THE STATE OF NEW HAMPSHIRE

BEFORE THE

SITE EVALUATION COMMITTEE

DOCKET NO. 2015-04

AMENDED PRE-FILED DIRECT TESTIMONY OF SARAH D. ALLEN

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 115 kV TRANSMISSION LINE

THE SEACOAST RELIABILITY PROJECT

March 29, 2017

Qualifications and Purpose of Testimony

Q. Please state your name and business address.

A. My name is Sarah D. Allen. My business address is 25 Nashua Rd, Bedford, NH 03110

Q. Who is your current employer and what position do you hold?

A. I am employed by Normandeau Associates Inc. as a Senior Principal Wetland Scientist in the Wetland/Terrestrial Group. I am Normandeau's Project Manager for the Seacoast Reliability Project ("SRP").

Q. Please describe your background, experience and qualifications.

A. My background and qualifications were included in my direct pre-filed testimony filed with the NH SEC Application dated April 12, 2016 and have not changed since then.

Q. What is the purpose of this amended testimony?

A. The purpose of my testimony is to provide additional information to the SEC regarding the air and water resources, and wildlife habitat information in support of PSNH's Amendment to the original Application dated April 12, 2016. I also provide supplemental information that has become available since the original SEC filing on April 12, 2016.

Q. Have you reviewed the amended Project design submitted to the SEC?

A. Yes, I have.

Q. Does the amended Project design change anything in your previously filed testimony?

A. Yes. As described further below, the amended design modification resulted in changes in wetland impacts, and thus the in-lieu fee wetland mitigation estimates have been updated based on new impact numbers. My testimony also includes supplemental information on a small pond in the Flynn Pit which was reclassified as a vernal pool based on 2016 field information, and two potential permittee-responsible mitigation projects for the Towns of Durham and Newington to substitute for the in-lieu fee contribution if acceptable to the agencies. The amended and supplemental information is described in more detail below.

Q. **Please describe any changes to natural resource impacts as a result of the Project design amendment**.

A. Several changes to wetlands resulted from the proposed Project design changes. Overall, permanent wetland impacts declined by 28 square feet from the original design, and temporary impacts increased by 2,578 square feet. The decline in permanent impacts occurred at multiple locations as structures were shifted in response to municipal and resident requests. The two largest areas of change to temporary impacts were in Newington at the area commonly referred to as the Flynn Pit, the Newington Center Historic District and the Hannah Lane residential neighborhood. In the Flynn Pit, temporary impacts declined by 2,087 square feet after the Town approved a new right-of-way to allow the Project to go underground around a small pond and the associated wetland. At the location of the newly proposed underground segment across the Newington Center Historic District and Hannah Lane residential neighborhood, temporary impacts increased by 18,013 square feet because of burial of the cable and associated work roads across seven wetlands in the corridor. Most other changes resulted in a decline in temporary impacts as engineering and construction requirements were modified in response to design changes.

Cable burial across the Frink Farm also resulted in an additional 84 square feet of temporary impact to a small perennial stream resulting from a stream diversion needed to install the underground duct bank.

At the Flynn Pit, the small pond was reclassified as a vernal pool based on 2016 field observations (discussed below). The new underground cable route around the vernal pool and its associated wetland avoids impacts to the vernal pool but results in an impact to the vernal pool envelope immediately adjacent to the pool. The envelope is defined by the US Army Corps of Engineers as a 100-foot band immediately adjacent to the high water mark of the pool to provide shade to the vernal pool and peripheral habitat for amphibians metamorphosing to terrestrial conditions. The proposed underground cable will result in temporary impacts to 7,377 square feet in the vernal pool envelope, of which approximately 2,950 square feet (0.07 acres) will be temporary and allowed to recover, and 4,427 square feet (0.10 acres) will be maintained as permanent right-of-way.

Q. Please describe the principal functions and values of the impacted wetland resources under the amended Project design.

A. A qualitative assessment of 13 wetland functions and values using the USACE Highway Methodology found that, while multiple functions were provided to some degree by most wetlands, the principal functions were the distinguishing features among the wetland types. The most common principal functions include: floodflow alteration, fish and shellfish habitat, production export, sediment/toxicant/pathogen retention, and wildlife habitat.

The functional value of the water body in the Flynn Pit is considered moderate because its vernal pool functions are limited by its mostly permanent hydrology, and its permanent pond functions are limited because it occasionally dries up.

Q. Please describe the effects of the amendment on the proposed in-lieu fee for the SRP.

A. Although wetland impacts generally declined as a result of the amended design, the updated values for the 2016 Aquatic Resource Mitigation equalized values increased for most of the towns. This resulted in an increase of $8,479 in the revised cost estimate for in-lieu fee mitigation, as shown by municipality in the following table:

Municipality	Original Compensatory Mitigation Cost	Amended Compensatory Mitigation Cost	Difference between Original and Amended
Madbury	$6,488.92	$6,501.15	$12.23
Durham	$213,547.82	$224,217.15	$10,669.33
Newington	$81,747.24	$79,152.49	($2,594.75)
Portsmouth	$8,187.14	$8,579.60	$392.46
Total	**$309,971.11**	**$318,450.38**	**$8,479.27**

Q. In your opinion, will this Project as amended have an unreasonable adverse effect on air and water quality and the natural environment?

A. No, the Project will not have an unreasonable adverse effect on air and water quality and the natural environment. I also rely on the assessments and pre-filed testimony of my colleague, Ann Pembroke, at Normandeau Associates on marine resources and water quality. The Project has carefully considered air quality, water quality and natural resource issues and minimized impacts where feasible and reasonable.

The amendment will not result in additional combustion of fuels to produce electricity and, therefore, will not create any air emissions during operation. Generators that may be used during construction of the Project will be operated in compliance with permitting and emission requirements.

In the amendment as in the original application, permanent wetland and stream impacts have been avoided, and unavoidable impacts have been minimized to the extent practicable. The proposed compensatory mitigation for unavoidable impacts to wetland resources is adequate for the small and scattered permanent impacts from the Project. The vast majority of direct wetland impacts are temporary, and measures to ensure appropriate habitat protection and restoration will be applied during construction. These will include regular oversight by an environmental monitor to ensure compliance with the Project-specific environmental protection requirements, removal of all equipment, timber mats and erosion controls; surface raking to eliminate ruts; and seeding bare areas.

The amended design does not affect the Little Bay crossing or the associated salt marsh, intertidal and subtidal resources described in the April 12 submittal. Nor does it affect rare plant or wildlife species, or change our assessment of effects to wildlife habitat.

In balance, the potential adverse effects of the amended Project on water resources and wildlife habitat remain reasonable, and are fairly mitigated.

Supplemental Information

Q. Please describe any supplemental natural resource information that has been gathered since the original filing.

A. ***Vernal Pools*:** The Natural Resource Existing Conditions Report (Appendix 7) stated that there were no vernal pools within the proposed SRP corridor. However, after conducting additional field studies at the pond in the Flynn Pit (a water body within Newington wetland NW4), Normandeau, as the Project's environmental consultants, recommends that the water body be reclassified as a vernal pool. Prior field visits in 2013, 2014, and 2015 indicated that although the pond supported wood frogs and spotted salamanders, its hydrology was permanent; therefore, it did not meet the State definition of a vernal pool.

In 2016, we observed additional vernal pool indicators, namely, fairy shrimp and blue spotted egg masses, along with indicators of permanent hydrology, such as second-year green frog tadpoles and leeches. No fish have been observed to date. While the pond has held water throughout the summer in previous years, it dried up in August of 2016, which has been classified as Extreme Drought in coastal NH. This water body appears to function as both a permanent pond and a vernal pool, supporting primary indicators of vernal pools (fairy shrimp, wood frogs, spotted salamanders and blue spotted salamanders), and permanent pond species (green frog larvae and leeches). The Applicant now considers the pond a vernal pool for regulatory purposes, but recognizes its dual functionality as both a vernal pool and a permanent pond. The functional value of the pond is only moderate because its vernal pool functions are limited by its mostly permanent hydrology, and its permanent pond functions are limited because it occasionally dries up.

Q. Please describe any supplemental information regarding compensatory wetland mitigation for the SRP.

A. Since the SRP SEC permit application was submitted on April 12, 2016, the Towns of Durham and Newington have developed permittee-responsible mitigation projects, summarized below. Both concepts have merit for compensation for different aspects of wetland resource impacts by the SRP if the regulatory agencies concur.

Durham - Wagon Hill Farm

The Town of Durham has proposed a shoreline stabilization project to reduce the amount of erosion from the Wagon Hill Farm shoreline bordering the Great Bay Estuary and the Oyster River and restore salt marsh that has already eroded. Wagon Hill Farm is Town-owned conservation land consisting of 139 acres with 1,100 feet of tidal frontage on the Little Bay, Oyster River and Smith Creek. The project has two primary objectives: 1) design and build a living shoreline that has both structural and biological elements to minimize erosion, and 2) re-establish the degraded salt marsh to further protect the shoreline. Preliminary estimates suggest that approximately 10,000 square feet of salt marsh, plus approximately 1,100 linear feet of adjacent shoreline could be restored.

The Wagon Hill Farm shoreline stabilization project provides the opportunity for the SRP to compensate for unavoidable wetland impacts in Durham by restoring

deteriorated or fully eroded salt marsh, and reducing the loss of shoreline habitats and the associated sediment loading into critical estuarine habitats. The Applicant proposes to contribute to the construction, monitoring, and maintenance of this project. The total cost for construction, 5 years of monitoring, and maintenance is currently estimated as $375,000, although final costs will vary depending on the final design. The costs for construction, monitoring and maintenance will be funded through a mix of money from the Lois Brown Trust, the Town of Durham general fund, and the SRP compensatory mitigation contribution. The Lois Brown Trust has up to $100,000 available for this project. The Town of Durham voted to approve approximately $84,000 for this project as part of the 2016 annual budget, pending regulatory permit approval for the PSNH contribution. PSNH proposes to contribute the dollars calculated for the In-Lieu Fee contribution for wetland impacts in Durham towards construction costs. Under the current amended proposal, the value of that contribution is approximately $224,000, although that may change during final design and the SEC permitting progress.

Newington Conservation Easement

The Newington Conservation Commission (NCC) is pursuing a 10- acre conservation easement on a 13-acre parcel on Old Post Road (Map 17 Lot 15) that borders an existing conservation parcel and encompasses a section of the Knights Brook Prime wetland. PSNH is working with the Town of Newington to develop a permittee-responsible compensatory mitigation project that would offset the wetland functional impacts of the Seacoast Reliability Project, and meet the town's goal of protecting this valuable parcel for wetland and wildlife habitat. The parcel is adjacent to, or in close proximity to, existing protected lands along the Knights Brook corridor totaling approximately 100 acres, including the Frink Farm. A Letter of Intent was signed between the landowner and the NCC, dated September 1, 2016, to commit to the purchase of the conservation easement.

The Newington Conservation Easement project provides the opportunity for the Project to compensate Newington for unavoidable permanent impacts caused by SRP structures in freshwater wetlands (approximately 362 square feet), up to 1,786 square feet of permanent impact from concrete mattresses on tidal flats and rocky shore, and conversion of forested wetlands and stream buffers as a result of tree removal within the

SRP project corridor. The 2016 appraisal value of the conservation easement is $260,000. PSNH proposes to contribute the dollars calculated for the In-Lieu Fee contribution for wetland impacts in Newington towards the purchase of the easement. Under the current amended proposal, the value of that contribution is approximately $79,000, although that may change during final design and the SEC permitting progress. The NCC has committed $100,000 from their conservation fund, and will request the remaining monies (estimated as $81,000) to be raised at through a special warrant article at the 2017 Town Meeting.

In-Lieu Fee Reversion

PSNH will continue to work with the applicable parties to develop a mitigation package that will be acceptable to NHDES and USACE. In the event that a town proposal does not come to fruition, or develop within an acceptable schedule for the agencies, PSNH agrees that the SRP compensatory mitigation funds will revert to the State In-Lieu Fee program to be dispersed by DES under the general Aquatic Resource Mitigation Fund grant program for the Salmon Falls-Piscataqua Rivers Service Area.

Q. Does this conclude your amended pre-filed testimony?

A. Yes.