THE STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

Docket No. 2015-04

APPLICATION OF PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE D/B/A EVERSOURCE ENERGY FOR A CERTIFICATE OF SITE AND FACILITY FOR CONSTRUCTION OF A NEW 115kV TRANSMISSION LINE

THE SEACOAST RELIABILITY PROJECT

PRE-FILED SUPPLEMENTAL TESTIMONY OF PAYSON R. WHITNEY, III, P.E. AND MATTHEW D. LADEWIG ESS GROUP, INC.

ON BEHALF OF
COUNSEL FOR THE PUBLIC

JULY 20, 2018

Q. Please state your name, position and your employer.

A. My name is Payson R. Whitney, III, P.E., Vice President, Water & Coastal Engineering for ESS Group, Inc. ("ESS").

A. My name is Matthew Ladewig, Senior Scientist for ESS Group, Inc.

Q. Have you testified previously in this docket?

A. Yes. We submitted pre-filed direct testimony and an accompanying Technical Review Report on July 31, 2017. Mr. Whitney also filed supplemental direct testimony regarding horizontal directional drilling on July 2, 2018.

Q. Since you filed your pre-filed direct testimony, has any additional information relevant to the proposed crossing of Little Bay been submitted to the record?

A. Yes. On September 19, 2017, the Applicant submitted a letter and accompanying documents to the New Hampshire Department of Environmental Services ("DES"). This new material included both specific responses to questions raised by DES and submission of updates to many of the Applicant's prior submissions.

In addition, on July 1, 2018, the Applicant submitted testimony and a report comparing the proposed jet plow technique for crossing Little Bay with potential horizontal directional drilling ("HDD") methods.

Q. Have the Applicant's supplemental filings addressed the significant data gaps outlined in your July 31, 2017 Direct Testimony?

A. To a large extent, yes. The Applicant's September 2017 filing removes many of the identified data gaps pertaining to providing current project information as noted below.

- The SRP Environmental Review Maps (Appendix 2) have been updated.
- The Engineering Design Drawings (Appendix 5) have been updated.
- The various permit applications and impact assessment reports have been updated.
- The EFH Assessment has been updated and now includes a description of potential impacts to EFH species.

The Applicant's filing also addresses identified data gaps where ESS felt additional information submitted to the docket record would reduce potential uncertainties as noted below.

- Sediment Dispersion Model: Our comment pertained to modeling of the Water-Lift device. The Applicant's filing clarifies that Water-Lift devices will not be used for the project.

- Water Quality Monitoring: The Applicant submitted a revised Water Quality Monitoring Plan (Document 9) that addresses the comments raised in our previous testimony as discussed below.

- Benthic Infaunal Monitoring: The Applicant's revised benthic monitoring plan (Document 9) addresses our comment about conducting a pre-construction baseline monitoring event just prior to cable installation. The Applicant also agrees to collect 3 replicates at each benthic monitoring station.

  The Applicant also states that it would prefer to select impact and non-impact benthic monitoring stations after the as-built condition has been mapped to identify those areas that appear most heavily impacted compared to controls. The purpose of our comment was to encourage the Applicant to select benthic monitoring stations at which to conduct a pre-construction baseline monitoring event, which it has agreed to do. Therefore, we do not object to classification of these stations into "impact" and "non-impact" categories after the as-built condition has been mapped.

- Existing Cable Removal Plan: The Applicant states it would prefer not to deploy containment booms or absorbants unless needed, as determined by an on-board environmental monitor. This is an acceptable approach as long as any sheens that are observed are quickly contained, reported to the appropriate authorities, and promptly cleaned up. A protocol should be prepared identifying the procedure for spill response and reporting of any observed sheens during cable removal.

Q. Do you have any comments on the Applicant's submitted Best Management Practices and Construction Plan for Protected Wildlife and Plants (Document 4)?

A. The Time-of-Year restrictions and Best Management Practices submitted that pertain to the submarine cable installation in Little Bay are reasonable and consistent with industry standards. The Applicant should ensure, however, that specific locations of applicable Time-of-Year restrictions and Best Management Practices are incorporated into the final construction plan set.

Q. Do you have any comments on the Applicant's submitted Revised Little Bay Impact Assessment Report (Document 5)?

A. Yes. We offer the following comments on the September 15, 2017 update to the Little Bay Impact Assessment Report:

- On page 2, the Document describes the use of either a hoe ram or rotary cutter to excavate the cable trenches through rock at the landfalls, but does not appear to describe the estimated volume of rock material to be removed or how the excavated rock material will be disposed of or reused. It may be possible to reuse the excavated rock material as cable protection material at the surface to reduce the use of concrete mattresses or to place excavated rock material on top of the concrete mattresses to provide a more natural look.

- The use of articulated concrete mattresses is a common method of providing protection to installed submarine cables where reduced burial depth due to obstacles, debris, or geologic conditions is encountered. In Little Bay, however, the use of concrete mattresses in shallow inter- or sub-tidal areas where the mattresses will be visible at low tide has been raised as a significant area of concern by intervenors.

  Page 3 describes the use of split pipes as a possible, but discarded alternative to the use of concrete mattresses for cable protection. The Document states the use of split pipes would require an excavation of an additional 30 feet of ledge in the intertidal zone but does not specify why this would be required and why it would not be required for the use of concrete mattresses. It may be possible to use a combination of

split pipes in intertidal areas and concrete mattresses in subtidal areas to limit visual impacts of the concrete mattresses. The Document also states that split pipes are "considerably more expensive than concrete mattresses." This may be true when installing split pipes in submerged areas where divers must perform the installation work, but may not be the case for split pipe installation in intertidal areas that would not require divers and the cost of concrete mattress materials and crane costs would likely outweigh the material and labor cost of split pipes installation.

A similar alternative to split pipes is a polyurethane cable protection product called Uraduct®. The Uraduct® product is high visibility orange, and given the apparent sensitivity to the color of concrete mattresses expressed by intervenors, ESS would not recommend use of Uraduct® for cable protection at the landfalls. It may be an option if additional cable protection is determined to be needed for certain submerged sections of the submarine cable prior to burial. Uraduct® cannot be applied to the cable after it is embedded into the Bay bottom.

Q. Do you have any comments on the Applicant's submitted Revised Environmental Monitoring Plan for Little Bay (Document 9)?

A. As previously stated, the revised Water Quality Monitoring and Benthic Infaunal Monitoring portions of Document 9 substantially address the comments we identified in our previous testimony. We offer the following comments on the September 15, 2017 version of the document:

Water Quality Monitoring During Construction

- The addition of sentry station measurements within the predicted plume region will provide a valuable real-time notification to the installation team that installation adjustments (e.g., reducing jetting pressure) should be implemented. The Plan should include the flexibility to move the locations of the sentry stations from the pre-selected locations during the installation of each cable if field observations indicate the plume is in a location different from the pre-selected location picked from the

model results or be adjusted to have the sentry stations at set distances upcurrent and downcurrent from the operating jet plow as it moves along the route.

- ESS agrees that sentry station measurements within the mixing zone that are above the New Hampshire turbidity standard should not be considered exceedances of that standard; however, we recommend that sentry station measurements be reported to DES after the conclusion of the installation to help understand how the plume behaved in this location and to provide information for assessment of future jet plow monitoring projects in New Hampshire waters.

- On Page 9, the Plan states the mobile monitoring will "continue for two hours after jet plowing has been completed or longer if indicated by turbidity results." We recommend that more specificity be provided to the statement "if indicated by turbidity results" to define expectations and to serve as a guide to the monitoring crews in the field.

Bathymetric Monitoring

- The Applicant proposes to use either a single beam or a multi-beam system to obtain bathymetric data following cable installation. We believe use of a multi-beam system would provide a more comprehensive assessment of bottom elevations without interpretation of elevations between survey lines, and is therefore more appropriate than single-beam for this monitoring where documentation of the depression left by jetting installation of the cable is the objective.

Benthic Infaunal Community Monitoring

- The revised benthic monitoring plan indicates that pre-construction baseline monitoring would occur in late summer, although a specific date range does not appear to be identified. According to the Applicant's proposed construction schedule, route clearing and preparation activities are scheduled between August 1 and September 1, with removal of existing cables between September 1 and September 15. We recommend that the Applicant consider conducting the pre-construction baseline monitoring event prior to initiation of route clearing and preparation

activities as these may impact benthic habitats and result in disturbance that would not be reflective of baseline conditions.

Q. Are there any data gaps or concerns that have not been addressed by the Applicant?

A. Yes. The Applicant continues to state that decommissioning of the line is not anticipated, and therefore has not submitted a decommissioning plan. In ESS's experience regulators sometimes require a decommissioning plan for submarine cables to ensure appropriate action is funded and implemented in the event the cable is taken out of service. It is ultimately a decision for the SEC as to whether to require submission of a Decommissioning Plan for this project.

The EFH Assessment states at page 8 that a plan for monitoring of magnetic fields "has not been established at this time, but it will be provided [to] the regulatory agencies for review and comment when it is prepared." It is ultimately a decision for the SEC as to whether to require submission of this monitoring plan before a decision is made for this project.

Q. Do you have any comments to offer pertaining to the proposed permit conditions suggested by NHDES in its February 28, 2018 letter?

A. Yes. We offer the following comments for consideration by the SEC and DES.

<u>Wetlands Condition 20:</u> We suggest adding an exception for floating equipment associated with the submarine cable installation as there is no way to refuel such equipment outside of surface waters.

<u>Wetlands Condition 45:</u> The condition lists a series of analytes for laboratory analysis, but PFOA and PFOS were not included on the list. The Applicant was requested to provide data for these analytes in reporting provided during the SEC proceeding. If water quality concerns remain regarding PFOA/PFOS, we recommend that these analytes be included for laboratory analysis during the water quality monitoring.

Wetland Condition 53: This condition regarding weather appears to be quite vague as to conditions where jet plowing for cable installation can occur. More specificity would be helpful to both DES and the Applicant.

Wetland Condition 54: In our experience a 15 mph wind speed as a threshold for deciding if cable installation can commence seems low. Using the Beaufort Wind Scale, a 15 mph wind is a moderate breeze that results in small waves, which is a fairly common occurrence even on nice weather days. A wind speed of 20 mph (a fresh breeze on the Beaufort Wind Scale that results in moderate waves) may be a more appropriate threshold. We also note that DES would need to have someone available to make the determination specified in this condition, even if it occurs during non-business hours.

Wetlands Condition 55: Suggest that the following be added to the first sentence "or to the cable burial depths specified in the US Army Corps of Engineers permit for the Project."

Wetlands Condition 56: Requiring DES approval of silt curtain removal 90 days before removal does not seem to align with the Applicant's description of the installation process where the silt curtains would likely be in place for a period of days during the installation and will likely need to be moved during the installation. In addition, there is no need to maintain silt curtains in Little Bay for an extended period after installation since suspended sediment will have settled shortly after the installation is complete. The long-term presence of the silt curtains in the nearshore portion of the route while waiting for DES approval to remove them may also result in undesirable impacts such as bottom scour, freezing in place during winter months, impeding navigation, and visual impacts from the presence of the silt curtains.

Shoreland Condition 1: The Shoreland permit references now outdated plans submitted in 2016. Revised plans submitted by the Applicant should be referenced and incorporated into the permit.

Q. Was the Applicant's July 1, 2018 HDD submission fully responsive to the recommendation of DES for further analysis of the HDD construction method?

A. The Applicant's July 1, 2018 HDD report appears to have substantially addressed the content requested by DES in its February 2018 letter. However, the cost estimate provided by the Applicant was simply an estimated cost number instead of the "detailed cost estimate…from…at least two companies experienced with HDD" requested in the DES letter. Nonetheless, based on our experience we agree with the general proposition that using an HDD approach would be significantly more costly than the proposed jet plow installation method.

Q. Are there other HDD options the SEC could consider?

A. The Applicant's submission contemplates rather long HDD bores at both landfalls as the alternative to a full HDD crossing of Little Bay. This is the most impactful (both in land-based impacts and in cost) possible for a landfall HDD approach. It would also be possible to use HDD for the landfall approach at one of the landfalls and use the Applicant's proposed jetting approach at the other landfall. ESS has experience with submarine cable projects where this has been done. Utilizing HDD for a single landfall, and/or reducing the length of the HDD landfall bore(s), would reduce the land-based impacts and project cost as compared to the alternative presented by the Applicant.

Q. Do you have a recommendation as to whether this is appropriate and at which landfall HDD should be used?

A. Our role as technical consultant for Counsel for the Public is to provide our expertise in reviewing the Applicant's submitted materials and to provide the SEC with information to assist in its decision-making. The selection of using HDD techniques at one or more landfalls will result in a trade-off in impacts (e.g., water quality impacts vs. impacts to abutters and the public). To the extent that the SEC wishes to consider HDD techniques as an alternative to the proposed jet plow technique, it will be up to the SEC to balance the various impacts and risks of the alternative Little Bay crossing techniques.

Q. Is the use of the jet plow in New Hampshire waters different than the use of the jet plow in waters of another state?

A. While each waterbody is sensitive and unique in some ways, the use of a jet plow in waters of one state versus another are fundamentally no different. Jet plows are designed to install submarine cables and generate water flows around the jet plow stinger that promote settling of fluidized sediments back into the cable trench as protection for the cable. This does not change based on the waterbody locale. What does change, is how the local sediments and water currents interact to disperse and settle the suspended sediments, which is why route-specific predictive modeling of jet-plow induced suspended sediment is performed. Lessons learned in one state are applicable to a jet plow installation, provided the project-specific modeling and impact analyses are also taken into account when evaluating avoidance, minimization, and mitigation of potential impacts.

Q. Does this conclude your supplemental testimony?

A. Yes.