



Public Service Company of New Hampshire Seacoast Reliability Project

Madbury, Durham, Newington & Portsmouth, NH

New Hampshire Department of Environmental Services
401 Water Quality Certification Application
SUPPLEMENT

Prepared For:
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1.0 Introduction

Supplement Request

This supplement addresses modifications to the Project design in response to feedback from municipal officials and residents. PSNH has altered the proposed design to include:

- Moving the underground section out of the roadbed along Gundalow Landing Circle,
- Extending the underground to move the transition structure further east of Little Bay Road and routing around a wetland and vernal pool,
- Inclusion of approximately 2,680 feet of underground within the Frink Farm, Newington Center Historic District and the Hannah Lane residential neighborhood.

Minor line design changes have also occurred to the overhead line design to accommodate resident requests.

The following sections of the Application for Water Quality Certification have changed.

2.0 Additional Submittal Information

2.1 Type of Activity

Type of activity (e.g., construction, operation, other action such as water withdrawal) and the start and end dates of the activity.

The revised design decreases the permanent wetland impacts, increases temporary wetland impacts, and requires a stream diversion in a second stream to accommodate new underground cable. See full Natural Resource Impact Assessment on the attached thumb drive.

Permanent wetland impacts total approximately 6,114 square feet (0.14 acres). The majority (approximately 5,336 square feet) of the permanent impacts result from the potential need for concrete mattresses if intertidal ledge prohibits burial of the cable to its full depth of 3.5 feet. The remaining 778 square feet of impact results from the placement of structures within, or partially within, freshwater wetland areas.

There will be no permanent impacts to streams. The majority of streams will be crossed using temporary mat bridges, with matting placed parallel to, but outside of each bank, and other matting placed perpendicular to these and over the stream. Two streams are located within work pad areas, and may need temporary culverts during construction activities. Temporary culverts will be sized based on appropriate guidelines to accommodate flows. These areas will be inspected and maintained throughout construction by an Environmental Monitor and the temporary culverts will be removed when no longer needed.

Additionally, two perennial streams, College Brook (DS74) in Durham, and an unnamed tributary to Knights Brook in Newington (NS107) are proposed to be crossed with an open trench associated with underground line construction. A short section of each stream will be temporarily relocated using coffer dams to divert water around the impact area during construction. The underground electrical conduit will be installed and the impacted portion of the channel will be reconstructed with native material and stream flow will be restored to its original channel. The area will be stabilized as needed to support the disturbed banks. No vernal pools occur within the Project corridor.

Temporary wetland impacts will occur where wetlands need to be crossed to access proposed structure locations for construction, or existing distribution structure locations for removal. On land, temporary impacts will also occur within designated “work pad” areas around proposed structures necessary to safely construct the project as designed. Within Little Bay, the proposed underground and underwater cables will be installed below grade in temporary trenches using several methods including jet plow technology (mechanical installation using a combination of water pressure and a steel blade) within the bay, diver burial and an excavator in the nearshore intertidal zone. Timber mats (approximately 4 feet by 16 feet) will be used for wetland crossings and work pads where necessary.

Construction for the project is proposed to start in the second half of 2017 and to be completed in early-2019. The submarine cable installation is proposed for the fall of 2018.

2.2 Characteristics of the Activity

The characteristics of the activity: Whether the activity is associated with a discharge and/or water withdrawal and whether the discharge and/or withdrawal is proposed or occurring.

2.2.1 Overhead and Underground

The majority of the SRP will be constructed aboveground on overhead structures, most of which will be directly embedded monopoles and H-frame structures. Drilled pier foundations will be necessary for monopoles on corners or requiring more support. The revised design extends the underground sections of the line in Gundalow Landing in Newington (approximately 1,800 linear feet) and the Newington Center Historic District and Hannah Lane neighborhood (approximately 2700 linear feet). Best management practices will be employed to control sediments and any dewatering that may be needed during the structure and underground installations. These will be identified and refined during the final design and construction specification stages.

An issue that may require special attention is the potential presence of “emerging contaminants” in the vicinity of the former Pease Air Force Base (Pease). Data collected by Pease Air Force Base (Pease) indicates elevated levels of the emerging contaminants perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) in some wells and groundwater in Newington, including sections of Knights Brook and Pickering Brooks in the vicinity of the SRP. To better understand the issue, the SRP installed monitoring wells and is conducting its own testing for PFOS and PFOA in the SRP corridor at the Frink Farm,

where burial of the cable will require dewatering and soil management. The results indicate that PSNH will continue to coordinate with Pease during their on-going treatment at the source of the contamination. PSNH has begun consultation with NHDES and Pease to determine the appropriate soil and water management strategies during construction.

2.3.2 Potential chemical, physical, biological constituents

Discharge in Little Bay will consist solely of seabed material suspended in ambient water. Seabed sediment texture was characterized based on data collected for the Project in June and August 2013, as described in the Sediment Dispersion Report. Grain size distribution from a transect located 600 feet south of the proposed cable burial was interpolated to determine grain sizes for the cable route. Medium and fine sand with some silt and underlain by stiff clay dominated in the channel, while the western tidal flat consisted of predominantly silt with clays and fine sand. These data were supported by project-specific incidental samples for thermal capacity and benthic organisms.

The Natural Resource Impact Assessment report prepared by Normandeau Associates for the project reviewed existing data for Little Bay sediments, and found that contaminant levels in sediments that will be disturbed by cable installation are likely to be low. Therefore, there is a low risk that use of the jet plow will result in dispersal of contaminants to other parts of the estuary.

Although the 2015 RPS ASA sediment suspension model predicts that sediments will remain in the water column for a limited duration (up to several hours) before being redeposited and that the exposure of sensitive receptors (e.g., shellfish beds; aquaculture facilities; eelgrass) will be limited, PSNH acknowledges that conditions during installation may differ from the assumptions used in the modeling. Hence, in order to gain a more complete understanding of the potential exposure risk to natural resources, PSNH tested the sediments along the route for eight metals typically tested in dredging operations, polyaromatic hydrocarbons (PAHs) and polychlorinated biphenyls (PCB's) using the recommended testing limits outlined in the US Army Corps of Engineers Regional Implementation Manual (2016). PFOS, PFOA, Total Petroleum Hydrocarbon, and dioxin testing also was performed. PSNH coordinated with NHDES and the US Army Corps of Engineers for their review and concurrence for the proposed sediment sampling and testing plan. The sampling plan, results and an ecological risk discussion is provided in the report entitled "Characterization of Sediment Quality along the Little Bay Cable Route" (Normandeau 2016) provided to DES and the SEC on December 1, 2016.

Results of the PSNH sediment testing were consistent with US Environmental Protection Agency's National Coastal Condition Assessment (NCCA) (US EPA 2007) sampling in Little Bay. All constituents in all samples fell below levels of environmental concern with the exception of arsenic. Arsenic was slightly higher than the lowest screening level value, but within the range of concentrations observed in Little Bay in the NCCA program. The NCCA program also included bioassay testing and determined that exposure to sediments

from Little Bay resulted in no significant difference in mortality compared to reference sediments.

TPH, PFOA, and PFOS results all fell below detection limits in every sample. Dioxins/furans occurred in most samples but at very low levels, never exceeding the screening guidelines. As discussed in Appendix A, the results of the sediment testing were examined in the context of ecological risk. This analysis concluded that there is no potential for ecological effects from constituents of potential concern in the sediments that will be disturbed during cable installation, including metals, PAHs, PCBs, PFCs, dioxins and furans.

2.11 A copy of the DES alteration of terrain permit (RSA 485-A:17), if necessary

A supplement to the NHDES Alteration of Terrain Application is being submitted concurrently.

2.12 The name(s) and address(es) of adjoining riparian or littoral abutters

Per, Env-Wt 501.01(c) abutter notification is not required for projects in utility ROWs; therefore abutter notification has not been completed for the portions of the Project located in existing and/or proposed utility ROW areas.

It should be noted that the Project has conducted and will continue to conduct pro-active outreach actions throughout Project permitting and construction, and public hearings will take place in accordance with NH SEC rules.

2.13.3 The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands

Please see the amended environmental maps (SEC Appendix 2(a)) for this project depicting the proposed impacts and Assessment Unit IDs of affected surface waters. The maps are provided electronically on the thumb drive.

3.0 LITERATURE CITED

U.S. EPA. 2007b. National Estuary Program Coastal Condition Report. Chapter 3: Northeast National Estuary Program Coastal Condition, New Hampshire Estuaries Program. 6 p.

U.S. EPA New England and U.S. Army Corps of Engineers, New England District. 2004. Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters. 54 p.

Appendix C. Natural Resource Impact Assessment Report

See the amended Appendix 34(a) or thumbdrive (attached).