 1341) and New Hampshire (NH) statute RSA 485-A:12, III, the Activity therefore requires a Section 401 Water Quality Certification from the NH Department of Environmental Services (NHDES or DES).

On February 24, 2016, the Corps indicated that the Section 404 general permit (i.e., the New Hampshire Programmatic General Permit or PGP) applies to the proposed Activity. The Corps issues PGPs every five years; the last PGP was issued in 2012. A 401 Water Quality Certification (WQC # 2012-404P-002) for the current PGP was issued by NHDES on August 2, 2012. WQC # 2012-404P-002 is applicable to all activities covered by the PGP. Since the proposed Activity is covered by the PGP, the Applicant¹ for the proposed Activity must comply with the conditions of WQC #2012-404P-002, which are provided below:

E-1. Construction or operation of all projects included under the PGP shall meet NH surface water quality standards.

E-2. Applications for projects included under the PGP shall be subject to DES review to determine whether additional conditions or an individual 401 Certification application is necessary to ensure compliance with surface water quality standards.

E-3. If DES determines that surface water quality standards are being violated by the specific project or there is reasonable potential to expect that water quality standards will be violated if more project specific conditions are not included in the 401 Certification, DES may modify this 401 Certification for the specific project to include additional conditions to ensure compliance with surface water quality standards.

E-4. Construction on any specific project permitted under the PGP shall not commence until all other applicable permits and approvals have been granted, including those permits issued through DES Wetlands Bureau and, if necessary, DES Alteration of Terrain Program.

E-5. All applicable conditions in the NH PGP shall be followed.

E-6. DES reserves the right to inspect any project permitted under the PGP and the effects of the project on affected surface waters at any time to monitor compliance with the NH surface water quality standards.”

¹ The Applicant is 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). The proposed Activity is described in the application submitted to the New Hampshire Site Evaluation Committee on August 5, 2015, which included an application and supplemental information for 401 Water Quality Certification, the Alteration of Terrain Permit and the Wetlands Permit.

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NHDES has reviewed the information provided by the Applicant¹ and has determined that compliance with WQC #2012-404P-002 issued in 2012, and the conditions for the Alteration of Terrain and Wetlands permits, provides reasonable assurance that construction and operation of the Activity will not violate surface water quality standards².

² New Hampshire surface water quality standards are included in statute (RSA 485-A:8) and regulation (Env-Wq 1700).

WETLANDS BUREAU FINAL DECISION

RECOMMEND APPROVAL WITH THE FOLLOWING PERMIT CONDITIONS:

PROJECT DESCRIPTION:

Dredge and fill 4,428 square feet of wetlands and 80 square feet of streams (impacting 17 linear feet) and temporarily impact 8.86 acres (385,896 square feet) of wetlands and 6,365 square feet (610 linear feet) within streams to construct 17.9 miles of new overhead 345kV electric transmission line (known as the 3124 Line) and relocation of 7.6 miles an existing 115kV electric transmission line (known as the Y-151 Line). All work will be conducted within an existing utility right-of-way. Compensatory mitigation for permanent and US Army Corps of Engineers wetland impacts consists of a one-time payment of \$12,898.60 dollars into the Aquatic Resource Mitigation Fund ("ARM") by New England Power Company d/b/a National Grid and a one-time payment of \$633,976.80 dollars into the ARM Fund by Public Service of New Hampshire d/b/a Eversource. In addition, the conservation of 5.53 acres of land comprising part of a parcel owned by NEP (Tax Map 30, Lot 7-11) shall be conveyed in fee to the Town of Pelham as a component of the mitigation and added to the abutting Peabody Town Forest in the Town of Pelham.

PROJECT SPECIFIC CONDITIONS:

1. All work shall be in accordance with plans dated 5/29/2015 and 7/6/2015, as received by the NH Department of Environmental Services (DES) on August 14, 2015.
2. This approval is not valid until DES receives a one-time payment of \$12,898.60 dollars into the Aquatic Resource Mitigation Fund ("ARM") by New England Power d/b/a National Grid and a one-time payment of \$633,976.80 dollars into the ARM Fund by Eversource.
3. A NH Certified Wetland Scientist or similarly qualified professional shall monitor the project during construction to assure it is constructed in accordance with the approved plans and narratives and to assure no water quality violations occur. A follow-up report shall be submitted to the Wetlands Bureau within 60 days of the completion of construction and after one full growing season.
4. The permittee shall notify and coordinate with NH Natural Heritage Bureau (NHB) and NH Fish & Game Department (NHF&G) to the satisfaction of the agencies, encounters with any rare, threatened, or endangered species during the project. Contractors shall avoid moving or disturbing any of the species.
5. A follow-up report shall be submitted to NHB and NHF&G within 60 days of the completion of construction if rare, threatened, or endangered species are found within the project area.
6. A NH Certified Wetland Scientist or similarly qualified professional shall walk the areas of proposed activity and the wetland impact areas, in particular, prior to ground disturbance each day to check swamp mats for basking turtles and snakes. Animals shall be safely relocated if found.
7. Appropriate siltation/erosion/turbidity controls shall be in place prior to construction, shall be maintained during construction, and remain in place until the area is stabilized. Silt fence(s) must be removed once the area is stabilized.
8. Discharge from dewatering of work areas shall be to sediment basins that are: a) located in uplands; b) lined with hay bales or other acceptable sediment trapping liners; c) set back as

far as possible from wetlands and surface waters, in all cases with a minimum of 20 feet of undisturbed vegetated buffer.

9. All dredged and excavated material and construction-related debris shall be placed outside of the areas subject to RSA 482-A. Any spoil material deposited within 250 feet of any surface water shall comply with RSA-483-B.
10. All temporary wetland and stream bank impact areas shall have at least 75% successful establishment of wetlands vegetation (or where applicable appropriate stream bank vegetation) after one full growing season, or it shall be replanted and re-established in a manner satisfactory to the DES Wetlands Bureau.
11. Extreme precautions shall be taken within riparian areas to prevent unnecessary removal of vegetation during construction.
12. Equipment used in wetlands shall be placed on temporary swamp mats so as to minimize rutting of the soils. Swamp mats shall be removed immediately upon completion of work as not to result in permanent impacts.
13. The proposed temporary stream crossings shall span the natural stream channel and not impede stream flows.
14. Mulch used within any wetland/stream bank restoration areas shall be natural straw or equivalent non-toxic, non-seed-bearing organic material.
15. Any erosion control matting used shall be wildlife friendly.
16. Seed mix used within the restoration areas shall be a wetland seed mix appropriate to the area and shall be applied in accordance with manufacturers' specifications.
17. Precautions shall be taken to prevent import or transport of soil or seed stock containing nuisance or invasive species such as Purple Loosestrife, Knotweed, or Phragmites. The contractor responsible for work shall appropriately address invasive species in accordance with the NHDOT Best Management Practices for Roadside Invasive Plants (2008).
18. To prevent the introduction of invasive plant species to the site, the permittee's contractor(s) shall clean all soils and vegetation from construction equipment and matting before such equipment is moved to the site.
19. The permittee shall control invasive plant species such as Purple loosestrife (*Lythrum salicaria*) and Common reed (*Phragmites*) by measures agreed upon by the DES Wetlands Program if any such species is found in the stabilization areas during construction or during the early stages of vegetative establishment.
20. Within three days of final grading or temporary suspension of work, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes steeper than 3:1.
21. Construction equipment shall be inspected daily for leaking fuel, oil, and hydraulic fluid prior to entering surface waters or wetlands or operating in an area where such fluids could reach groundwater, surface waters, or wetlands.
22. All refueling of equipment shall occur outside of surface waters or wetlands during construction. Machinery shall be staged and refueled in upland areas only.
23. Faulty equipment shall be repaired immediately prior to entering areas that are subject to RSA 482-A jurisdiction.
24. The permittee's contractor shall maintain appropriate oil/diesel fuel spill kits on site that are readily accessible at all times during construction, and shall train each operator in the use of the kits.

25. The contractor responsible for completion of the work shall use techniques described in the New Hampshire Stormwater Manual, Volume 3, Erosion and Sediment Controls During Construction (December 2008).
26. Any further alteration of areas on this property that are subject to RSA 482-A jurisdiction will require a new application and further permitting.
27. This permit is contingent upon the execution of conservation restrictions on 5.53 acres of land in Pelham as depicted on plans and information prepared by VHB as received by DES on February 16, 2016.
28. The 5.53 acres of land in Pelham shall be conveyed in fee ownership to the Town of Pelham within 120 days of the issuance of the New Hampshire Site Evaluation Committee decision.
29. The draft deed of the parcel to be conveyed to the Town of Pelham shall be provided to DES for review and approval.
30. Following permit issuance and prior to recording of the conservation deed, the natural resources existing on the 5.53 acre parcel shall not be removed, disturbed, or altered without prior written approval of DES.
31. The conservation deed to be placed on the preservation area shall be written to run with the land, and both existing and future property owners shall be subject to the terms of the restrictions.
32. The plan noting the conservation area with a copy of the final deed language shall be recorded with the Registry of Deeds Office for each appropriate lot. A copy of the recording from the County Registry of Deeds Office shall be submitted to the DES Wetlands Bureau within 14 days of the recording.
33. A final baseline documentation report shall be prepared that summarizes existing conditions within the conservation area. Said report shall contain photographic documentation of the easement area, and shall be submitted to the DES and Town of Pelham to serve as a baseline for future monitoring of the area.
34. The conservation area shall be surveyed by a licensed surveyor, and marked by monuments [stakes].
35. The Wetlands Bureau shall be notified of the placement of the parcel boundary monuments to coordinate on-site review of their location.
36. There shall be no removal of the existing vegetative undergrowth within the conservation area and the placement of fill, construction of structures, and storage of vehicles or hazardous materials is prohibited.
37. Activities in contravention of the conservation easement shall be construed as a violation of RSA 482-A, and those activities shall be subject to the enforcement powers of DES (including remediation and fines).

FINDINGS:

1. This project is considered a Major Project per NH Administrative Rule Env-Wt 303.02(c), as the total wetland impacts (permanent and temporary) are greater than 20,000 square feet.
2. The need for the proposed impacts has been demonstrated by the applicant per Rule Env-Wt 302.01.
3. The applicant has provided evidence which demonstrates that this proposal is the alternative with the least adverse impact to areas and environments under the department's jurisdiction per Rule Env-Wt 302.03.

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4. The applicant has demonstrated by plan and example that each factor listed in Rule Env-Wt 302.04(a), Requirements for Application Evaluation, has been considered in the design of the project.
5. The applicant has provided upland buffer preservation in the form off-site compensatory mitigation for the prime wetland impacts in accordance with Env-Wt 703.01(b)(5) and Env-Wt 703.02(b)(2)
6. The applicant has reviewed on-site options for mitigation and the department has determined that this project is acceptable for payment to the Aquatic Resource Mitigation (ARM) Fund.
7. As required by the US Army Corps of Engineers mitigation guidance, the payment calculated for permanent, temporary and secondary impacts due to forest conversion impacts equals \$646,875.40.
8. The Department decision is issued in letter form and upon approval by the NH Site Evaluation Committee, and receipt of the ARM fund payment, the Department shall issue a posting permit in accordance with Rule Env-Wt 803.08(f).
9. The payment into the ARM fund shall be deposited in the DES fund for the "Merrimack River" watershed per RSA 482-A:29.
10. Public hearing is not required with the finding that the project will not impact wetland areas that are considered to be of special value from a local, regional, or state perspective pursuant to Rule Env-Wt 101.96.

ALTERATION OF TERRAIN BUREAU FINAL DECISION

PROJECT SPECIFIC CONDITIONS:

1. Activities shall not cause or contribute to any violations of the surface water quality standards established in Administrative Rule Env-Wq 1700.
2. Revised plans shall be submitted for an amendment approval prior to any changes in construction details or sequences. The NHDES must be notified in writing within ten days of a change in ownership.
3. The NHDES must be notified in writing prior to the start of construction and upon completion of construction. Forms are available at:
<http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm>.
4. All activities shall comply with the plans and information provided with: the Alteration of Terrain application submitted as part of the application to the New Hampshire Site Evaluation Committee (SEC) on August 5, 2015; Supplement 2 of the SEC Application dated December 23, 2015; and the applicants' response to NHDES dated April 4, 2016, and the conditions provided below. Any proposed modifications which may affect surface water quality or quantity, shall receive NHDES approval prior to implementation.
5. All activities shall comply with the following documents regarding Best Management Practices (BMP):
 - *Best Management Practices for Utility Maintenance In and Adjacent to Wetlands and Waterbodies in New Hampshire*. New Hampshire Department of Resources and Economic Development. Interim January 2010. (Appendix S in the application submitted to the Site Evaluation Committee on August 5, 2015.)
 - *The National Grid Guidance Document (EG-303NE)* (Appendix T in the application submitted to the Site Evaluation Committee on August 5, 2015.)
 - *Construction Access Plan, Merrimack Valley Reliability Project*. VHB. May 8, 2015. (Appendix U in the application submitted to the Site Evaluation Committee on August 5, 2015.)
6. No construction activities shall occur on the project after expiration of the approval unless the approval has been extended by the New Hampshire Energy Facility Site Evaluation Committee (SEC).
7. The Applicant shall identify to NHDES all marshalling yards, laydown areas, and off-right-of-way accessways not currently identified for review prior to their construction.
8. The Applicant shall comply with the "Construction Sequence", "Erosion Control", "Construction" and "Winter Construction Notes" included in the application for Alteration of Terrain Permit. This includes, but is not limited to, the type and installation method for erosion and sediment controls, inspection and maintenance of erosion controls; limiting unstabilized disturbed areas to no more than five acres at any time; soil stabilization, and dewatering.
9. The Applicant shall comply with requirements of the EPA NPDES Construction General Permit (CGP) including, but not limited to, preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) and inspection, maintenance and reporting of construction activity. A copy of the SWPPP and/or construction inspection and maintenance logs shall be provided to NHDES within seven days (or other timeframe acceptable to NHDES) of receiving a request from NHDES.

10. Concrete and concrete washout water shall be managed in accordance with Section 4.2 of the *National Grid Guidance Document (EG-303NE)*.
11. Removal of vegetation within 50 feet of all surface waters (including wetlands) shall be minimized to the maximum extent practicable to reduce the potential for erosion and deposition of material into the surface waters, to protect rare, threatened and endangered species and habitats and to minimize the potential for increases in water temperature increases that could be harmful to aquatic life. Limits of clearing will be clearly marked in the field prior to construction to prevent inadvertent excursion of clearing beyond what is necessary.
12. The Applicant shall minimize use of all pesticides to the maximum extent practicable and shall comply with all applicable state, federal and local laws and regulations regarding application of pesticides, including, but not limited to, Pes 1001.01 and 1001.02. If requested by NHDES, the applicant shall provide NHDES with a list of pesticides applied, the name of the applicator and their NH pesticide license or permit number within 30 days of receiving the request.
13. This permit does not relieve the Applicant from the obligation to obtain other local, state or federal permits that may be required (e.g., from US EPA, US Army Corps of Engineers, etc.). Projects disturbing over 1 acre may require a federal stormwater permit from EPA. Information regarding this permitting process can be obtained at: <http://des.nh.gov/organization/divisions/water/stormwater/construction.htm>.
14. The smallest practical area shall be disturbed during construction activities.
15. The Applicant shall employ the services of an environmental monitor ("Monitor"). The Monitor shall be a Certified Professional in Erosion and Sediment Control or a Professional Engineer licensed in the State of New Hampshire and shall be employed to inspect the site from the start of alteration of terrain activities until the alteration of terrain activities are completed and the site is considered stable.
16. During this period, the Monitor shall inspect the subject site at least once a week, and if possible, during any ½ inch or greater rain event (i.e. ½ inch of precipitation or more within a 24 hour period). If unable to be present during such a storm, the Monitor shall inspect the site within 24 hours of this event.
17. The inspections shall be for the purposes of determining compliance with the permit. The Monitor shall submit a written report to the NHDES within 24 hours of the inspections. The reports shall describe, at a minimum, whether the project is being constructed in accordance with the approved sequence, shall identify any deviation from the conditions of this permit and the approved plans, and identify any other noted deficiencies.
18. The Monitor shall provide technical assistance and recommendations to the Contractor on the appropriate Best Management Practices for Erosion and Sediment Controls required to meet the requirements of RSA 485-A:17 and all applicable NHDES permit conditions.
19. Within 24 hours of each inspection, the Monitor shall submit a report to NHDES via email (to Ridgely Mauck at: ridgely.mauck@des.nh.gov).
20. Unless otherwise authorized by NHDES, the Applicant shall keep a sufficient quantity of erosion control supplies on the site at all times during construction to facilitate an expeditious (i.e., within 24 hour) response to any construction related erosion issues on the site.



The State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES

Thomas S. Burack, Commissioner

Merrimack Valley Reliability Project
Appendix G-1



SHORELAND IMPACT PERMIT 2015-02335

**NOTE--
CONDITIONS**

Permittee: New England Power Company
40 Sylvan 3rd fl. East Wing
Waltham, MA 02451-1120

Project Location: Right-of-Way between Winter Street And Mammoth Road, Windham
Windham Tax Map/Lot No. 19-B/14-A / 914/922/300

Waterbody: Beaver Brook

APPROVAL DATE: 10/01/2015

EXPIRATION DATE: 10/01/2020

Based upon review of the above referenced application, in accordance with RSA 483-B, a Shoreland Impact Permit was issued. This permit shall not be considered valid unless signed as specified below.

PERMIT DESCRIPTION: Impact 35,212 sq. ft. in order to install four new electric transmission utility structures.

**THIS APPROVAL IS SUBJECT TO THE FOLLOWING PROJECT SPECIFIC
CONDITIONS:**

1. All work shall be in accordance with plans by VHB dated May 29, 2015 and received by the NH Department of Environmental Services (DES) on September 3, 2015.
2. All activities conducted in association with the completion of this project shall be conducted in a manner that complies with applicable criteria of Administrative Rules Chapter Env-Wq 1400 and RSA 483-B during and after construction.
3. Erosion and siltation control measures shall be installed prior to the start of work, be maintained throughout the project, and remain in place until all disturbed surfaces are stabilized.
4. Erosion and siltation controls shall be appropriate to the size and nature of the project and to the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to wetlands or surface waters.
5. No person undertaking any activity in the protected shoreland shall cause or contribute to, or allow the activity to cause or contribute to, any violations of the surface water quality standards established in Env-Ws 1700 or successor rules in Env-Wq 1700.
6. Any fill used shall be clean sand, gravel, rock, or other suitable material.
7. The individual responsible for completion of the work shall utilize techniques described in the New Hampshire Stormwater Manual, Volume 3, Erosion and Sediment Controls During Construction (December 2008).

DES Web site: www.des.nh.gov

P.O. Box 95, 29 Hazen Drive, Concord, New Hampshire 03302-0095

Telephone: (603) 271-3503 • Fax: (603) 271-6588 • TDD Access: Relay NH 1-800-735-2964

2015-02335

Page 2 of 2

Conditions Cont'd

8. This permit shall not be interpreted as acceptance or approval of any impact that will occur within wetlands jurisdiction regulated under RSA 482-A including all wetlands, surface waters and their banks, the tidal-buffer zone, and sand dunes. The owner is responsible for maintaining compliance with RSA 482-A and Administrative Rules Env-Wt 100 - 900 and obtaining any Wetland Impact Permit that may be required prior to construction, excavation or fill that will occur within Wetlands jurisdiction.
9. This permit shall not preclude DES from taking any enforcement or revocation action if DES later determines that any of the structures depicted as "existing" on the plans submitted by the applicant were not previously permitted or grandfathered.

GENERAL CONDITIONS THAT APPLY TO ALL DES SHORELAND IMPACT PERMITS:

1. A copy of this permit shall be posted on site during construction in a prominent location visible to inspecting personnel;
2. This permit does not convey a property right, nor authorize any injury to property of others, nor invasion of rights of others;
3. The Wetlands Bureau shall be notified upon completion of work;
4. This permit does not relieve the applicant from the obligation to obtain other local, state or federal permits, and/or consult with other agencies as may be required (including US EPA, US Army Corps of Engineers, NH Department of Transportation, NH Division of Historical Resources (NH Department of Cultural Resources), NHDES-Alteration of Terrain, etc.);
5. Transfer of this permit to a new owner shall require notification to and approval by the Department;
6. This permit shall not be extended beyond the current expiration date.
7. This project has been screened for potential impacts to known occurrences of rare species and exemplary natural communities in the immediate area. Since many areas have never been surveyed, or have received only cursory inventories, unidentified sensitive species or communities may be present. This permit does not absolve the permittee from due diligence in regard to state, local or federal laws regarding such communities or species.

APPROVED: _____

Craig W. Day
DES Wetlands Bureau

BY SIGNING BELOW I HEREBY CERTIFY THAT I HAVE FULLY READ THIS PERMIT AND AGREE TO ABIDE BY ALL PERMIT CONDITIONS.

OWNER'S SIGNATURE (required)

CONTRACTOR'S SIGNATURE (required)

CHAIRMAN
Martin P. Honigberg

COMMISSIONERS
Robert R. Scott
Kathryn M. Bailey

EXECUTIVE DIRECTOR
Debra A. Howland

THE STATE OF NEW HAMPSHIRE



PUBLIC UTILITIES COMMISSION

21 S. Fruit Street, Suite 10
Concord, N.H. 03301-2429

FILE COPY
2015-05

TDD Access: Relay NH
1-800-735-2964

Tel. (603) 271-2431

FAX (603) 271-3878

Website:
www.puc.nh.gov

June 3, 2016

Pamela G. Monroe
Administrator
Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Re: Application of New England Power Company d/b/a National Grid and Public Service
Company of New Hampshire d/b/a Eversource Energy the Merrimack Valley Reliability
Project
N.H. Site Evaluation Committee Docket No. 2015-05

Dear Ms. Monroe:

In accordance with RSA 162-H:7, VI-c, the New Hampshire Public Utilities Commission (Commission) submits the following with respect to the New England Power d/b/a National Grid and Public Service Company of New Hampshire d/b/a Eversource Energy (Eversource) application for the above referenced project also known as the Merrimack Valley Reliability Project.

On February 11, 2016, the Commission approved the petition filed by Eversource pursuant to RSA 371:17 for a license to construct and maintain a 345 kV electric transmission line and optical ground wires at three locations over and across public lands owned by the State of New Hampshire in the Town of Londonderry. Attached please find Commission Order Nisi No. 25,865 as well as Staff's November 19, 2015 memorandum recommending approval of the petition.

Sincerely,

A handwritten signature in cursive script that reads "Debra A. Howland".

Debra A. Howland
Executive Director

Encl.

STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

DE 15-285

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE d/b/a EVERSOURCE ENERGY

**Petition for License to Construct and Maintain Electric Lines and
Optical Ground Wires Over and Across Public Lands Owned by the
State of New Hampshire in the Town of Londonderry**

Order *Nisi* Granting License

ORDER NO. 25,865

February 11, 2016

In this order *nisi*, the Commission grants the request of Public Service Company of New Hampshire d/b/a Eversource Energy (Eversource) for a license to construct and maintain electric lines and optical ground wires over and across public lands owned by the State of New Hampshire in the Town of Londonderry. This order is being issued on a *nisi* basis to ensure that all interested parties receive notice of the Commission's order and have the opportunity to comment or request a hearing prior to the date set forth for comment in the ordering clauses below. The petition and subsequent docket filings, other than information for which any confidential treatment is requested of or granted by the Commission, are posted to the Commission's website at <http://puc.nh.gov/Regulatory/Docketbk/2015/15-285.html>.

I. SUMMARY OF PETITION

On July 21, 2015, Eversource filed a petition, pursuant to RSA 371:17, for a license to construct and maintain a 345 kV electric transmission line and optical ground wires at three locations over and across public lands owned by the State of New Hampshire in the Town of Londonderry. The new 345 kV transmission line will be known as the "3124 Line." According

to the petition, the existing transmission system cannot, under certain operating conditions, reliably serve southern New Hampshire and northeastern Massachusetts either at peak or off-peak load. The new line will resolve those reliability issues in southern New Hampshire. Eversource filed supporting attachments and exhibits with the petition.

In order to meet the reasonable requirements of service to the public, Eversource and New England Power Company d/b/a National Grid (NEP) jointly proposed the 3124 Line project, referred to as the “Merrimack Valley Reliability Project” (MVRP), which will extend from NEP’s Tewksbury 22A Substation in Tewksbury, Massachusetts, to Eversource’s Scobie Pond 345 kV Substation in Londonderry. The petition indicates that the MVRP resolves regional reliability problems previously identified by ISO-NE in the Greater Boston Area Updated Transmission Needs Assessment issued in 2014. The portion of the MVRP located in New Hampshire is approximately 17.9 miles extending from the Massachusetts border in Pelham to the Scobie Pond Substation in Londonderry (the Project).

A. Crossing Locations and Construction

Eversource proposes to locate the Project within an existing 535-foot-wide permanent easement that allows for multiple circuits to be placed, including pole structures and conductors. The petition indicates that the Project will cross New Hampshire-owned property (public land) at three locations in Londonderry. The first over-head or “aerial” crossing involves the span between Structures 277 and 278 that crosses public land located west of the Interstate 93 right-of-way. The second crossing involves placing Structure 278 on public lands located east of the Interstate 93 right-of-way and an aerial crossing of those public lands between Structures

277 and 278 and Structures 278 and 279. The third aerial crossing involves the span between Structures 285 and 286 that crosses over the Granite State Rail Trail, a former railroad corridor now owned by the State of New Hampshire.

The petition states that Eversource will install and maintain three twin-bundled overhead phase conductors and two optical ground wires at each of the three crossings. The optical ground wires will provide lightning protection over the conductors in the overhead configurations. Eversource will also use the optical ground wires on the new overhead structures in order to improve and enhance the reliability and capacity of the communications system.

The petition states that the Company will do all work associated with the crossings in a manner that conforms to the 2012 National Electrical Safety Code (NESC) C2-2012. The proposed crossings have been designed and will be constructed, maintained, and operated by Eversource in accordance with the applicable requirements of the NESC.

B. Regulatory Requirements

The petition indicates that a wetland permit from the New Hampshire Department of Environmental Services (NHDES) and approval from the U.S. Army Corps of Engineers (USACE) are required for the installation of Structure 286 and for access during construction. The appropriate wetland permits will be applied for and obtained by Eversource prior to the installation of any new structures that will impact wetlands, in conjunction with Eversource's siting application. In addition, Eversource informed the Commission in its petition that aerial crossings of Interstate 93 and the railroad corridor are required. The appropriate NHDOT permission agreements will be applied for and obtained by Eversource prior to the installation of any new structures that will affect NHDOT jurisdictional areas, in conjunction with Eversource's siting application. Finally, Eversource stated that the structures need an air obstruction

determination from the Federal Aviation Administration (FAA) under Federal Aviation Regulation Part 77.9(b). Determinations will be requested and appropriate measures taken by Eversource prior to the installation of any new structures that will affect FAA jurisdictional areas.

C. Property Rights

According to its petition, Eversource can perform all the work necessary to complete this project within the bounds of its 535-foot-wide permanent easement across the public land in this location. Also, Eversource owns some of the involved land outright in fee. The aerial crossings will be constructed within the limits of Eversource's permanent easement. All the structures will be constructed on Eversource-owned land.

D. Public Interest

Eversource submits that it can exercise the rights granted by the license without affecting or diminishing the rights of the public. Eversource attests that minimum safe line clearances above affected public lands will be maintained at all times, and the use and enjoyment by the public of said lands will not be diminished in any material respect as a result of the overhead line and cable crossings.

II. SUMMARY OF STAFF REVIEW

Safety Division Staff reviewed Eversource's petition and supporting attachments, applicable statutes, rules, and NESC requirements. Staff also reviewed the ownership of the land, as well as the need for, and impact of, the Project. In a memorandum filed on November 19, 2015, Staff summarized the findings of its investigation and recommended approval of the Company's petition. Staff also recommended that Eversource be required to

forward the Commission's order, after 30 days of publication notice, to the Site Evaluation Committee for consideration in SEC proceeding 2015-05.

III. COMMISSION ANALYSIS

Pursuant to RSA 371:17, Licenses for New Poles, utilities must obtain a license from the Commission to "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," when such facilities are necessary to meet the reasonable requirements of service to the public. Based on the information presented in Eversource's petition and Staff's recommendation, we find that the proposed crossings are necessary for Eversource to meet the reasonable requirements of reliable service to the public, as required by RSA 371:17.

RSA 371:20 authorizes the Commission to grant a license if it "may be exercised without substantially affecting the public rights in said waters or lands." Based on the information in the record, which includes Eversource's confirmation that the crossings are in compliance with the National Electrical Safety Code required in RSA 371:17-a, we find that the crossings are consistent with that requirement.

We therefore approve the petition subject to the conditions contained in the ordering clauses set out below related to ensuring safe construction, operation, and maintenance of the crossings. We issue our decision on a *nisi* basis to provide any interested person the opportunity to submit comments on Eversource's petition, or to request a hearing.

Eversource is responsible for obtaining any and all other permits for the construction and installation of the proposed crossings from any federal, state, and local authorities having jurisdiction. Our approval is only for the electric lines and optical ground wires proposed by

Eversource in this docket. Because Eversource requires a wetland permit from the NHDES and various approvals from the USACE, NHDOT, and the FAA, we require that this Order, along with the Order Summary, be sent to each of those agencies, and any other agency having jurisdiction over any segment or portion of these crossings. We also require Eversource to provide notice of this Order to the Town of Londonderry.

Based upon the foregoing, it is hereby

ORDERED *NISI*, that subject to the effective date below, and to the issuance of the NHDES wetlands permit, Eversource is authorized pursuant to RSA 371:17 *et seq.* to construct, install, operate, and maintain electric lines and optical ground wires over and across public lands as described in its petition and depicted in its filings; and it is

FURTHER ORDERED, that this approval is limited to the construction or alteration of overhead lines under consideration in this docket, and it is conditioned on the requirement that Eversource constructs, installs, operates, and maintains, and, if applicable, alters the lines, consistent with the provisions of the National Electrical Safety Code, in accordance with N.H. Code Admin Rules Puc 306.01, as may be applicable and as amended from time to time; and it is

FURTHER ORDERED, that Eversource shall maintain proper clearances for its lines and cables at all times across the entire length of each span licensed pursuant to NESC 232B and 235C; and it is

FURTHER ORDERED, that Eversource shall submit any future proposed alteration(s) to the crossing license granted herein at least 60 days prior to any such alteration(s); and it is

FURTHER ORDERED, that Eversource shall provide a copy of this Order *Nisi* to the (i) Town Clerk of Londonderry, New Hampshire; (ii) the New Hampshire Attorney General, as required by RSA 371:19; (iii) the New Hampshire Department of Environmental Services in

consideration of the Shoreland Water Quality Protection Act (RSA 483-B); (iv) the U.S. Army Corps of Engineers; (v) the Federal Aviation Administration pursuant to Federal Aviation Regulation Part 77.9(b); and (vi) the New Hampshire Department of Transportation and the Office of Secretary, U.S. Department of Commerce; by first class mail, no later than February 22, 2016, and to be documented by affidavit filed with this office on or before March 8, 2016; and it is


FURTHER ORDERED, that Eversource shall cause a summary of this Order *Nisi* to be published once in a statewide newspaper of general circulation or of circulation in those portions of the state where operations are conducted, such publication to be no later than February 22, 2016, and to be documented by affidavit filed with the Commission on or before March 8, 2016; and it is


FURTHER ORDERED, that all persons interested in responding to this Order *Nisi* be notified that they may submit their comments or file a written request for a hearing which states the reason and basis for a hearing no later than March 2, 2016, for the Commission's consideration; and it is

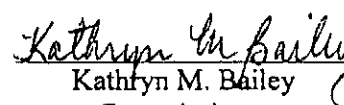
FURTHER ORDERED, that any party interested in responding to such comments or request for hearing shall do so no later than March 7, 2016; and it is

FURTHER ORDERED, that this Order *Nisi* shall be effective March 11, 2016, unless the Petitioner fails to satisfy the publication obligation set forth above or the Commission provides otherwise in a supplemental order issued prior to the effective date.

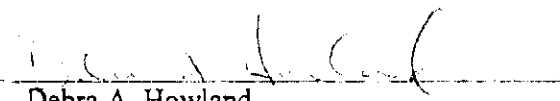
By order of the Public Utilities Commission of New Hampshire this eleventh day of
February, 2016.


Martin P. Honigberg
Chairman


Robert R. Scott
Commissioner


Kathryn M. Bailey
Commissioner

Attested by:


Debra A. Howland
Executive Director

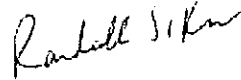
STATE OF NEW HAMPSHIRE

Inter-Department Communication

DATE: November 19, 2015

AT (OFFICE): NHPUC

FROM: Randy Knepper
Director – Safety Division



SUBJECT: Docket No. DE 15-285 PSNH d/b/a Eversource Energy
Petition for a License to Construct and Maintain Electric Lines Over
State Lands in three locations in Londonderry, NH
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
Rorie Patterson, Staff Attorney

The Safety Division's review of the above petition consisted of the following elements:

- Petition contents and history;
- Applicable State statute(s);
- Review of any 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

The Merrimack Valley Reliability Project

On July 21, 2015, PSNH d/b/a Eversource Energy (PSNH), filed a petition pursuant to RSA 371:17 for a license to construct and maintain electric lines over and across public lands in the Town of Londonderry, New Hampshire. The proposed new crossings are three small segments associated with PSNH's portion of a newly proposed installation of a 345 kV electric transmission line that is part of the "Merrimack Valley Reliability Project". The project is jointly owned by PSNH and New England Power Company d/b/a National Grid (NEP) and connects PSNH's Scobie Pond 345kV Substation in Londonderry with NEP's 22A Substation in Tewksbury, MA. The 345 kV Merrimack Valley Reliability Project will measure 17.9 miles from the Massachusetts border to the Scobie Pond Substation in Londonderry [traversing Pelham, Windham,

Hudson and Londonderry] plus 6.5 miles in Massachusetts through Dracut, Andover and Tewksbury.¹

The 3124 Line

The Londonderry segments of the proposed electric Merrimack Valley Reliability Project 345 kV circuit (phase to phase), are identified as part of the “3124 line.” PSNH proposes to locate the 3124 line within an existing 535-foot wide permanent easement that allows for multiple circuits to be placed including pole structures and conductors. The 3124 line will be built comprised of three pairs of 1590 kcmil ACSR (aluminum conductor steel reinforced) horizontally spaced single phase conductor wires of a 54/19 configuration. Each of the conductors will be approximately 1.545 inch diameter with a weight of 2.042 pound per foot. Each of the OPGWs is stated to have 48 fiber cables with 0.650 inch diameter and 0.407 pound per foot unit weight.

The total span of this segment of the 3124 line, between the supporting structures #277 and #278, is 548 feet. The 3124 line segment requiring a license or Occupancy Agreement is composed of proposed Crossing #1 (approx. 58 ft.), a Highway ROW (457ft),² and proposed Crossing # 2 (472ft.)³.

An additional segment will span the Granite State Rail Trail (82.5 ft) and is referenced in this memo as Crossing#3.

The conductors transmitting electrical power at 345 kV will be 1590 ACSR “Falcon” cable with 54/19 stranding. The condition representing the least clearance to road or grade condition is when conductors will be sagged using 285 Degrees Fahrenheit thermal maximum operating condition. PSNH did not provide the maximum tension amount applied. In its petition, PSNH provides sufficient detail to show how all required clearances from phase wires to the surface of the road will be maintained.

The position, tensioning and type of the OPGW (static) wire is consistent with the NESC heavy loading rule 250B but does not factor into the clearances because it is located above the poles by approximately 24 additional feet.

Crossing #1, West I 93 Crossing

- The location of Crossing #1 is at the approximate 13.8 mile mark of Interstate 93. PSNH seeks a license for a small approximate 58 feet segment over a parcel of land located westerly of Interstate 93 and owned by the NH DOT but

¹ NH Site Evaluation Committee Application July 2015 Section C page 6. NEP will own 14.6 miles: 8.1 miles in Pelham, Windham, and Hudson; and 6.5 miles in the Massachusetts communities of Dracut, Andover and Tewksbury. PSNH will own 9.8 miles in Londonderry and Hudson, NH.

² The Highway ROW includes both northbound and southbound travel lanes, medians and right of way extensions. PSNH is not seeking a license from the Commission to cross the Highway ROW; this will be done separately through an Occupancy and Use Agreement with the NH DOT.

³ Crossing # 3 has a total amount of 479 ft consists of partial span of 21 ft and 458 ft of a separate full span length.

outside of the Highway Right of Way. The parcel of land is identified on Exhibit 2 of the petition as Department of Public Works and Highways Map 13 block 14, and the Town of Londonderry identifies the parcel as 0130140. Appendix A Figure 1 shows the parcel of state land being crossed. Crossing #1 will consist of a Support Structure #277 and will only have 3 pairs of energized conductors; twin bundled per phase, and 2 Overhead Power Ground Wires (OPGW) fiber optic cables, that will serve as both a ground wire and a communication carrier. Appendix A Figure 4 shows the 58 ft segment in yellow to west of Interstate 93.

- Structure #277 will support the conductors on the west side of Interstate 93 at mile marker 13.8. It is not located on the public parcel being crossed but adjacent to it, on the westerly side, on a parcel owned by PSNH. Structure #277 will be 101.5 ft above ground level and will consist of octagonal tubular steel pole configured in an H Frame tangential configuration. The height of Structure #277 is 115 ft and will be embedded approximately 13.5 ft.
- The road clearance for Crossing #1, taken from the highest elevation of the northbound and southbound lanes for Interstate 93, is shown as 54 ft. The NESC requirement is 24.7 ft clearance. The Safety Division recognizes that PSNH was conservative with the clearances found and there is an additional safety factor not depicted because the lowest point of the sag is not within the 580ft and 21ft sections of the crossings.

Crossing #2, East I 93 Crossing

- The location of this crossing is also at the approximate 13.8 mile mark of Interstate 93. PSNH seeks a license for a small 21 feet segment over a parcel of land located easterly of Interstate 93 and owned by the NH DOT but outside of the Highway Right of Way. PSNH also seeks the same license for an adjacent 458 feet segment over the same parcel.⁴ The parcel of land is identified on Exhibit 2 of the petition as Department of Public Works and Highways Map 13 block 57 and the Town of Londonderry identifies the parcel as 0130570. Appendix A Figure 2 shows the parcel of state land being crossed. Crossing #2 will consist of a partial span between Support Structure #277 and #278 and a partial span between Support Structure #278 and #279. Each span has 3 pairs of energized conductors; twin bundled per phase and 2 Overhead Power Ground Wires (OPGW), fiber optic cables, that serves as both a ground wire and a communication carrier. Appendix A Figure 4 indicates in yellow the Crossing #2
- Structure #278 will support the conductors on the east side of Interstate 93 at mile marker 13.8. It is located on the public parcel being crossed (owned by

⁴ Crossing #2 in aggregate consists of 21 ft in addition to 458 ft minus 7 ft from the property line to the pole for a total length of 472 ft.

NH DOT) approximately 198 ft easterly of the northbound Interstate 93 travel lane. Structure #2 will be 101.5 ft above ground level and will consist of octagonal tubular steel pole configured in an H Frame tangential configuration. The height of the Structure #2 is 115 ft and will be embedded approximately 13.5 ft.

- The road clearance for Crossing #2, taken from the highest elevation of the northbound and southbound lanes for Interstate 93, is shown as 57.5 ft. The NESC requirement is 24.7 ft clearance. The Safety Division recognizes that PSNH was conservative with the clearances found and there is an additional safety factor not depicted because the lowest point of the sag is not within the 21 ft section of the crossings.

Crossing #3, Granite State Rail Trail

- The former Manchester Lawrence Branch of the Guilford Rail is now a segment of the Granite State Rail Trail.
- The location of this crossing is just east of Rockingham Road also known as New Hampshire State Route 28, north of Seasons Land and west of the Scobie Pond Substation in Londonderry. PSNH seeks a license for a small 82.5 feet segment over the former rail corridor that is now owned by NH DOT. The parcel of land is identified on Exhibit 5 of the petition as Dept of Transportation - Granite State Rail Trail, and the Town of Londonderry identifies the parcel as 0131430. Appendix A Figure 3 shows the parcel of state land being crossed.
- Crossing #3 will be an aerial crossing that occurs between two octagonal support structures, #285 and #286, with a span length of approximately 719 feet. The 719 span is composed of a 208 ft span west of Granite State Rail Trail, the 82.5 ft width of the Granite State Rail trail, and a 418 ft span east of the Granite State Rail Trail. PSNH is also separately seeking permission to cross the Granite State Rail Trail, and this will be done separately through a Rail Crossing Agreement and Temporary Use Agreement with the NH DOT⁵.
- Structure #285 has 3 pairs of energized conductors; twin bundled per phase and 2 Overhead Power Ground Wires (OPGW), fiber optic cables, that serves as both a ground wire and a communication carrier. Structure #285 will support the conductors on the west side of the Granite State Rail Trail. It is located on an adjacent parcel being crossed (owned by PSNH) approximately 208 ft westerly of the western edge of the Granite State Rail Trail parcel. Structure #285 will be 92.5 ft above ground level and will consist of octagonal tubular steel pole configured in a two pole H Frame tangential configuration.

⁵ SEC 15-05 Appendix P NHDOT Aerial Utility Permit and Rail Crossing Agreement and Temporary Use Agreement

The height of Structure #285 is 105 ft and will be embedded approximately 12.5 ft.

- Structure #286 will support the conductors on the east side of the Granite State Rail Trail. It is located on an adjacent parcel being crossed (owned by PSNH) approximately 418 ft easterly of the eastern edge of the Granite State Rail Trail parcel. Structure #286 will be 79 ft above ground level and will consist of octagonal tubular steel pole configured in a three pole H Frame tangential configuration. The height of Structure #286 is 90 ft and will be embedded approximately 11 ft.
- For Crossing #3 the NESC clearance requirement is 32.7ft⁶ and PSNH represents the minimum clearance provided is 39.9 ft. This sag is greater because of the elevation change of nearly 20 ft between structure #285 and #286 which makes the clearance closer to that which is required. Nonetheless, there is sufficient clearance by nearly 7.2 ft.

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 along the DOT owned parcels.

The proposed crossings are new and, consequently, have not been previously licensed by the Commission as the 3124 line. There are two other 345 kV circuits and three 115 kV circuits within the right of way but no research was done to confirm that those licenses were granted since they are not part of the petition.

⁶ NESC Table 232-1 requires $(26.5 \text{ ft} + 1.05 \cdot 345 \text{ kV} / \sqrt{3} - 22 \text{ kV} \times 0.04)$ = 32.7 ft for rail trail corridor that potentially be used for track rails in future. See 232 C – 1 a.

PSNH asserts in the petition that the proposed construction of this crossing will be exercised without substantially affecting the rights of the public for use of public lands. Minimum safe line clearances above the road and grounds surface will be maintained at all times. The use of the parcels by the public will not be diminished in any material respect as a result of the overhead line crossing. The New Hampshire DOT has the right to require relocation of structures if the ROW is negatively affected. *See RSA 231:161 (c)*.

4. Review of land ownership of proposed pole structures

In its petition, PSNH specifies that the construction of this crossing will span the affected parcels at the same location as other existing crossings within the same PSNH easement. New Structure #277 will be located within existing property owned in fee by PSNH. New Structure #278 will be located in a parcel outside of the Highway ROW but owned by the NH DOT. PSNH also states Structure #279 will be located within existing property owned in fee by PSNH.

In Crossing #3 two structures will be installed are #285 and #286. Both will be located within existing property owned in fee by PSNH.

Electronic copies of both easements referenced above were provided to the SEC 15-05 filing in Appendix P.

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....

PSNH states that it used the 2012 National Electrical Safety Code C2-2012 compliance.

Safety Division Staff reviewed the specifications related to the design and construction of this crossing project as provided in the petition, exhibits 1-5, 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, PSNH has previously constructed, and currently operates and maintains, other three-phase 345 kV transmission lines within the same easement in the Town of Londonderry, New Hampshire. The 3124 Line is an integral part of the regional ISO New England Grid. Alternative transmission routes were evaluated but were ultimately not selected by ISO New England. The proposed 3124 Line will use the same easements and cross the same public lands as other existing electric lines.

PSNH asserts in the petition that the proposed construction of this crossing will be exercised without substantially affecting the rights of the public of the public lands at all three crossings. Minimum safe line clearances above the road and ground surfaces will be maintained at all times. The use and enjoyment of the rail trail 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 materially affect the rights of the public at each of the three locations because minimum safe line clearances above the road and ground surfaces will be easily be far above the amounts required by the NESC.

Safety Division Staff Recommendations:

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 PSNH requests in this docket may be exercised without substantially affecting the public rights in the public lands which are the subject of the petition;
- 2) Licenses shall be for an approximate 58 ft section, a 472 ft section (21 ft section combined with 451 ft) and an 82.5 ft section of separate public lands all within the Town of Londonderry.
- 3) Grant PSNH a license to construct and maintain electric lines, including communication wires across the public lands of the near mile marker 13.8 of Interstate 93 and the Granite State Rail Trail in Londonderry, New Hampshire, as specified in the petition.

- 4) Issue an Order Nisi and orders for its publication; and
- 5) Require PSNH to forward the Order after 30 days of publication notice to Site Evaluation Committee for consideration in SEC proceeding 15-05.

Attachment

Appendix A

FIGURE 1:

Town of Londonderry

November 2, 2015

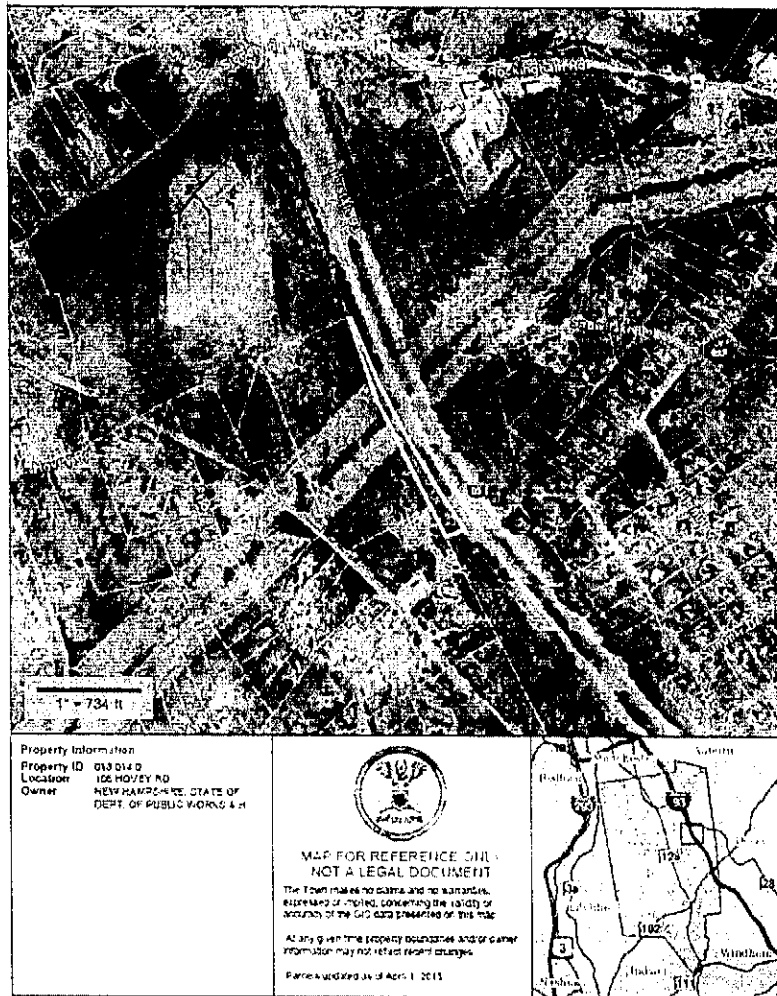


Figure 1: 345kV, designated as the 3124 Line, a span of approximately 548 feet, Londonderry, NH. The yellow highlighted parcel is the public land owned by NH DOT that the petition seeks to cross. This is outside of the Highway ROW thus RSA 231:161 does not apply. RSA 371:17 does apply. The structure on the west side of the Interstate 93 at mile marker 13.8 is new structure 277 and will be located on PSNH property. Structure 277 is a 115 ft tall steel tubular 2 pole H Frame tangential structure with horizontal spacing of the conductors. Note this crossing is referenced as Crossing #1 in this Staff Memorandum and is for approximately 70 feet.

Appendix A

FIGURE 2:

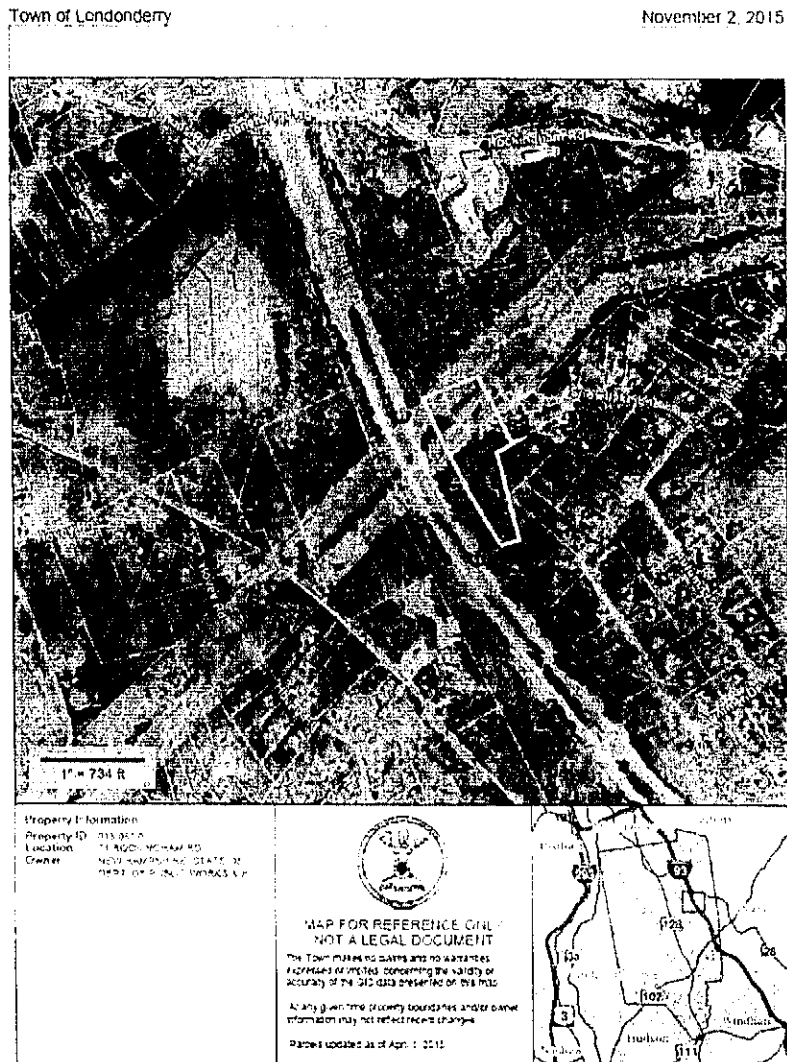


Figure 2: 345kV, designated as the 3124 Line, a span of approximately 548 feet and another of 458 ft, Londonderry, NH. The yellow highlighted parcel is the public land owned by NH DOT that the petition seeks to cross. This is outside of the Highway ROW thus RSA 231:161 does not apply. RSA 371:17 is applicable. The structure on the east side of the Interstate 93 at mile marker 13.8 is new structure 278 and will be located within the Parcel. Structure 278 is a 115 ft tall steel tubular 2 pole H Frame tangential structure with horizontal spacing of the conductors. Structure 279 is identical to Structure 278 except it is located on PSNH property. Note this crossing is referenced as Crossing #2 in this Staff Memorandum and consists of one partial span and one full span is for approximately 21 feet and 451 feet respectively.

Appendix A

FIGURE 3:

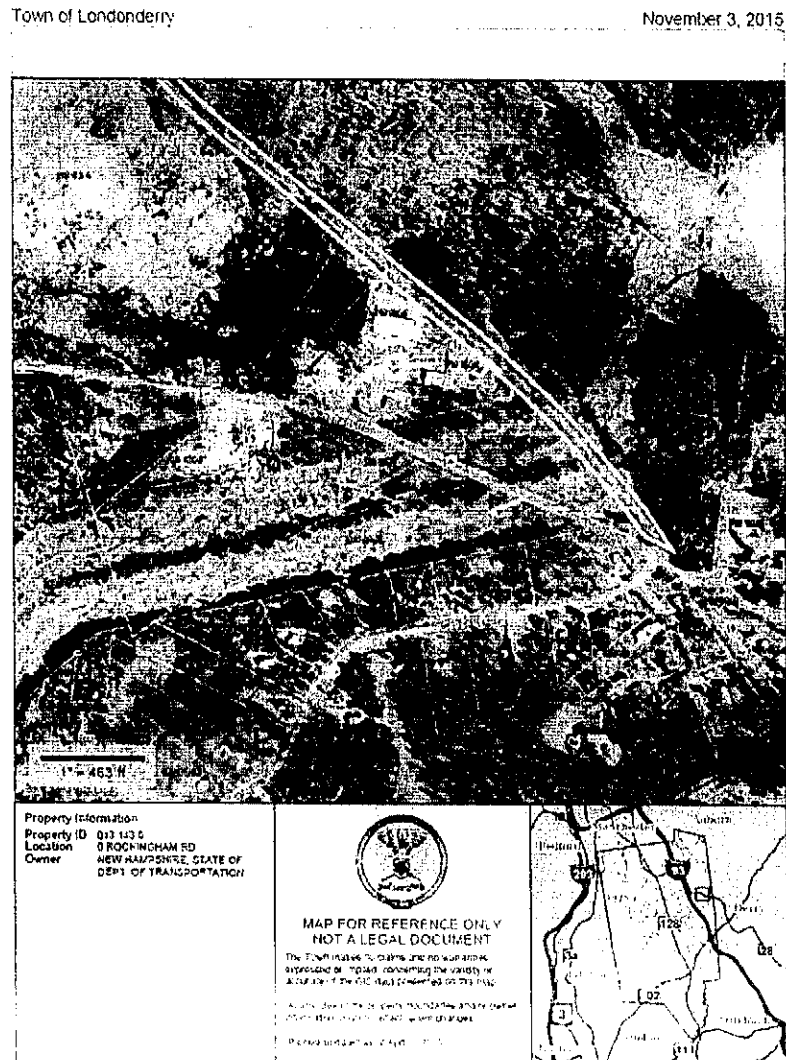


Figure 3: 345kV, designated as the 3124 Line, a span of approximately 719 feet, Londonderry, NH. The yellow highlighted parcel is the public land owned by NH DOT that serves as a rail trail that the petition seeks to cross. The structure on the west side of the rail trail is new structure 285 and will be located on PSNH property. Structure 285 is a 105 ft tall steel tubular 2 pole H Frame tangential structure with horizontal spacing of the conductors. The Structure on the east side of the rail trail is Structure 286 and is a 90 ft tall steel tubular 3 pole H Frame tangential structure with horizontal spacing of the conductors. Note this crossing is referenced as Crossing #3 in this Staff Memorandum and is for approximately 82.5 feet.

Appendix A

FIGURE 4:

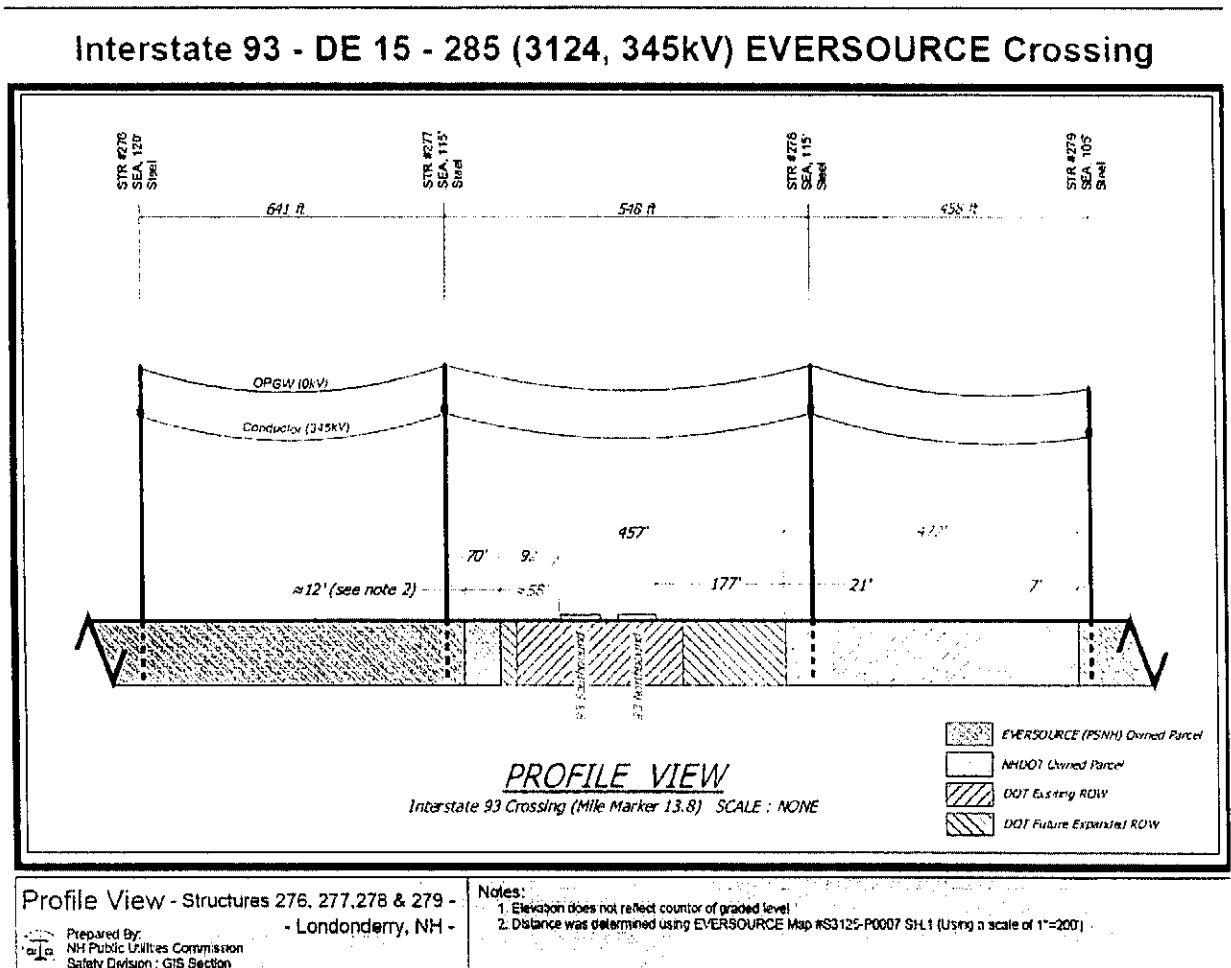
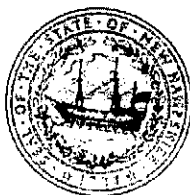


Figure 4: 345kV, designated as the 3124 Line, at mile marker 13.8 of I 93, Londonderry, NH. The yellow highlighted parcel is the public land owned by NH DOT that is outside of the Highway ROW. The yellow highlighted area is Crossing #1 (approximately 58 ft) and is located west of I93. The second yellow highlighted area is Crossing #2 (approximately 472 ft) and is located east of I93. Note that partial spans make up both Crossings.

THE STATE OF NEW HAMPSHIRE



CHAIRMAN
Martin P. Honigberg

COMMISSIONERS
Robert R. Scott
Kathryn M. Bailey

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PUBLIC UTILITIES COMMISSION

21 S. Fruit Street, Suite 10
Concord, N.H. 03301-2429

June 27, 2016

Pamela G. Monroe
Administrator
Site Evaluation Committee
21 South Fruit Street, Suite 10
Concord, NH 03301-2429

Re: Application of New England Power Company d/b/a National Grid and Public Service
Company of New Hampshire d/b/a Eversource Energy the Merrimack Valley Reliability
Project
N.H. Site Evaluation Committee Docket No. 2015-05

Dear Ms. Monroe:

In accordance with RSA 162-H:7, VI-c, the New Hampshire Public Utilities Commission (Commission) submits the following with respect to the New England Power d/b/a National Grid and Public Service Company of New Hampshire d/b/a Eversource Energy (Eversource) application for the above referenced project also known as the Merrimack Valley Reliability Project.

On June 24, 2016, the Commission approved the petition filed by Eversource pursuant to RSA 371:17 for a license to construct and maintain a 345 kV electric transmission line and optical ground wires over and across public lands owned by the State of New Hampshire in the Town of Windham. Attached please find Commission Order Nisi No. 25,907, as well as Staff's June 16, 2016 memorandum, and subsequent June 22, 2016 letter recommending approval of the petition.

Sincerely,

A handwritten signature in black ink, appearing to read "Debra A. Howland".

Debra A. Howland
Executive Director

Encl.

**STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION**

DE 15-284

NEW ENGLAND POWER COMPANY D/B/A NATIONAL GRID

**Petition for License to Construct and Maintain Electric Lines and Shield Wire
Over and Across State Waters and Land in the Town of Windham, New Hampshire**

Order *Nisi* Granting License

ORDER NO. 25,907

June 24, 2016

In this order *nisi*, the Commission grants the request of New England Power Company d/b/a National Grid (NEP) for a license to construct and maintain electric lines and associated shield wires over and across public waters and lands owned by the State of New Hampshire in the Town of Windham. This order is being issued on a *nisi* basis to ensure that all interested parties receive notice of the Commission's order and have the opportunity to comment or request a hearing prior to the date set forth for comment in the ordering clauses below. The petition and subsequent docket filings, other than any information for which confidential treatment is requested of or granted by the Commission, are posted to the Commission's website at <http://puc.nh.gov/Regulatory/Docketbk/2015/15-284.html>

I. SUMMARY OF PETITION

On July 21, 2015, NEP filed a petition, pursuant to RSA 371:17, for a license to construct and maintain a new 345 kV and a relocated 115 kV electric transmission lines and associated shield wires over and across Beaver Brook, which is a non-navigable public waterway, and for license to construct and maintain the 345 kV line over lands owned by the State of New Hampshire adjacent to Route 111 in the Town of Windham. The new 345 kV transmission line

will be known as the “3124 Line.” The 3124 line will run from Scobie Pond Substation in Londonderry, owned by Public Service Company of New Hampshire d/b/a Eversource (Eversource), to the Massachusetts border. The 3124 Line will then continue from the Massachusetts border to National Grid’s Tewksbury #22A Substation. NEP explained that this Project is part of the Merrimack Valley Reliability Project (MVRP) jointly-owned by NEP and Eversource. The New Hampshire portion of the MVRP is approximately 17.9 miles long, of 24.4 total miles, and is within existing NEP and Eversource rights-of-way. The New Hampshire portion of the route relevant to this docket currently consists of three NEP-owned transmission lines: the N-214 (230 kV); the Y-151 (115 kV); and the O-215 (230 kV). The lines run through the New Hampshire towns of Londonderry, Hudson, Windham, and Pelham.¹ NEP’s petition indicated that the projects in this docket will involve relocating the existing Y-151 Line to the western edge of the existing right-of-way and constructing the new 3124 Line in its place.

According to the petition, the MVRP became necessary to address reliability concerns discovered by ISO-New England. Due to load growth and aging infrastructure, ISO-NE decided that additional capacity would be needed to meet the region’s demand. Therefore, in order to meet the reasonable requirements of service to the public, NEP and Eversource jointly proposed the MVRP, which would resolve the reliability issues identified by ISO-NE. Eversource filed a request for line crossings for its portion of the MVRP in Docket No. DE 15-285.

¹ The Massachusetts section of the MVRP is approximately 6.5 miles and traverses the towns of Dracut, Andover, and Tewksbury. NH Site Evaluation Committee Application July 2015 Section C page 6. NEP will own 14.6 miles with 8.1 miles in Pelham, Windham, and Hudson and another 6.5 miles in the Massachusetts communities of Dracut, Andover and Tewksbury. PSNH will own 9.8 miles in Londonderry and Hudson.

NEP filed supporting attachments and exhibits with its petition. NEP provided Commission Staff (Staff) with supplemental information² during the course of Staff's review.

A. Crossing Locations and Construction

NEP's petition requests a license for two water crossings over Beaver Brook. The relocated Y-151 Line will cross Beaver Brook, and the new 3124 Line will cross both Beaver Brook and state-owned land that is outside of the highway right-of-way for, and adjacent to, Route 111 (Haverhill Road). The proposed crossings over and above Beaver Brook are located between Haverhill Road in Windham (Route 111) and Bockes Road in Hudson.³ Beaver Brook serves as the boundary between Windham and Hudson.

Y-151 Line Crossing over Beaver Brook. The petition indicated that the existing Y-151 Line will be moved from the center of the right-of-way to 28.5 feet from the western edge, and will cross over Beaver Brook in its new location. The distance between structures 82 and 83, the structures on either side of Beaver Brook, is approximately 703 feet. At the location of this crossing, the main stem of Beaver Brook is approximately 55 feet. According to the petition, the Y-151 Line will have a minimum clearance of 25 feet above the water level. NEP submitted information based on a survey showing that the Y-151 Line will be relocated within the existing right-of-way but outside the State-owned parcel of land that is adjacent to Route 111.

3124 Line Crossings. The petition stated that the new 3124 Line crossing will be located at the center of the 350-foot right-of-way from which the existing Y-151 Line is being relocated,

² On February 26, 2016, NEP provided a memo to the Safety Division in response to information requests made to the Company.

³ NEP indicated that it will be entering into an Occupancy and Use Agreement with the New Hampshire Department of Transportation (NHDOT) for the crossing over Route 111.

and will cross Beaver Brook where the Y-151 Line currently crosses.⁴ The distance between structures 144 and 145, the structures on either side of Beaver Brook, is approximately 919 feet. The width of Beaver Brook is approximately 87 feet at this location. According to the petition, the 3124 Line will have a minimum clearance of 30 feet above the water level. The new 3124 Line will also cross a parcel of New Hampshire Department of Transportation ("NH DOT") State-owned land identified as Lot 14-A-300A adjacent to Route 111.

The petition stated that the Company will do all work associated with the crossings in a manner that conforms to the 2012 National Electrical Safety Code (NESC) C2-2012. In its petition, NEP verified that the proposed crossings have been designed and will be constructed, maintained, and operated in accordance with the applicable requirements of the NESC and that they will comply with minimum water and ground clearance requirements.

B. Regulatory Requirements

NEP stated that installation of the cables across Beaver Brook will not require any dredging or use of heavy equipment in the brook, and that the flow of the brook will not be diverted or altered for the Project. Beaver Brook is not designated as a navigable waterway under the NH Programmatic General Permit. NEP indicated that it has applied to the New Hampshire Department of Environmental Services (NHDES) for a Shoreland Permit for the Beaver Brook crossings. In addition, the petition asserted that NEP and Eversource have consulted with the NHDOT and will obtain all necessary permits for work on and over Route 111.

⁴ This permanent easement allows for multiple circuits to be placed, including pole structures and conductors.

C. Property Rights

According to its petition, NEP owns permanent easements for the rights-of-way at each crossing location. NEP attested that all rights necessary to construct and maintain the lines over and above Beaver Brook have been obtained, and that no taking of private property or acquisition of other property rights is required.

D. Public Interest

NEP submitted that it can exercise the rights granted by the licenses without affecting or diminishing the rights of the public. NEP attested that minimum safe line clearances above affected public waters and lands will be maintained at all times. The use and enjoyment by the public of said waters and lands will not be diminished in any material respect as a result of the crossings.

II. SUMMARY OF STAFF REVIEW

Safety Division Staff (Staff) reviewed NEP's petition and supporting attachments, applicable statutes and rules, and NESC requirements. Staff also reviewed the ownership of the land, as well as the impacts of the proposed crossings. In a memorandum filed on June 16, 2016, Staff summarized the findings of its investigation and recommended approval of the Company's petition. Staff also recommended that NEP be required to forward the Commission's order, after 30 days of publication notice, to the Site Evaluation Committee for consideration in SEC proceeding 2015-05. *See* June 16, 2016, Staff Recommendation from Randall Knepper and June 22, 2016, Correction to Referenced Attachments.

III. COMMISSION ANALYSIS

Pursuant to RSA 371:17, Licenses for New Poles, utilities must obtain a license from the Commission to “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,” when such facilities are necessary to meet the reasonable requirements of service to the public. Based on the information presented in NEP’s petition and Staff’s recommendation, we find that the proposed crossings are necessary for NEP to meet the reasonable requirements of service to the public, as required by RSA 371:17.

RSA 371:20 authorizes the Commission to grant a license if it “may be exercised without substantially affecting the public rights in said waters or lands.” Three transmission lines currently cross Beaver Brook and the State-owned land at this location. NEP has affirmed it will construct and maintain these lines consistent with the NESC. We find the addition of the 3124 Line and relocation of the Y-151 Line will not substantially affect public rights at these locations.

Accordingly, we approve the petition subject to the conditions contained in the ordering clauses set out below related to ensuring safe construction, operation, and maintenance of the crossings. We issue our decision on a *nisi* basis to provide any interested person the opportunity to submit comments on NEP’s petition, or to request a hearing.

NEP is responsible for obtaining any and all other permits for the construction and installation of the proposed crossings from any federal, state, and local authorities having jurisdiction. Our approval is only for the electric lines and associated wires proposed by NEP in this docket. Because NEP requires a Shoreland permit from the NHDES and one or more

approvals from the NHDOT, we require that this Order, along with the Order Summary, be sent to each of those agencies, and any other agency having jurisdiction over any segment or portion of these crossings. We also require NEP to provide notice of this Order to the Towns of Windham and Hudson.

Based upon the foregoing, it is hereby

ORDERED *NISI*, that subject to the effective date below, NEP is authorized pursuant to RSA 371:17 *et seq.*, to construct, install, operate, and maintain electric lines and optical ground wires over and across public waters and lands as described in its petition and depicted in its filings; and it is

FURTHER ORDERED, that this approval is limited to the construction of electrical lines under consideration in this docket, and it is conditioned on the requirement that NEP construct, install, operate, and maintain, consistent with the provisions of the National Electrical Safety Code, in accordance with N.H. Code Admin Rules Puc 306.01, as may be applicable and as amended from time to time, and all other applicable safety and preservation standards in existence at that time; and it is

FURTHER ORDERED, that NEP shall maintain proper clearances for its lines and cables at all times across the entire length of each span licensed, pursuant to NESC 232B and 235C; and it is

FURTHER ORDERED, that NEP shall submit any future proposed alteration(s) to the crossing license granted herein at least 60 days prior to any such alteration(s); and it is

FURTHER ORDERED, that NEP shall provide a copy of this Order *Nisi* to (i) Town Clerks of Windham and Hudson, New Hampshire; (ii) the New Hampshire Department of Environmental Services in consideration of the Shoreland Water Quality Protection Act (RSA 483-B); (iii) New Hampshire Department of Transportation; and (iv) the Office of Secretary, U.S. Department of Commerce; and (v) the New Hampshire Attorney General and all owners of the land bordering on said public waters at the location of the crossing, as required by RSA 371:19; by first class mail, no later than July 6, 2016, and to be documented by affidavit filed with this office on or before July 22, 2016; and it is


FURTHER ORDERED, that NEP shall cause a summary of this Order *Nisi* to be published once in a statewide newspaper of general circulation or of circulation in those portions of the state where operations are conducted, such publication to be no later than July 6, 2016, and to be documented by affidavit filed with the Commission on or before July 22, 2016; and it is

FURTHER ORDERED, that all persons interested in responding to this Order *Nisi* be notified that they may submit their comments or file a written request for a hearing which states the reason and basis for a hearing no later than July 13, 2016, for the Commission's consideration; and it is


FURTHER ORDERED, that any party interested in responding to such comments or request for hearing shall do so no later than July 20, 2016; and it is

FURTHER ORDERED, that this Order *Nisi* shall be effective July 24, 2016, unless the Petitioner fails to satisfy the publication obligation set forth above or the Commission provides otherwise in a supplemental order issued prior to the effective date.


By order of the Public Utilities Commission of New Hampshire this twenty-fourth day of
June, 2016.



Martin P. Honigberg
Chairman

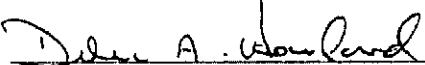


Robert R. Scott
Commissioner



Kathryn M. Bailey
Commissioner

Attested by:



Debra A. Howland
Executive Director

NHPUC 16-01716-0, 24

STATE OF NEW HAMPSHIRE
Inter-Department Communication

DATE: June 16, 2016
AT (OFFICE): NHPUC

FROM: Randy Knepper /s/ *Randall S. Knepper*
Director – Safety Division

SUBJECT: Docket No. DE 15-284 New England Power Company d/b/a National
Grid Petition for a License to Construct and Maintain Electric Lines
Over State Lands and Public Waters, Windham, NH
Staff Recommendation

TO: Debra Howland, Executive Director
Thomas Frantz, Director, Electric Division
Leszek Stachow, Assistant Director, Electric Division
Rorie Patterson, Staff Attorney

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
The Merrimack Valley Reliability Project

On July 21, 2015, New England Power Company d/b/a National Grid (NEP), filed a petition pursuant to RSA 371:17 for a license to construct and maintain electric lines over and across public lands and public waters in the Town of Windham, New Hampshire. The proposed new crossings are two small segments associated with NEP's portion of a newly proposed installation of a 345 kV electric transmission line known as circuit 3124 that is part of the "Merrimack Valley Reliability Project". The project is jointly owned by PSNH d/b/a Eversource Energy (PSNH) and (NEP) and connects PSNH's Scobie Pond 345kV Substation in Londonderry with NEP's 22A Substation in Tewksbury, MA. The 345 kV Merrimack Valley Reliability Project is 17.9 miles from the Massachusetts border to the Scobie Pond Substation in Londonderry [traversing Pelham, Windham,

Hudson and Londonderry] and 6.5 miles in Massachusetts through Dracut, Andover and Tewksbury.¹

In addition NEP proposes to relocate an existing 115 kV circuit known as Y-151 which will cross public water, Beaver Brook, which serves as a town boundary between Hudson and Windham.

On February 26, 2016 NEP provided a memo to the Safety Division clarifying two issues the Safety Division had inquired about.

The Safety Division also referenced the original petition including the multiple appendices that was sent to the Site Evaluation Committee as listed in SEC docket 2015-05.

In summary NEP seeks 2 water crossings over Beaver Brook in Windham/Hudson, each for proposed 345kV Circuit 3124 and for a relocated 115kV Circuit Y-151. In addition NEP seeks a single land crossing of a State of NH DOT parcel in Windham for the 345kV Circuit 3124. NEP does not seek a license for the same parcel for the relocated 115kV Circuit Y-151 and believes it is not necessary.

The 3124 Line

The Hudson and Windham segments of the proposed electric Merrimack Valley Reliability Project 345 kV circuit (phase to phase), are identified as part of the "3124 line." NEP proposes to locate the 3124 line within an existing 350-foot wide permanent easement that allows for multiple circuits to be placed including pole structures and conductors. The 3124 line will be built comprised of three pairs of 1590 kcmil ACSR (aluminum conductor steel reinforced) horizontally spaced single phase conductor wires of a 54/19 configuration. Each of the conductors will be approximately 1.545 inch diameter with a weight of 2.042 pound per foot. In addition there will be a single Overhead Power Ground Wire (OPGW) fiber optic cable that serves as both a ground wire for lightening protection and a communication carrier for the span. The OPGW is stated to have 48 fiber cables with 0.650 inch diameter and 0.407 pound per foot unit weight. Configured opposite the OPGW is a shield wire. The shield wire serves only as lightening protection. The shield wire will be composed of 0.360 inch diameter high strength steel and 0.273 pound per foot unit weight.

The two crossings that NEP is seeking licenses of the proposed 3124 line are
Crossing #1 –consists of an aerial crossing over the Beaver Brook
Crossing #2 – consist of an aerial crossing over land owned by NH DOT that is outside of the highway right of way for New Hampshire State Route 111 (Haverhill Rd)

The conductors transmitting electrical power at 345 kV will be 1590 ACSR "Falcon" cable with 54/19 stranding. The condition representing the least clearance to road or grade condition is when conductors will be sagged using 284 Degrees Fahrenheit thermal maximum operating condition. NEP stated the maximum tension amount applied will be 10,000 pounds. In its petition, NEP provides sufficient detail to show how all

¹ NH Site Evaluation Committee Application July 2015 Section C page 6. NEP will own 14.6 miles with 8.1 miles in Pelham, Windham, and Hudson and another 6.5 miles in Massachusetts communities of Dracut, Andover and Tewksbury. PSNH will own 9.8 miles in Londonderry and Hudson, NH

required clearances from phase wires to the surface of the water or land will be maintained.

The position, tensioning and type of the OPGW (static) wire is consistent with the NESC heavy loading rule 250B but does not factor into the clearances because it is located above the poles by approximately 12 and 21.5 additional feet respectively depending upon the type of support structure used. The same is true for the shield wire.

3124 Crossing #1, Beaver Brook Crossing:

- The location of this crossing is over the Beaver Brook located between Haverhill Rd, Windham also known as NH State Route 111 in Windham and Bockes Rd, Hudson, NH. Appendix A Figure 1 shows the area being crossed.

The total span of this segment of the 3124 line, between the supporting structures #144 and #145, is 919 feet. Beaver Brook width itself is approximately 87 feet at this location.

- Beaver Brook serves as the town boundary between Windham and Hudson.
 - NEP is not seeking a license to cross the New Hampshire State Route 111 (Haverhill Rd); this will be done separately through an Occupancy and Use Agreement with the NH DOT.
 - This brook crossing will only have 3 pairs of energized conductors; twin bundled per phase and a single Overhead Power Ground Wire (OPGW), fiber optic cable and a single wire. The OPGW serves as both a ground wire and a communication carrier. The shield wire serves only as lightning protection. The 3124 line will be built comprised of three pairs of 1590 Kcmil ACSR (aluminum conductor steel reinforced) horizontally spaced single phase conductor wires in a 54/19 configuration. Each of the conductors will be approximately 1.545 inch diameter with a weight of 2.042 pound per foot. The OPGW is stated to have 48 fiber cables with 0.650 inch diameter and 0.407 pound per foot unit weight. The shield wire will be composed of 0.360 inch diameter high strength steel and 0.273 pound per foot unit weight.
 - Structure #144 will support the conductors on the southerly side of Beaver Brook in the interior position within the right of way. At approximately 175 ft from the edge of the right of way. The Structure will be 75 ft above ground level and will consist of weathered tubular steel pole configured in an H Frame dead end configuration. The height of the Structure is 75 ft and will not be embedded.

- Structure #145 will support the conductors on the northerly side of Beaver Brook in the interior position within the right of way. At approximately 175 ft from the edge of the right of way. The Structure will be 70 ft above ground level and will consist of weathered tubular steel pole configured in an H Frame suspension configuration with cross bracing. The height of the Structure is 70 ft and will not be embedded.

3124 Crossing #2, NH DOT parcel Crossing:

- The location of this crossing is the same span that is described in Crossing #1. NEP seeks a license for a small, approximately 85 feet segment over a parcel of land in Windham located northerly of Haverhill Rd (New Hampshire Route 111) and owned by the NH DOT but outside of the Highway Right of Way. The parcel is south of Beaver Brook Crossing.
- The parcel of land is identified on item 14 and Attachment 4 of the petition as NH DOT owned parcel Lot 14-A-300A described as a 0.33 acre vacant parcel. The Town of Windham also identifies the parcel as lot 14-A-300A but lists it 0.36 acre. Appendix A, Figure 2 shows the parcel of state land being crossed as represented by the Town of Windham's online GIS.
 - The length of the aerial crossing (approximately 85') is a portion of a larger span (919)' as listed in Crossing #1.
 - The location of the crossing for 3124 is in the same location as the current location of as 115 kV circuit Y-151.
 - Circuit Y-151 will be moved and rebuilt to a western location approximately 28.5 feet from the western edge of the 350 foot ROW.
 - NEP is not seeking a license to cross Route 111; this will be done separately through an Occupancy and Use Agreement with the NH DOT.
 - The minimum clearance per the NESC is 24.8 ft above ground level and NEP has designed the minimum to be 30 ft easily meeting the requirement.
- This parcel crossing will only have 3 pairs of energized conductors; twin bundled per phase and a single Overhead Power Ground Wire (OPGW), fiber optic cable and a single wire. The OPGW serves as both a ground wire and a communication carrier. The shield wire serves only as lightening protection. The 3124 line will be built comprised of three pairs of 1590 Kcmil ACSR (aluminum conductor steel reinforced) horizontally spaced single phase

conductor wires in a 54/19 configuration. Each of the conductors will be approximately 1.545 inch diameter with a weight of 2.042 pound per foot. The OPGW is stated to have 48 fiber cables with 0.650 inch diameter and 0.407 pound per foot unit weight. The shield wire will be composed of 0.360 inch diameter high strength steel and 0.273 pound per foot unit weight.

The Y151 Line

The Hudson and Windham segments of the proposed electric Merrimack Valley Reliability Project 345 kV circuit (phase to phase), are identified as part of the "3124 line." NEP proposes to locate the 3124 line at the center line within an existing 350-foot wide permanent easement that allows for multiple circuits to be placed including pole structures and conductors. To facilitate the building of the proposed 3124 circuit the existing Y-151 115kV circuit is required to be relocated thus necessitating a new license to be granted. The amount of relocation is approximately 7.6 miles but only a single segment requires a license over Beaver Brook. NEP did not include any mention of a previous license for Y-151 over Beaver Brook and staff research of PUC files did not find one.

The relocated Y-151 circuit will be rebuilt with three pairs of 795 kcmil ACSSHS285 (aluminum conductor steel supported - high strength) horizontally spaced single phase conductor wires of a 26/7 configuration. Each of the conductors will be approximately 1.108 inch diameter with a weight of 1.093 pound per foot. In addition there will be a single Overhead Power Ground Wire (OPGW) fiber optic cable that serves as both a ground wire for lightening protection and a communication carrier for the span. The OPGW does not identify how many cables are included in its petition. Within the SEC application the OPGW is stated to have 144 count with 0.630 inch diameter and 0.407 pound per foot unit weight². There is no shield wire opposite the OPGW.

The crossing that NEP is seeking licenses of the proposed Y-151 line is Crossing #3 –consists of an aerial crossing over the Beaver Brook.

The conductors transmitting electrical power at 115 kV will be 795 kcmil ACSS "Drake" cable with 24/7 stranding. The condition representing the least clearance to road or grade condition is when conductors will be sagged using 392 Degrees Fahrenheit thermal maximum operating condition. NEP stated the maximum tension amount applied will be 8,000 pounds. In its petition, NEP provides sufficient detail to show how all required clearances from phase wires to the surface of the water or land will be maintained.

The position, tensioning and type of the OPGW (static) wire is consistent with the NESC heavy loading rule 250B but does not factor into the clearances because it is located above the poles by approximately 12 and 21.5 additional feet respectively depending upon the type of support structure used.

² SEC 2015-05, Initial Application p.47 Table 6.

Y-151 Crossing #3, Beaver Brook Crossing:

- The location of this crossing is over the Beaver Brook located between Haverhill Rd, Windham also known as NH State Route 111 in Windham and Bockes Rd, Hudson, NH. Appendix A Figure 1 shows the area being crossed.

The total span of this segment of the Y-151 line, between the supporting structures #82 and #83, is 703 feet. Beaver Brook width itself is approximately 55 feet at this location.

- Beaver Brook serves as the town boundary between Windham and Hudson.
 - NEP is not seeking a license to cross the New Hampshire State Route 111 (Haverhill Rd); this will be done separately through an Occupancy and Use Agreement with the NH DOT.
 - This brook crossing will only have 3 pairs of energized conductors; twin bundled per phase and a single Overhead Power Ground Wire (OPGW), fiber optic cable and a single wire. The OPGW serves as both a ground wire and a communication carrier. The relocated Y-151 line will be built comprised of three pairs of 795 Kcmil ACSSHS285 (aluminum conductor steel supported, high strength type) horizontally spaced single phase conductor wires in a 26/7 configuration. The high strength conductor is able to be strung tighter allowing for less sag. The ultra high strength inner cable is able to withstand greater tensioning before breaking. Each of the conductors will be approximately 1.108 inch diameter with a weight of 1.093 pound per foot.
 - The OPGW is stated to have 144 count with 0.630 inch diameter and 0.462 pound per foot unit weight.
 - Structure #82 will support the conductors on the southerly side of Beaver Brook at the western most position within the right of way, at approximately 28.5 ft from the western edge of the right of way. The Structure will be 85 ft above ground level and will consist of weathered tubular steel mono pole davit arm type dead ended (double insulated string. The height of the Structure is 85 ft and will not be embedded.
 - Structure #83 will support the conductors on the northerly side of Beaver Brook at the western most position within the right of way, at approximately 28.5 ft from the western edge of the right of way. The Structure will be 72.5 ft above ground level and will consist of

weathered tubular steel monopole davit arm suspension type (double insulated string). The height of the Structure is 72.5 ft and will not be embedded.

Considered Y-151 Crossing #4 – This consists of a potential aerial crossing over land owned by NH DOT that is outside of the highway right of way for New Hampshire State Route 111 (Haverhill Rd)

- This potential parcel crossing is the same parcel as listed in Crossing #2 (see this parcel as highlighted in Appendix A, Figure 2) and the span would be the same span as listed in Crossing #3 (see location of span Y-151 in Appendix A, Figure 1).
- NEP does not seek a license for the land crossing because it does not believe the land is owned by the state of New Hampshire. The Safety Division in reviewing NH DOT Crossing Permit Drawing 400298-C-L-10, as provided in the petition attachment, noted the NH DOT parcel as depicted did not seem to align with the Tax Map Parcel as depicted on the Town of Windham's online GIS. See Appendix A, Figure 3.
- The Safety Division imposed the Tax Map Parcel from the Town of Windham's online GIS and created its own drawing as provided in Appendix A, Figure 4. A discrepancy appeared between the depiction of the NEP drawing of the parcel shape and location when compared to the above referenced drawing created by the Safety Division. A further inquiry was made of NEP to confirm (see next bullet point).
- In its February 26, 2016 response NEP stated that "National Grid's Surveying Department has confirmed that the shape of the NH DOT Parcel noted on the north side of Route 111 is accurate and consistent with their field review. There could be inaccuracies with the Town of Windham's Assessors maps, which is not uncommon."
- The Safety Division did not complete a field survey and thus relies on NEP's statement. Since NEP has not requested a license then the Safety Division believes the petition should be considered as presented.

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 along the DOT owned parcels.

The crossing is new and has not had a need to have been previously licensed by the Commission as the 3124 line. There are two other 230kV circuits and one 115 kV circuits within the right of way but no research was done to confirm those licenses were granted since they are not part of the petition.

NEP asserts in the petition that the proposed construction of this crossing will be exercised without affecting the rights of the public to use the waters of the property of the State. Minimum safe line clearances above grounds surface will be maintained at all times. The use of the parcels by the public will not be diminished in any material respect as a result of the overhead line crossing. The New Hampshire DOT has the right to require relocation of structures if the ROW is negatively affected. *reference RSA 231:161 (c)*

4. Review of land ownership of proposed pole structures

In its petition, NEP specifies that the construction of this crossing will span the affected parcels at the same location as other existing crossings within the same NEP easement. New Structure 144 and 145 will be located within existing property owned by NEP. New Structure 82 will be located in a parcel outside of the Highway ROW. NEP PSNH also states the next Structure 83 will be located within existing property owned by NEP.

Electronic copies of both easements referenced above were provided to the SEC 15-05 filing in Appendix P.

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....

NEP does not explicitly state that it used the 2012 National Electrical Safety Code C2-2012 compliance. It does reference the standard conditions found in the NESC in its drawing attachments.

Safety Division Staff reviewed the specifications related to the design and construction of this crossing project as provided in the petition, attachment pages 1-4, supplemental drawings provided to Staff on February 26, 2016, 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, NEP has previously constructed, and currently operates and maintains, other three-phase 230 kV and 115 kV transmission lines within the same easement in the Towns of Hudson and Windham, New Hampshire. The proposed 3124 Line will be an integral part of the regional ISO New England Grid. Alternative transmission routes were evaluated but were ultimately not selected by ISO New England. The proposed 3124 Line will use the same easements and cross the same public lands as other existing electric lines.

NEP asserts in the petition that the proposed construction of this crossing will be exercised without affecting the rights of the public of the public lands and waters at all the crossings. Minimum safe line clearances above the road and ground surfaces will be maintained at all times. The use and enjoyment of the vacant DOT parcel and Beaver Brook by the public will not be diminished in any material respect as a result of the overhead line crossings.

The Safety Division notes the reconfiguration of the transmission lines within the existing ROW is necessary as the ROW is becoming more crowded and the existing

easement is becoming a major corridor for power transmission. Safety Division Staff concludes the impact to the public in terms of safety will be *de minimis* and not measurable in terms of heights above surfaces of the Beaver Brook and the NH DOT parcel. The proposed crossing does not appear to materially affect the rights of the public at each of the three locations because minimum safe line clearances above the road and ground surfaces will be easily be far above the amounts required by the NESC.

Safety Division Staff Recommendations:

Based on the results of its review of the petition, attachment pages, and all other supporting documents available, the Safety Division Staff recommends that the Commission:

- 1) Find that the license(s) NEP requests in this docket may be exercised without substantially affecting the public rights in the public lands which are the subject of the petition;
- 3) Grant NEP a license to construct and maintain electric lines, including communication wires across the public lands in Windham identified as NH DOT –owned parcel Lot 14-A-300A and public water known as Beaver Brook in the Towns of Hudson and Windham
- 4) Issue an Order Nisi and orders for its publication; and
- 5) Require NEP to forward the Order after 30 days of publication notice to Site Evaluation Committee for consideration in SEC proceeding 15-05.

Attachment

Appendix A

FIGURE 1:

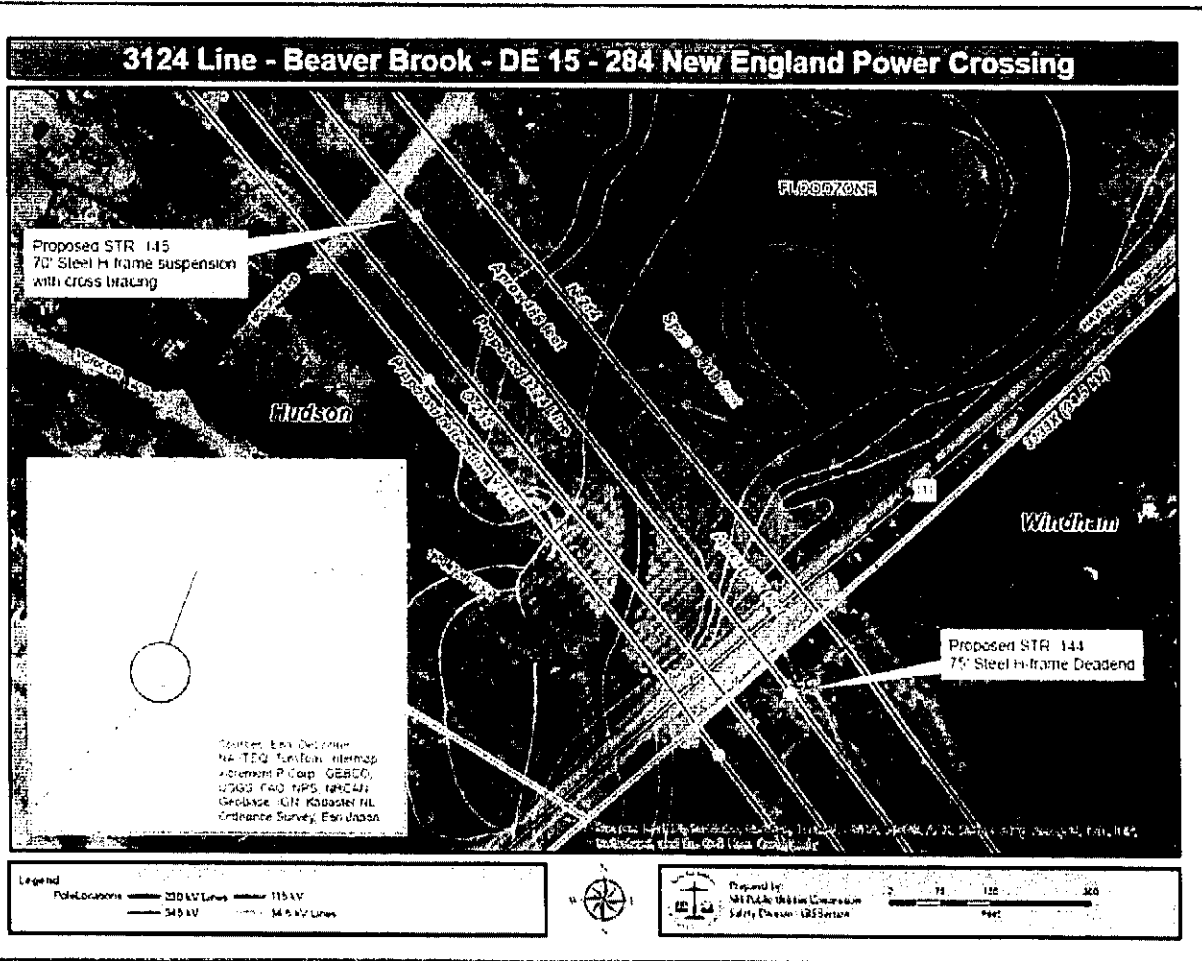


Figure 1: This is the proposed 3124 line shown in the center of the 350 foot ROW. The span of 919 feet crosses both the Beaver Brook and a parcel of the NH DOT. The respective Support structures are 485 feet and 275 feet to the banks of the Beaver Brook. Note also Route 111 is crossed but not subject of this petition. Existing 230 kv lines N214 and O215 are shown as reference. Proposed relocation of Y-151 115 kV is also depicted.

Appendix A

FIGURE 2:

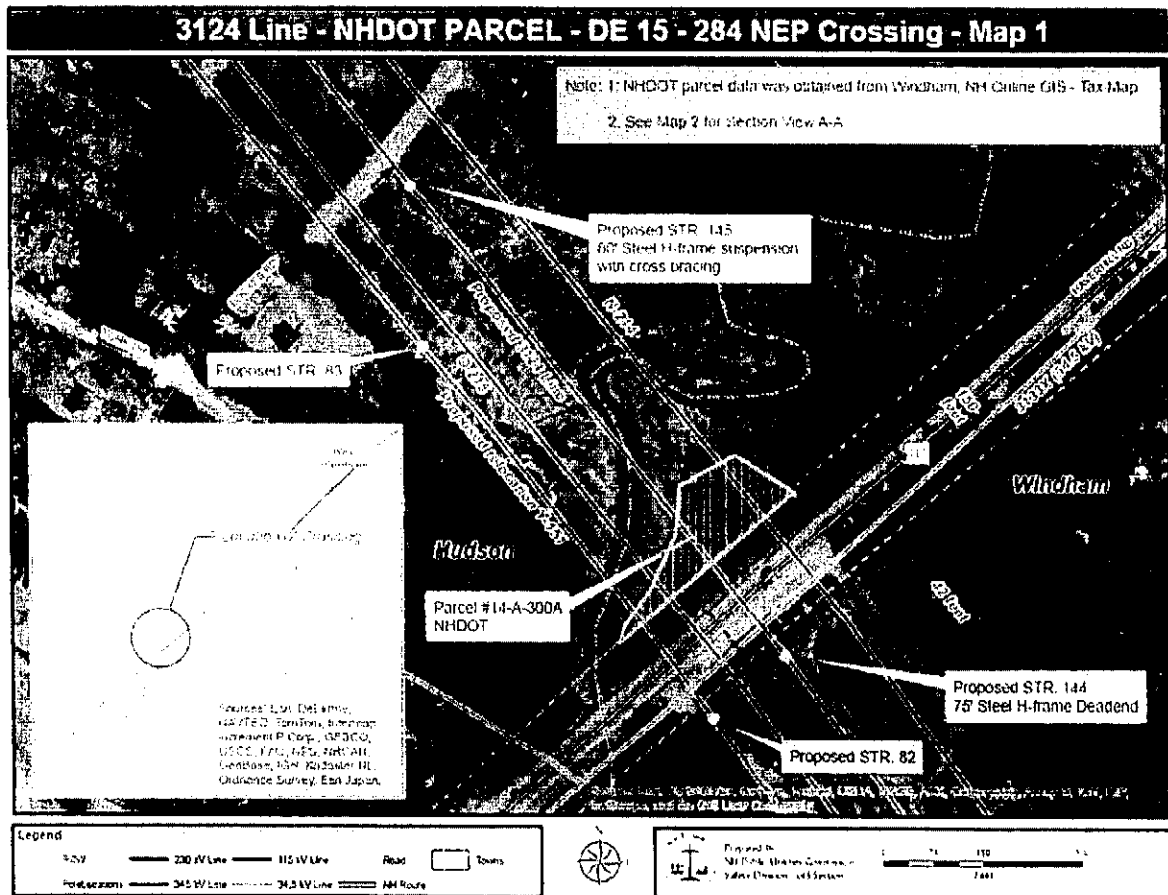


Figure 2: 345kV, designated as the 3124 Line, a span of approximately 919 feet in Windham and Hudson, NH. The yellow highlighted parcel is the public land owned by NH DOT that the petition seeks to cross. This is outside of the Highway ROW thus RSA 231:161 does not apply. RSA 371:17 does apply. Note this crossing is referenced as Crossing #2 in this Staff Memorandum. Cross Section A-A is shown on Appendix A – Figure 3

Appendix A

FIGURE 3:

NHDOT - DE 15 - 284 (3124, 345kV) NEP Crossing - Map 2

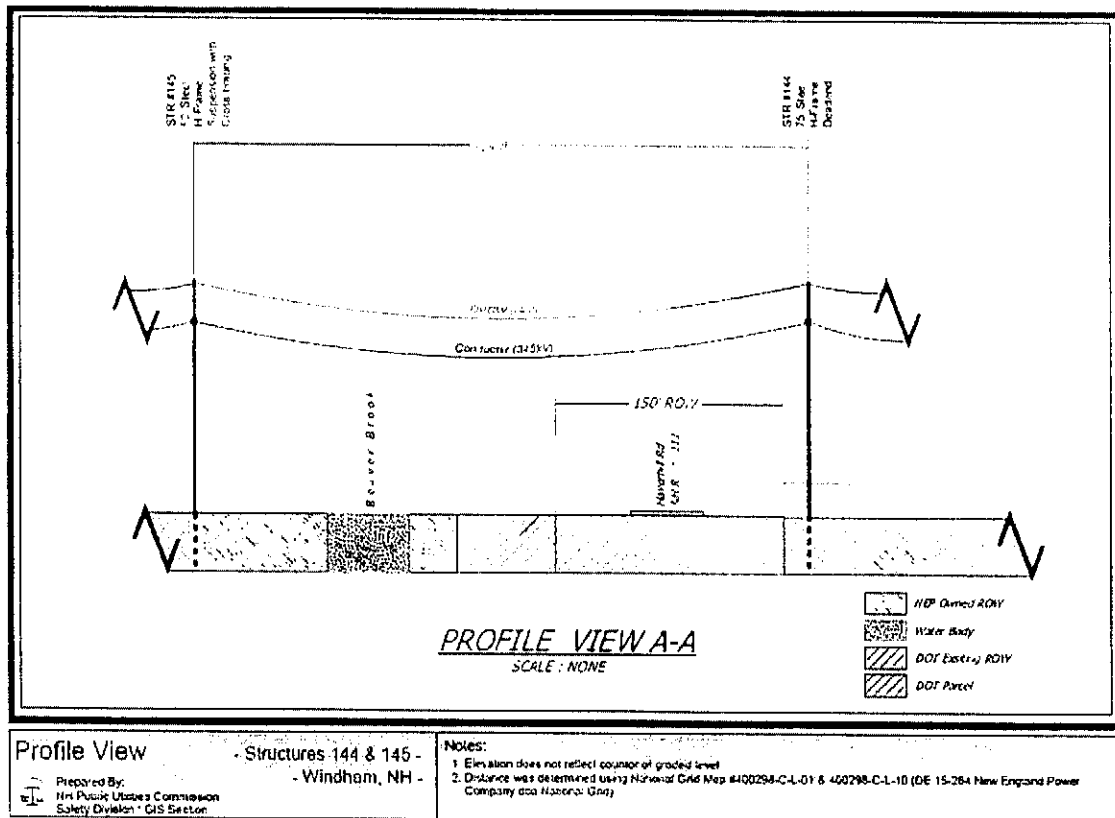


Figure 3: MAP 2 Cross Section of 3124 line 345 kV. Note the structures and orientation of DOT Parcel and Beaver Brook.

FIGURE 4:

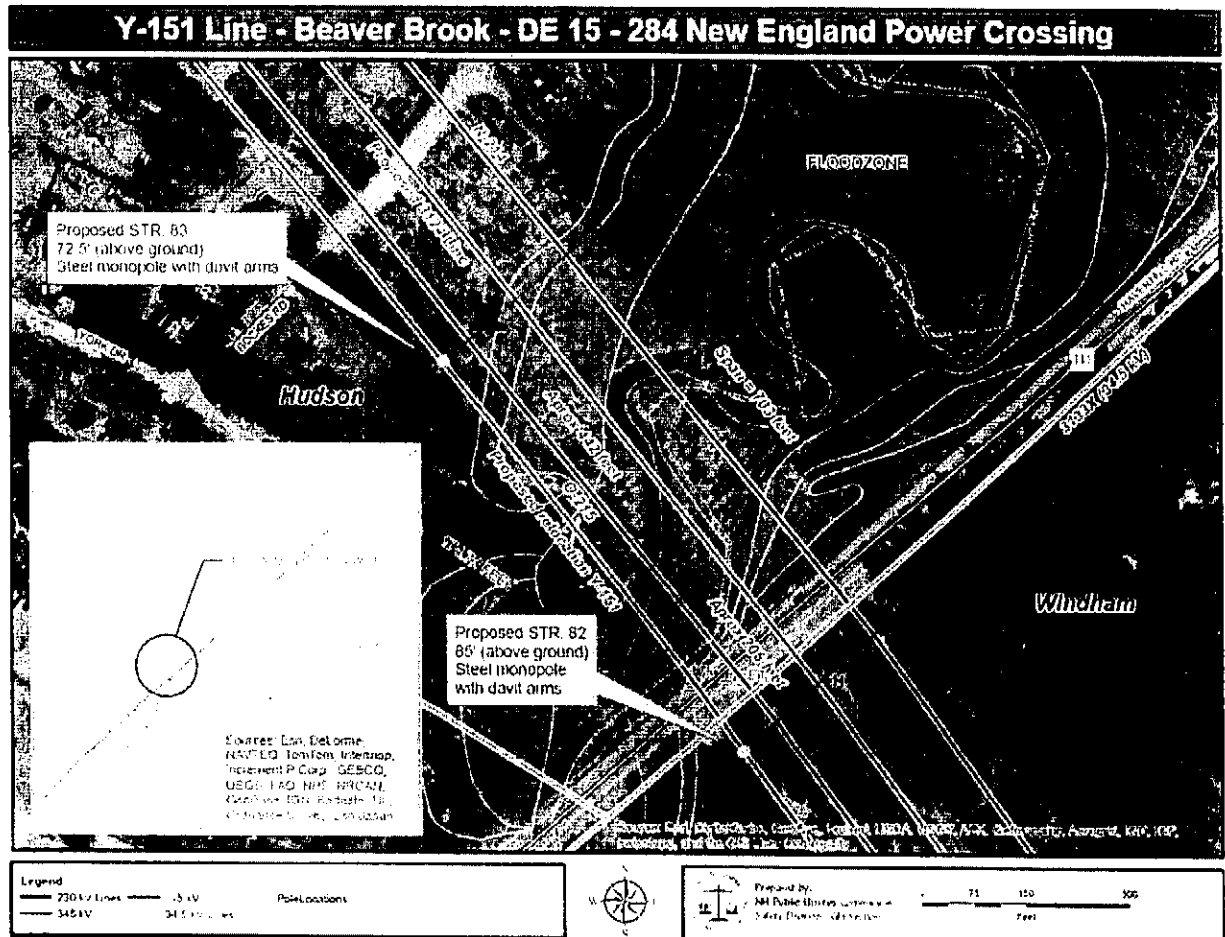
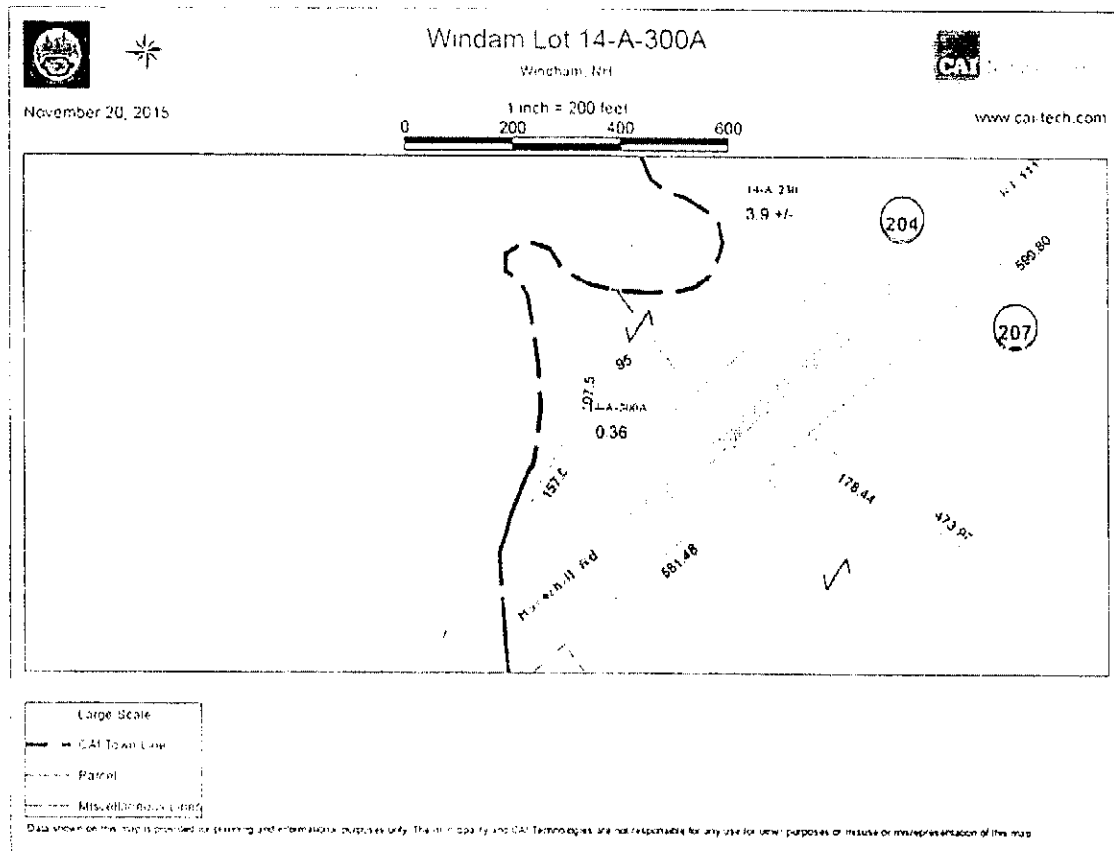
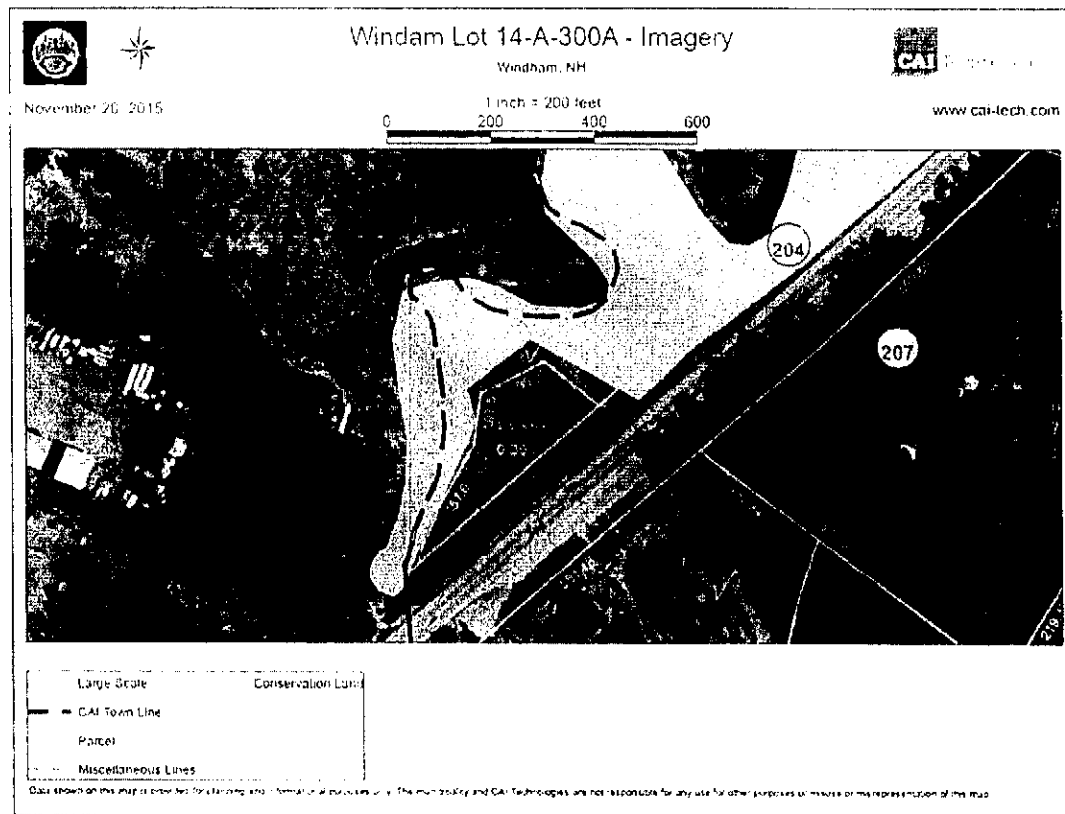


FIGURE 5:



Appendix A

FIGURE 6:



STATE OF NEW HAMPSHIRE

CLERK OF COURT
K. and P. Honenberg

COMMISSIONERS
Robert R. Scott
Kathryn M. Bailey

EXECUTIVE DIRECTOR
Debra A. Howland



PUBLIC UTILITIES COMMISSION
21 S. Fruit St., Suite 10
Concord, N.H. 03301-2429

June 22, 2016

TDD Access Relay NH
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www.puc.nh.gov

Debra A Howland
Executive Director
New Hampshire Public Utilities Commission
21 South Fruit Street, Suite 10
Concord, NH 03301

16PUC 22 JUN 16 PM 1:01

Re.: Docket DE 15-284 New England Power Company d/b/a National Grid Petition for a License to Construct and Maintain Electric Lines Over State Lands and Public Waters in Windham, NH

Dear Ms. Howland,

In connection with the above referenced docket, I enclose an original and six copies of this letter with corrections to referenced attachments in the Staff Recommendation filed on behalf of Randall S. Knepper, Director, Safety Division, on June 16, 2016. The Staff Recommendation, as filed, provided numbered figures in the appendix that supported specific descriptions within the memorandum. There were four descriptions that pointed to incorrect referenced numbers in the appendix. The corrections to Mr. Knepper's Staff Recommendation are as follows:

- On page 6 of 16, in the first bullet point below the header for **Y-151 Crossing #3, Beaver Brook Crossing**, the reference to Appendix A, Figure 1 should have pointed to Appendix A, Figure 4;
- On page 7 of 16, in the first bullet point below the header for **Considered Y-151 Crossing #4**, the reference to Appendix A, Figure 2 should have pointed to Appendix A, Figure 5;
- On page 7 of 16, in the second bullet point below the header for **Considered Y-151 Crossing #4**, the reference to Appendix A, Figure 3 should have pointed to Appendix A, Figure 5;
- On page 7 of 16, in the third bullet point below the header for **Considered Y-151 Crossing #4**, the reference to Appendix A, Figure 4 should have pointed to Appendix A, Figure 6.

If you have any questions, please do not hesitate to contact me.

Respectfully,

151 *Randall S. Knepper*

Randall S. Knepper, P.E.
Director, Safety Division

SERVICE LIST - EMAIL ADDRESSES - DOCKET RELATED

Pursuant to N.H. Admin Rule Puc 203.11 (a) (1): Serve an electronic copy on each person identified on the service list.

Executive.Director@puc.nh.gov
amanda.noonan@puc.nh.gov
bryan.hudock@nationalgrid.com
david.shulock@puc.nh.gov
leszek.stachow@puc.nh.gov
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robert.wyatt@puc.nh.gov
tom.frantz@puc.nh.gov

Docket #: 15-284-1 Printed: June 22, 2016

FILING INSTRUCTIONS:

- a) Pursuant to N.H. Admin Rule Puc 203.02 (a), with the exception of Discovery, file 7 copies, as well as an electronic copy, of all documents including cover letter with:
- DEBRA A HOWLAND
EXECUTIVE DIRECTOR
NHPUC
21 S. FRUIT ST, SUITE 10
CONCORD NH 03301-2429
- b) Serve an electronic copy with each person identified on the Commission's service list and with the Office of Consumer Advocate.
- c) Serve a written copy on each person on the service list not able to receive electronic mail.

APPENDIX II – STIPULATION

THE STATE OF NEW HAMPSHIRE

SITE EVALUATION COMMITTEE

SEC DOCKET NO. 2015-05

**JOINT APPLICATION OF NEW ENGLAND POWER COMPANY
D/B/A NATIONAL GRID &
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
D/B/A EVERSOURCE ENERGY
FOR A CERTIFICATE OF SITE AND FACILITY**

**STIPULATED FACTS AND REQUESTED FINDINGS OF THE
JOINT APPLICANTS AND COUNSEL FOR THE PUBLIC**

New England Power Company d/b/a National Grid ("NEP") and Public Service Company of New Hampshire d/b/a Eversource Energy ("PSNH") (collectively the "Applicants") and Counsel for the Public agree and stipulate as follows:

STIPULATED FACTS AND REQUESTED FINDINGS

The Project

1. The Applicants propose to construct and operate a new approximately 24.4-mile 345 kV electric transmission line from Tewksbury, Massachusetts to Londonderry, New Hampshire with approximately 18 miles located in New Hampshire (the "Project").
2. The proposed Project is a reliability project selected by the Independent System Operator of New England ("ISO-NE") to address identified transmission capacity needs for the continued reliability of the regional electric transmission system connecting southern New Hampshire and northeastern Massachusetts.
3. ISO-NE evaluated alternatives through its long-term planning process and in February 2015, announced its selection of a preferred group of projects to address the identified needs, including the construction of a new 345 kV transmission line between the Tewksbury 22A and Scobie Pond 345 kV Substations, of which the Project is a part.

Financial Capability

4. NEP is a wholly-owned subsidiary of National Grid USA. PSNH is a wholly-owned subsidiary of Eversource Energy.

5. The Applicants estimate that the overall cost of the Project will be \$72 million; of which, approximately \$35 million is associated with NEP's portion and approximately \$37 with PSNH's portion.
6. The Applicants have experience securing funding and financing the construction, operation and maintenance of similar transmission line projects.

Technical / Managerial Capability

7. The Applicants have constructed and currently operate thousands of miles of high voltage transmission lines. National Grid USA and its subsidiaries serve approximately 3.4 million customers across four states. Eversource and its subsidiaries serve approximately 3.6 million customers across three states.
8. A representative list of transmission projects completed by National Grid and Eversource can be found at pages 6 – 8 of Supplement #3. Such prior transmission projects include: National Grid / Eversource Joint Venture – NEEWS Interstate Reliability Project ("IRP"); National Grid Rhode Island Reliability Project ("RIRP"); National Grid Hampden County Reliability Project ("HCRP"); PSNH - 115 kV Y170 Transmission Line Project; and PSNH - Lake Region Energy Project.
9. The Applicants and their contractors have provided evidence that they have experience in designing, constructing, operating, and maintaining similar transmission facilities throughout the Northeast region of the United States.

Aesthetics

10. In determining whether a project will have an unreasonable adverse effect on aesthetics, the Committee shall consider the criteria contained in Site 301.14(a), including: (1) The existing character of the area of potential visual impact; (2) The significance of affected scenic resources and their distance from the proposed facility; (3) The extent, nature, and duration of public uses of affected scenic resources; (4) The scope and scale of the change in the landscape visible from affected scenic resources; (5) The evaluation of the overall daytime and nighttime visual impacts of the facility as described in the visual impact assessment submitted by the applicant and other relevant evidence submitted pursuant to Site 202.24; (6) The extent to which the proposed facility would be a dominant and prominent feature within a natural or cultural landscape of high scenic quality or as viewed from scenic resources of high value or sensitivity; and (7) The effectiveness of the measures proposed by the applicant to avoid, minimize, or mitigate unreasonable adverse effects on aesthetics, and the extent to which such measures represent best practical measures.
11. The Applicants have submitted a Visual Impact Assessment ("VIA") that analyzed a two-mile study area (two-miles on either side of the corridor). *See Appendix AB.*

12. The VIA concluded that the Project will have limited visibility from most locations within the two-mile radius study area analyzed by the Project's visual consultant. *See* VIA, page 91.
13. The topographic viewshed analysis indicates that the Project will be newly visible from only 3% of the total study area (i.e., areas where the proposed structures are potentially visible but the existing structures are not). *See* VIA, page 32.
14. The VIA concluded that views of the Project are likely to be fully screened from 13 of the identified potential scenic resources that occur within the two-mile radius study area. The VIA further concluded that scenic resources located beyond ½ mile from the centerline of the Project will generally not have views of the Project. *See* VIA, page 91–93.
15. The VIA concluded that open views of the Project from scenic resources within the Study Area will generally present limited contrast with the existing landscape in light of the color and height of the proposed structures and their location within an existing electric transmission corridor. *See* VIA page 92–93.
16. The VIA concluded that because of its location within an existing transmission corridor, the Project will have minimal impact on the scenic quality a viewer would expect when viewing the landscape. *See* VIA, page 92–93.
17. The Applicants have committed to impact avoidance, minimization, and mitigation measures, which include: (1) Siting the line within an existing transmission corridor to minimize required vegetation clearing and perceived change in land use; (2) Utilizing self-weathering steel to minimize color contrast with surrounding vegetation; (3) Utilizing transmission structure designs and spacing that are consistent with existing structures on the ROW; and (4) Utilizing single circuit H-frame structures to minimize the height of the new 3124 Line. *See* VIA page 89.

Historic Sites

18. In determining whether a project will have an unreasonable adverse effect on historic sites, the Committee shall consider the criteria contained in Site 301.14(b), including: (1) All of the historic sites and archaeological resources potentially affected by the proposed facility and any anticipated potential adverse effects on such sites and resources; (2) The number and significance of any adversely affected historic sites and archeological resources, taking into consideration the size, scale, and nature of the proposed facility; (3) The extent, nature, and duration of the potential adverse effects on historic sites and archeological resources; (4) Findings and determinations by the New Hampshire division of historical resources of the department of cultural resources and, if applicable, the lead federal agency, of the proposed facility's effects on historic sites as determined under Section 106 of the National Historic Preservation Act, 54 U.S.C. §306108, or RSA 227-C:9; and (5) The effectiveness of the measures proposed by the applicant to avoid,

minimize, or mitigate unreasonable adverse effects on historic sites and archaeological resources, and the extent to which such measures represent best practical measures.

19. The Applicants' archaeological and historical consultants identified historic sites and archaeological resources within the area of potential effect and any anticipated potential adverse effects on such sites and resources.
20. Pursuant to a letter dated March 4, 2016, the New Hampshire Department of Historical Resources concluded that the Project will have no effect on historic resources.
21. Pursuant to a letter dated December 9, 2015 the New Hampshire Department of Historical Resources concluded that there are no known properties of archaeological significance within the area of the Project's potential impact and therefore no additional Phase I-B surveys were needed.

Environment

Water Quality

22. The Applicants indicate that they have applied for all necessary federal and state permits for wetland impacts for the Project, including a NHDES Wetland Impact Permit Application, July 10, 2015.
23. The Applicants indicate that they have applied for all necessary federal and state permits for potential impacts to surface waters for the Project, including a NHDES 401 Water Quality Certification Application, June 29, 2015. The Applicants have also committed to applying for a National Pollutant Discharge Elimination System ("NPDES") Construction General Permit before beginning construction.
24. The Applicants indicate that they have applied for all necessary permits for potential impacts to the protected shoreland for the Project, including a NHDES Shoreland Permit Application, July 9, 2015.
25. The Applicants indicate that they have applied for all necessary permits for potential impacts to alter terrain for the Project, including a NHDES Alteration of Terrain Permit Application, July 13, 2015.
26. The Applicants have agreed to implement measures to mitigate potential water quality impacts, including implementing sedimentation and erosion controls and the Applicants have indicated that they will adhere to Best Management Practices prior to commencing construction of the Project.
27. The Applicants have agreed to use environmental monitors to oversee the construction of the Project and to work with contractors to implement appropriate BMPs to avoid or minimize environmental impact.

28. The Applicants have agreed to restore any disturbed soils to a stabilized condition to prevent permanent erosion impacts.

Natural Environment

29. In a letter dated February 11, 2016, the NH Fish and Game Department approved the protocols for New England Cottontail and black racer as adequate for the MVRP project and stated that NH F&G would work with the Applicants to avoid, minimize, and mitigate impacts to any identified rare, threatened, or endangered species.

Air Quality

30. The Project will solely be used to transmit electricity. The Project does not involve the installation of any equipment that combust fuels or emit any regulated pollutants.

Public Health and Safety

31. In determining whether a project will have an unreasonable adverse effect on public health and safety, the Committee shall consider the criteria contained in Site 301.14(f), including: (1) the information submitted pursuant to Site 301.08 and other relevant evidence submitted pursuant to Site 202.24, the potential adverse effects of construction and operation of the proposed facility on public health and safety, the effectiveness of measures undertaken or planned to avoid, minimize, or mitigate such potential adverse effects, and the extent to which such measures represent best practical measures; . . . and (4) For electric transmission lines, consider the proximity and use of buildings, property lines, and public roads, the risks of collapse of towers, poles, or other supporting structures, the potential impacts on public health and safety of electric and magnetic fields generated by the proposed facility, and the effectiveness of measures undertaken or planned to avoid, minimize, or mitigate such potential adverse effects, and the extent to which such measures represent best practical measures.
32. The Applicants have agreed to construct the Project in accordance with good utility practice, in such a manner to best accommodate the public, and to avoid interference with existing utility facilities, as required by New Hampshire Public Utilities Commission Administrative Rule Puc 306.01(a).
33. The Applicant warrants that the Project has been designed and will be constructed in accordance with all National Electric Safety Code ("NESC") requirements for transmission lines.
34. The International Commission on Non-Ionizing Radiation Protection ("ICNIRP") and International Committee for Electromagnetic Safety ("ICES") have set guidelines for public exposure to electric and magnetic fields. ICNIRP has established a Basic Restriction on internal electric fields corresponding to an exposure of 36.4 kV/m for electric fields and 12,400 mG for magnetic fields. ICES has established a Basic Restriction on internal electric fields corresponding to exposures to 26.8 kV/m for

electric fields and 9,150 mG for magnetic fields. These are ceiling values and do not specify duration. See Electric Field, Magnetic Field, Audible Noise, and Radio Noise Modeling in New Hampshire, June 16, 2015, at page 17.

35. The Applicants' expert, Exponent, Inc., has calculated the Project electric and magnetic field levels after the Project is placed into service at the edge of the right-of-way. Exponent calculated electric-field levels at average conductor height to range from 0.1 kV/m to 1.3 kV/m. See Electric Field, Magnetic Field, Audible Noise, and Radio Noise Modeling in New Hampshire, June 16, 2015, at page 26, Appendix A at A-4 to A-5. Exponent calculated magnetic fields at annual average load (AAL) levels to range from 4.5 to 24 mG at the edge of the Project ROW. See Electric Field, Magnetic Field, Audible Noise, and Radio Noise Modeling in New Hampshire, June 16, 2015, at page 25, Appendix A at A-2 to A-3. See also Supplement Number 2, Appendix AG, Revised Project Electric Field, Magnetic Field, Audible Noise, and Radio Noise Modeling in New Hampshire, December 23, 2015.
36. Construction of the Project will have a minimal and temporary impact on the travelling public and traffic impacts will be limited to locations where the transmission line crosses public roadways and at points of access to the right-of-way. The Applicants agree to implement safety measures, including traffic officers and flaggers, to mitigate any temporary traffic impacts.
37. The Applicants' request to locate lines and cables across public roads will not interfere with the safe, free and convenient use for public travel on local and State roads and highways. The Applicants have committed to construct the Project in accordance with the New Hampshire Department of Transportation ("NHDOT") Utility Accommodation Manual (UAM).
38. The Applicants have submitted applications to the NHDOT for aerial utility permits, driveway permits, and a railroad crossing and temporary use agreement.
39. The Applicants warrant that all traffic controls to ensure that the materials are delivered safely to the site will be conducted in accordance with NHDOT policies including the 2009 edition of the Manual on Uniform Traffic Control Devices ("MUTCD").
40. Pursuant to RSA 371:17, Licenses for New Poles, utilities must obtain a license from the Commission to "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," when such facilities are necessary to meet the reasonable requirements of service to the public. The Applicants have submitted two license applications to the New Hampshire Public Utilities Commission to cross public waters and state lands.

41. The Applicants have indicated that their request to install the proposed transmission line along, over, and across locally-maintained highways will not interfere with the safe, free, and convenient use for public travel of locally-maintained highways.
42. The Applicants have committed to requiring construction contractors and field personnel to be trained in Safety/Occupational Safety and Health Administration (OSHA), Basic First Aid/cardio-pulmonary resuscitation (CPR), Environmental Compliance and other relevant topics. In addition, the Applicants have committed to providing Project-specific training.

Orderly Development of the Region – Land Use

43. Utilizing pre-existing corridors is consistent with the orderly development of the region because it maintains current development patterns and minimizes impacts to local land-use.
44. Construction and operation of the Project will occur entirely within an existing right-of-way.
45. The Project's impacts on local land use during construction of the Project will be temporary. The Applicants warrant that construction activities will utilize best management practices consistent with all state and federal permit requirements.
46. The Project will be located in four host communities: Pelham, Windham, Hudson, and Londonderry. None of the host communities have sought to intervene in this docket or submitted any concerns to the Site Evaluation Committee about the Project.
47. In each county where the Project will be located, the Applicants held pre-filing public information sessions and post-filing public information sessions.

Orderly Development of the Region – Economy and Employment

48. The Applicants anticipate that they will spend approximately \$72 million in New Hampshire to construct the Project. See Amended Pre-Filed Testimony of Alfred P. Morrissey, at 4 (May 17, 2016).
49. The REMI analysis conducted by the Applicants estimates that spending on the labor and materials during the 2014 through 2018 planning and construction phase of the Project will raise New Hampshire GDP by \$62.8 million while raising personal income by \$32.8 million and state tax revenues by \$1.2 million. See Amended Pre-Filed Testimony of Alfred P. Morrissey, at 9 (May 17, 2016).
50. The REMI analysis conducted by the Applicants estimates that labor and materials spending will also create over 500 job years in New Hampshire over the next four years from 2014 through 2017. See Amended Pre-Filed Testimony of Alfred P. Morrissey, at 7 (May 17, 2016).

51. The Applicants estimate that property tax payments to local governments in New Hampshire are estimated to rise by \$1,557,550 the first year the Project is placed into service.

Public Interest

52. The ISO-NE has determined that the Merrimack Valley Reliability Project (the “Project”) is a necessary reliability project in the region.
53. “The Greater Boston Area Updated Transmission Needs Assessment” published by ISO-NE in 2014 found that at times of peak load, the 115 kV, 230 kV, and 345 kV transmission paths between New Hampshire and Massachusetts would overload under certain contingencies, as would some connecting 115 kV and 230 kV circuits in both states. The Updated Needs Assessment also found the potential for unacceptably high voltages at certain area substations under minimum load or off-peak load contingency conditions. The impacts could include unsafe conditions, equipment damage, and line or power outages.
54. In February 2015, ISO-NE selected a group of transmission upgrades, including MVRP, to address the full spectrum of needs identified in the Updated Needs Assessment. MVRP addresses the need for additional transmission capacity in northeastern Massachusetts and southern New Hampshire by providing an additional 345 kV transmission path between Massachusetts and New Hampshire. This new transmission path is intended to alleviate overloads of 345 kV and 115 kV transmission circuits terminating at New Hampshire substations.
55. In August 2015, ISO-NE issued the “Final Greater Boston Area Transmission Solution Studies Report” documenting and confirming its selection of a group of transmission upgrades, including MVRP, to address the full spectrum of needs identified in the Updated Needs Assessment.
56. Based on prior NH SEC decisions, siting the Project in an existing ROW that currently contains other high voltage transmission lines is consistent with the orderly development of the region.
57. The Applicants warrant that the Project is designed and will be constructed in accordance with National Electrical Safety Code (“NESC”) requirements and standard company policies developed by the Applicants.
58. The Applicants do not have to acquire any private property to construct and operate the Project.

Respectfully Submitted,

New England Power Company and
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