THE STATE OF NEW HAMPSHIRE

BEFORE THE

NEW HAMPSHIRE SITE EVALUATION COMMITTEE

DOCKET NO. 2015 - 06

SUPPLEMENTAL PRE-FILED TESTIMONY OF LYNN FARRINGTON

IN SUPPORT OF THE
APPLICATION OF NORTHERN PASS TRANSMISSION LLC
AND PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
D/B/A EVERSOURCE ENERGY
FOR A CERTIFICATE OF SITE AND FACILITY TO CONSTRUCT A NEW HIGH VOLTAGE TRANSMISSION LINE AND RELATED FACILITIES IN NEW HAMPSHIRE

April 17, 2017

Q. Please state your name, title, and business address.

A. My name is Lynn Farrington and I am a licensed professional engineer (NH License #14125, specializing in 'Civil-Highway,') working in the transportation field. I am also a licensed professional traffic operations engineer (Certificate #3416 awarded by the Transportation Professionals Certification Board). I am currently employed by Louis Berger at 482 Congress Street, Suite 401, Portland, Maine 04101.

Q. What is your role in the Project?

A. I am advising the Northern Pass Transmission LLC ("NPT") and Public Service Company of New Hampshire d/b/a Eversource Energy ("PSNH") (collectively the "Applicants") in the construction planning for the Northern Pass Transmission Project ("Northern Pass" or the "Project") in relation to mobility, safety and the maintenance and protection of traffic on roadways that may be temporarily affected by installation of the transmission line. Louis Berger has also been retained by PAR Electrical Contractors, Inc. ("PAR") to develop traffic control plans and a Transportation Management Plan ("TMP") for the underground construction segments of this Project which impact public roadways.

Q. What is the purpose of your supplemental testimony?

A. The purpose of my supplemental testimony is to provide additional information to the New Hampshire Site Evaluation Committee ("NHSEC" or "Committee") regarding temporary traffic impacts due to installation of the transmission line and to provide updates made to the traffic control plans and other mitigation measures that are proposed by the Applicants. I offer the opinion that the Project is being planned and managed to prevent adverse impacts to public safety during construction.

Q. Please describe the traffic control plans and the Transportation Management Plan.

A. Traffic control plans are detailed engineering drawings showing items such as temporary warning signs, drum or cone placement, temporary moveable barrier, temporary striping, existing traffic signal modifications, and temporary signals. Traffic control plans are guided by the Manual on Uniform Traffic Control Devices, Chapter 6.

The TMP is a written document that outlines a set of strategies for managing the work zone impacts of a project beyond traffic safety and control. The primary elements of a TMP are:

1. Public Information

2. Motorist Information
3. Incident Management
4. Traffic Control Plans
5. Construction Strategies and Sequencing
6. Demand Management
7. Alternative Route Strategies
8. Motorist Assistance Patrols

Within the TMP, acceptable work windows will be stated based on traffic volumes. This document will also outline the public outreach process and coordination with emergency responders. The TMP is created in part by a working group of municipal officials in areas impacted as well as PAR and the New Hampshire Department of Transportation ("NHDOT").

Q. Have you reviewed the April 3, 2017 NHDOT Recommended Approval with Permit Conditions?

A. Yes, I have. The Project will comply with the traffic control conditions contained in the Recommended Approval with Permit Conditions, including but not limited to, the development and subsequent approval by NHDOT of a TMP and compliance with the Manual Uniform Traffic Control Devices.

Q. What work have you completed since you last testified?

A. Since the construction panel technical sessions in September 2016, the traffic control plans for the underground alignments impacting public rights of way were developed and, on December 15, 2016, submitted to NHDOT for review. NHDOT has provided comments related to the plans, which I have reviewed in relation to the traffic control layouts. In the coming months, discussions with NHDOT will be held and adjustments will be made to reflect the comments.

These traffic control plans outline in detail the type of lane closures necessary to achieve completion of the underground portions of the Project. This includes trenching work, horizontal directional drilling staging areas, placement of duct boxes and splicing of electrical components. The most common traffic control set ups utilized are:

1. Single lane closure using a flagger (this is most common for trenching, horizontal directional drilling and placement of duct boxes).

2. Single lane closure using a temporary signal (this is generally required for splicing operations)

Additional specialized traffic control set ups are utilized in areas with specific needs such as a narrow road with limited right of way, downtown areas with street parking or a complicated intersection.

Q. What future work is planned under your contract with PAR?

A. In the upcoming months it is anticipated that NHDOT will continue to provide comments pertaining to the previously submitted traffic control plans. Louis Berger will address and/or respond to each comment and create a revised set of plans for Project use.

After the Project has received its Certificate of Site and Facility from the NHSEC, the TMP will be drafted. The development of the TMP is generally most productive when it is completed in the months just prior to construction. This timing allows the recommendations and discussions to have occurred in the recent past and limits the turnover of participants (town officials, emergency responders, NHDOT). The NHDOT will oversee and review the TMP and provide a recommendation of approval to the Traffic Control Committee.

Q. Please describe the expected impacts due to the planned lane closures.

A. Planned lane closures were assessed based on the assumption that a 2 way—1 lane roadway controlled by a flagger has an expected capacity of 850 vehicles per hour. The actual capacity is dependent on the length of the work zone. For instance, a work zone length of 500' has a total capacity of 1,000 vehicles per hour while a 1,600' work zone has a capacity of 625 vehicles per hour.[1] Each roadway will be further analyzed and discussed within the TMP to establish work zone length limits.

During the month of November 2016, using the most recent NHDOT counts available, Louis Berger confirmed that all roadways that require a lane closure have a total expected hourly volume below 850 vehicles per hour. This volume was calculated from annual average daily traffic using a K factor of 10%. The variables associated with a flagger controlled roadway do not allow an accurate prediction of the expected impacts at any given point in time. However, it

1 https://digital.lib.washington.edu/researchworks/bitstream/handle/1773/33123/Zhu_washington_0250O_14304.pdf?sequence=1&isAllowed=y

is my opinion that impacts to the traveling public will be limited and will be considered acceptable by NHDOT.

Q. Please describe the expected impacts due to each of the proposed detour routes and preferred routes used in the northern section.

A. The Project is planning to use a rolling work zone not to exceed 1,600'. This will allow traffic to access locations on either side of the work zone at any given time. The key to this approach is constant proactive outreach by the Project team to alert the residents, emergency responders and area travelers of the work zone location during any particular day and time. There are a number of ways that this can be accomplished including placing Variable Message Signs at each end of the roadway. An example message is: "TO ACCESS OLD COUNTY ROAD #1-32 USE DETOUR/ TO ACCESS OLD COUNTY ROAD 33-100 USE OLD COUNTY ROAD." Other outreach methods include using a recorded telephone message and the Project website.

Based on this approach the proposed detour routes and preferred routes are expected to have a minimal impact. An additional 4.4 miles of travel distance is the worst case proposed. Care will be taken during the drafting of the TMP to ensure that detour routes utilizing Class V summer roads (closed from December 11th – May 10th) are not necessary during the closed season.

Q. How will access to each residential and commercial property be maintained?

A. Wherever possible, splice enclosures have been placed away from all driveway access points. This is important since the timeline for splicing is longer than the trenching process. Therefore, only trenching area work zones need to be considered for property access. There are a number of driveways on the work zone side of the roadway where trenching will be needed. In this situation, the trench will be dug to the halfway point of the driveway, allowing the remaining half to stay intact and provide access. If a driveway is narrow and this method is not sufficient PAR is required to have metal plates available on site that can be slid over the trench to allow access. While this process is not instantaneous it can be done fairly quickly (within minutes).

Q. Concerns have been raised during discovery and the technical sessions about the ability of emergency vehicles to access all residences and businesses in the host communities during construction. Will emergency response vehicles be able to reach all residences and businesses in the host communities?

A. Yes. Local emergency responders will be included in the creation of the Project's TMP. The TMP will discuss all aspects of construction that will be happening in each host community and will identify any potential impacts that the Project might have. The TMP will identify temporary road closures and work zones and will include stakeholder communication protocols and points of contact for each type of emergency responder. This document is a living document and will be updated and refined as is required by the construction process.

Local emergency responders will be notified daily, at a minimum, as to the location of the work zone. As the work zone progresses, updates may be required throughout the day. Additionally, designated emergency responders will be given a phone number to reach the Project's point of contact if real time updates are required.

Q. Have you been involved with meetings or discussions with NHDOT regarding this Project since the Application was filed?

A. Yes. Monthly meetings have been hosted by NHDOT with the Project team to discuss items such as schedule, construction methods and the draft plan sets. The meeting minutes of these meetings have been provided during the discovery phase.

Q. Has your opinion changed about whether the Project will have a negative effect on public safety with regard to public highways and local streets?

A. No. It remains my opinion that the traffic management components of the Project will provide appropriate mitigation of the temporary impacts to traffic to ensure there will be no unreasonable adverse effects on public safety along the public highways and local streets.

Q. Does this conclude your supplemental testimony?

A. Yes, it does.