

July 27, 2018

Melodie Esterberg, P.E.
Chief of Design Services
N. H. Department of Transportation
John O. Morton Building
7 Hazen Drive
Concord, NH 03302-0483

Re: Seacoast Reliability Project UAM Exception Request

Dear Chief Esterberg,

In a letter dated April 4, 2016, the Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH) petitioned for permission to install an electric transmission line, including related conduit, cable, wires, poles, structures and devices across, over and along certain state highways pursuant to RSA 231:160 and requested issuance of a Use and Occupancy Agreement, appropriate licenses and permissions authorizing the proposed use.

A letter dated March 17, 2017 was sent as part of an Amendment (“Amendment”) to the Application to the New Hampshire Site Evaluation Committee (“SEC”) for a Certificate of Site and Facility (“Certificate”) dated April 12, 2017 to construct and operate the Seacoast Reliability Project—a new 115 kilovolt (kV) transmission line between the Madbury and Portsmouth substations (“SRP” or the “Project”). The Amendment was submitted to the SEC on March 29, 2017.

The Project is an approximately 13-mile 115kV transmission line from Madbury to Portsmouth, NH. This is a reliability project. The purpose of SRP is to provide an additional path to enhance the existing 115 kV transmission system between the Deerfield and Scobie Pond Substations along with 115 kV transmission ties to Maine in order to address reliability concerns in the New Hampshire Seacoast Region, which have previously been identified by the Independent System Operator of the New England electric system (“ISO-NE”). PSNH, working with ISO-NE, conducted an assessment of the New Hampshire and Vermont portion of the New England transmission system to determine whether the electrical infrastructure is sufficient to reliably deliver electricity under a wide range of system conditions. The study concluded that, for the New Hampshire Seacoast Region, additional transmission capacity is needed to support the reliable delivery of electric power to meet the Region’s current demand and future increased demand.

There are 7 aerial crossings of state maintained Highways for the Project as described in the April 4, 2016 letter, April 12, 2016 Application to the SEC, and March 17, 2017 letter and April 12, 2017 Amendment. The highways to be crossed include: Madbury Road in Madbury, NH Route 4 in Durham, NH Route 108 in Durham, newly constructed access ramps to the Spaulding Turnpike in Newington, the Spaulding Turnpike mainline in Newington and Woodbury Avenue in Newington.

Copies of revised Environmental Maps (Appendix 2b) and the Engineering Drawings (Appendix 5b) have been submitted to the SEC as part of the July 27, 2018 filing.

The amended Aerial Crossing Design Plans for State Highways are provided with Attachment A to the letter dated March 17, 2017.

On October 31, 2017, The New Hampshire Department of Transportation (“NHDOT”) issued the Utility Accommodation Manual 2017 (“UAM”). This manual supersedes, “all previous utility instructions, written or oral, relative to or in conflict with this manual.” The UAM added Section XII.A.4 Horizontal Clearance at Highway Structures. The requirements of this section were not included in the 2010 version of the Utility Accommodation Manual which was the guidance document at the time of the Application and Amendment. Section XII.A.4 includes a requirement that, “Aerial utility lines shall not cross highway structures or cross the roadway within 50’ of a highway structure. Where existing highway structures are rehabilitated or reconstructed, existing crossing aerial utility lines shall be adjusted to meet this requirement.” It also states, “Horizontal clearance requirements for aerial facilities crossing highway structures within existing crossings rights-of-way will be reviewed on a case by case basis.”

Section XII.A.4 affects two proposed crossing locations at Madbury Road in Madbury, NH and NH Route 4 in Durham, NH. PSNH and NHDOT previously discussed these two locations during meetings conducted on February 7, 2017 and February 24, 2017, and the overhead designs at the Madbury Road crossing in Madbury and NH Route 4 Crossing in Durham and were modified to provide additional clearance to lessen constraints to future maintenance activities on bridge abutments at these locations. These changes were included in the Amendment, prior to the 2017 UAM publication, with the anticipation of a change in bridge clearance requirements.

PSNH currently holds a license with Pan Am Railway, Inc. to install, use, maintain, repair and remove transmission lines on their premises between Mile Posts 250.01 and 247.85 of Pan Am Valuation Section 2 Maps 59-61. The Pan Am Railway right of way width varies between 90 feet and 120 feet approximately centered on the railroad track. The width is predominantly 90 feet crossing Madbury Road and NH Route 4. The license restricts PSNH to the west side of the corridor. Additionally, PSNH, between PSNH’s Madbury Substation and NH Route 4, acquired an additional 75 feet width of easement for access, installation operation and maintenance of transmission lines adjacent to the Pan Am right of way. South of NH Route 4 PSNH acquired 25 feet of rights for access, installation operation and maintenance of transmission lines, except for poles and towers, adjacent to the west edge of the Pan Am right of way. As a result, PSNH has real estate rights to install, operate and maintain transmission lines, with a width varying between approximately 85 and 115 feet.

Two bridge structures encumber the area where PSNH has real estate rights. These bridges are crossings of the Pan AM Railway track. A bridge on Madbury Road occupies approximately 55 feet of PSNH right of way. A bridge carrying NH Route 4 occupies approximately 45 feet of the PSNH right of way. PSNH, as shown on the drawings submitted with the Amendment moved the alignment of the SRP design so that the center of the line was as far from the bridge structure and abutments as possible while still maintaining clearance as required by the National Electric Safety Code (NESC) to the edge of the right of way. Additionally, as part of the modifications PSNH changed the design configuration of SRP from primarily horizontal construction to delta configuration to move all phase conductors as far from the bridge structures as possible. This results in a minimum of 24 feet of clearance from the centerline of the transmission line to the closest point of the bridge structure (generally the bridge abutment).

Meeting the 50 feet requirement of Section XII.A.4 would create extreme hardship, and be unreasonably costly to the utility consumer. PSNH is not able to procure additional real estate rights needed to meet the 50 feet requirement. Two alternatives are possible to maintain clearance within the existing rights. The first would be to underground the

transmission circuit. The cost to underground an equivalent overhead transmission circuit is approximately 10 times. This does not necessarily include additional costs for trenchless construction methods and controls that may be required to cross the existing highways. The additional cost would be borne by PSNH and/or its rate payers as determined by the Independent System Operator.

The second method would be to place the transmission circuits in the NHDOT right of way to by-pass the bridge structures. It would be difficult to complete this design and maintain the clearance requirements as described in UAM Section VII.B. If it could be completed and meet the requirements it would require at least two additional structures and associated foundations at additional cost. A minimum of four transmission structures would be required in the NHDOT right of way. The structures would present potential impediments to NHDOT operations in the future.

According to Section III of the UAM, PSNH requests exception to the requirements in Section XII.A.4. Specifically, PSNH requests exception to the requirement that "Aerial utility lines shall not cross highway structures or cross the roadway within 50' of a highway structure." PSNH requests that this crossing be reviewed on a "case by case basis" as allowed in Section XII.A.4 because it is an existing crossing right of way. PSNH requests this exception based on the details previously described. Meeting the 50 feet requirement of Section XII.A.4 would create extreme hardship, and be unreasonably costly to the utility consumer. Please feel free to contact me with any questions.

Sincerely,



Kurt I. Nelson

Sr. Licensing and Permitting Specialist

Kurt.nelson@eversource.com

(603) 714-3031

Cc: Lynn Frazier, P.E., Louis Berger