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May 23, 2019

Via Electronic Mail (Lindsey.E.Lefebvre@usace.army.mil)
Ms. Lindsey Lefebvre
U.S. Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

Re: Comments on Seacoast Reliability Project (File No. NAE-2015-00665)

Dear Ms. Lefebvre:

Conservation Law Foundation ("CLF") appreciates the opportunity to comment on the U.S. Army Corps of Engineers' ("Corps") review of, and decision-making related to, the Seacoast Reliability Project ("project") proposed by Public Service Company of New Hampshire d/b/a Eversource Energy ("Applicant") – a project that will have a significant impact on the environment, particularly Little Bay and its numerous natural resource values.

CLF is a non-profit, environmental advocacy organization working to protect New England's environment for the benefit of all people. CLF uses the law, science and the market to create solutions that preserve our natural resources, build healthy communities, and sustain a vibrant economy. For years, CLF has been working to restore and protect the health of the Great Bay estuary, including Little Bay, through the use of science, policy, and advocacy under the Clean Water Act. The restoration and protection of the Great Bay estuary is an important priority of CLF and the sole focus of CLF's Great Bay-Piscataqua Waterkeeper program.

As discussed below, (1) the proposed project's significant impacts on the environment, including special aquatic sites ("SAS"), are not necessary or, at the very least, can be avoided by other alternatives with lesser impact on aquatic resources and SAS and, therefore, pursuant to the Section 404(b) Guidelines, cannot lawfully be permitted; (2) the proposed project's impacts are sufficiently adverse to be contrary to the Section 404(b) Guidelines; (3) the proposed project should not be permitted under the Rivers and Harbor Act; (4) the proposed project is contrary to the public interest; and (5) the proposed project will result in significant adverse impacts to the environment and therefore requires the preparation of an Environmental Impact Statement ("EIS") under the National Environmental Policy Act ("NEPA").

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I. Brief Overview

The Applicant seeks a Section 404 permit and approval under Section 10 of the Rivers and Harbor Act of 1899 to construct a new 115kV electric transmission line from Madbury New Hampshire to Portsmouth, New Hampshire. The project, first conceived and selected by the Applicant in 2010 without public input or an evaluation of environmental impact, proposes to cross Little Bay between Durham and Newington using a jet plow, hand-jetting, and trenching to bury three cables in the bay's sediments. The project is anticipated to release approximately 1,500 tons of sediments into Little Bay. In locations where the jet plow and hand-jetting cannot achieve the desired burial depth, the Applicant intends to cover the cable with concrete mattresses – permanent structures encompassing up to 8,681 square feet located in areas that are used by the public for boating and other activities, that will be visible from the water and the land, and that will cause the permanent loss of habitat.

Little Bay is a public water with tidally submerged land that is held in trust by the state of New Hampshire for the benefit of the public. It is part of the larger Great Bay estuary, which has been designated an estuary of national significance and which contains special aquatic sites, or "SAS," within the meaning of the Section 404(b) Guidelines. Little Bay and Great Bay were acknowledged by the Applicant's own witnesses before the N.H. Site Evaluation Committee ("SEC") to be "extremely valuable natural resources deserving of protection." SEC Transcript ("Tr."), Day 5 AM at 61 (lines 4-8).[1] When healthy, the Great Bay estuary (including Little Bay) provides a diversity of essential habitats. Eelgrass habitat is considered a cornerstone of the ecosystem's health, providing numerous critical functions including stabilizing sediments, providing food for various organisms, providing structure for other organisms, and removing nutrients from the system.[2] The estuary also provides habitat for oysters, including commercial oyster aquaculture, which provide important ecosystem functions and local economic benefit.[3] The estuary, including Little Bay, also provides important recreational opportunities for the public, including boating, fishing, swimming and aesthetic enjoyment.

Unfortunately, the Great Bay estuary, of which Little Bay is a critical part, is in a state of decline and faces numerous challenges. According to the Piscataqua Region Estuaries Partnership's science- and data-driven 2018 *State of Our Estuaries* report, of sixteen indicators in the Great Bay estuary, *twelve* demonstrate negative or cautionary trends. CLF Exh. 22. Indicators

[1] References in these comments to transcripts and exhibits pertain transcripts and exhibits in the SEC Seacoast Reliability Project proceeding. CLF has been informed by the Corps that the record of the SEC proceeding, including testimony and exhibits, is already contained in the Corps' administrative record.

[2] *See* SEC Tr. Day 10 PM at 124 (Selig) (describing eelgrass as the "linchpin" to the health of the estuary); SEC Tr. Day 5 AM at 58 (lines 1-8) (Pembroke) (describing the numerous ecological functions of eelgrass and acknowledging its importance to the Great Bay ecosystem). *See also* CLF Exhibit ("Exh.") 22 (*State of Our Estuaries* Report, 2018) at 23.

[3] *See* CLF Exh. 22 (*State of Our Estuaries* Report, 2018). *See also,* Testimony of Jason Baker, SEC Tr. Day 14 AM.

exhibiting *negative* trends include eelgrass and oysters; indicators exhibiting *cautionary* trends include total suspended solids, nutrient concentration, nutrient loading from non-point sources, and other water quality challenges. *Id.* at 12. The Piscataqua Region Estuaries Partnership, including the many scientists and stakeholders who have informed its analysis, has identified key management objectives for the estuary, including:

- increasing eelgrass distribution to 2,900 acres and restoring connectivity of eelgrass beds throughout the estuary by 2020 (*id.* at 23);
- increasing the abundance of adult oysters at the estuary's six documented beds, to 10 million oysters by 2020 (*id.* at 32);
- improving water quality and mitigating pollution sources to meet water quality standards for bacteria and for shellfish harvesting (*id.* at 28);
- no increasing trends for total suspended solids (*id.* at 15); and
- managing nutrient loads to the estuary to minimize adverse, nutrient-related consequences (*id.* at 16).

To restore the health of the Great Bay estuary, and in particular to address the adverse impacts of nitrogen pollution on eelgrass habitat and water quality, numerous municipalities have made – and are making – significant public investments in the upgrade of sewage treatment facilities and stormwater management.[4] Such public investments include:

- the substantial upgrade of the Town of Newmarket's wastewater treatment facility, including improvements to substantially reduce discharges of total nitrogen (approximate cost, $14 million);
- the construction by the Town of Exeter of a new wastewater treatment facility, replacing the town's outdated lagoon-based facility and including improvements to substantially reduce discharges of total nitrogen (approximate cost, $54 million);
- the construction by the City of Portsmouth of new, significantly upgraded treatment at the City's Peirce Island wastewater treatment facility, which will result in tertiary (as opposed to enhanced primary) treatment of wastewater, as well as substantial reductions in the discharge of total nitrogen (approximate cost, $90 million);
- improvements by the Town of Durham to its wastewater treatment facility operations to substantially reduce discharges of total nitrogen;
- improvements and optimizations of wastewater treatment facilities operated by the Cities of Dover and Rochester, resulting in reduced discharges of nitrogen pollution;
- improvements by the Town of Newington to its wastewater treatment facility to reduce nitrogen pollution.

[4] Tr. Day 10 PM at 123 (Selig). *See also* Tr. Day 5 AM at 57 (lines 11-18) (Pembroke) (discussing efforts to restore eelgrass and to reduce nutrients flowing into the estuary).

In addition to significantly improving wastewater treatment, cities and towns throughout the estuary's watershed are investing in stormwater management to reduce pollution associated with increases in impervious cover. Importantly, significant investments also have been made in restoring oysters in the estuary, including the recent development of an oyster aquaculture industry in Little Bay and other parts of the estuary. The introduction of new threats and sources of pollution will undermine these important efforts and investments.

The Applicant has obtained from the New Hampshire Site Evaluation Committee ("SEC") a certificate of site and facility ("certificate") for the proposed project. The SEC's decision to grant a certificate, which CLF has appealed to the New Hampshire Supreme Court, was rendered pursuant to state law, RSA Chapter 162-H, which pertains specifically to the siting of energy facilities. Although portions of CLF's comments, below, contain references to testimony and exhibits that were presented to the SEC, the SEC's analysis and decision to issue a certificate (as well as analysis by the New Hampshire Department of Environmental Services ("NHDES") on which the SEC relied) in no way relieves the Corps of its responsibilities under the Clean Water Act, the Rivers & Harbor Act, and NEPA to independently assess, and independently render decisions on, the proposed project under federal law.

II. The Proposed Project Has Not Been Demonstrated To Be Needed, Or To Be The Least Environmentally Damaging Practicable Alternative

The 404(b) Guidelines make clear that, with exceptions that do not apply here, a project shall not be permitted "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." 40 C.F.R. § 230.10(a). The 404(b) Guidelines further state:

> (1) For the purpose of this requirement, practicable alternatives include, but are not limited to:
>
> (i) Activities which do not involve a discharge of dredged or fill material into waters of the United States or ocean waters;
>
> (ii) Discharges of dredged or fill material at other locations in waters of the United States or ocean waters;
>
> (2) An alternative is practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes. If it is otherwise a practicable alternative, an area *not presently owned by the applicant* which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity may be considered.

Id. (emphasis added). Of particular relevance and importance to the proposed project at issue, the 404(b) Guidelines further state:

> Where the activity associated with a discharge which is proposed for a special aquatic site . . . does not require access or proximity to or siting within the special aquatic site in question to fulfill its basic purpose (i.e., *is not "water dependent"*), practicable alternatives that do *not* involve special aquatic sites *are presumed* to be available, unless *clearly* demonstrated otherwise. In addition, *where a discharge is proposed for a special aquatic site, all practicable alternatives to the proposed discharge which* ***do not*** *involve a discharge into a special aquatic site* ***are presumed*** *to have less adverse impact on the aquatic ecosystem, unless* ***clearly*** *demonstrated otherwise.*

Id. § 230.10(a)(3) (emphases added). The project under consideration here is not a water-dependent project, yet it proposes significant activities – including the disturbance of 1,500 tons of sediment, and the installation of up to 8,681 square feet of concrete mattresses – in a special aquatic site. The 404(b) Guidelines establish a *presumption* that alternatives exist that do not involve discharges into special aquatic sites and establish a burden to *clearly* demonstrate otherwise – i.e., to overcome the above-stated presumption. The Applicant has failed to satisfy that high burden.

A. Applicant has failed to clearly demonstrate a need for the proposed project

The Applicant has not demonstrated that the proposed project is needed. The proposed project has its origins in a transmission needs analysis conducted under the purview of ISO New England (ISO-NE), the region's independent system operator, during the 2008-2012 time period. It is part of a larger suite of projects consisting of ten projects, three of which consist of the proposed transmission line and two associated circuit breakers. The other seven projects within the suite have been constructed and placed in operation.

Provided with these comments as Attachment A is an analysis titled "Outdated ISO-NE Assumptions and Study Methodologies Require Reassessment of Need for the Madbury-Portsmouth 115kV Transmission Line." The analysis, based on a review of specifically-identified ISO-NE documents,[5] describes the process by which the proposed project (and larger

[5] The analysis discussed in detail in Attachment A includes a list of 29 ISO-NE documents (with hyperlinks) that are protected from public disclosure because they are considered "**Critical** Energy Infrastructure Information (CEII)." CEII has been defined by the Federal Energy Regulatory Commission (FERC) as: specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that: (1) relates details about the production, generation, transportation, transmission, or distribution of energy; (2) could be useful to a person in planning an attack on critical infrastructure; (3) is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552 (2000); and (4) does not simply give the general location of the critical infrastructure. *See* FERC regulation of CEII at https://www.ferc.gov/legal//maj-ord-reg/land-docs/ceii-rule.asp). It is customary for a regulatory agency such as the Corps to access this kind of information to inform its analysis of an application such as this. According to FERC:

> Each year, over 7,000 documents are submitted to the Commission's eLibrary system as Critical Energy Infrastructure Information. The Commission also receives approximately 200 requests for

Seacoast suite of projects) was selected, including the initial identification of four alternatives, and the narrowing of those alternatives to two alternatives – the Gosling Road Substation w/ Autotransformers alternative, and the Seacoast Reliability suite of projects. *See* Attachment A at 4-5. The analysis also identifies significant changes which have occurred since the time of the proposed project's selection. More specifically, the analysis demonstrates that the proposed project is premised on a Reliability Needs Assessment that is "stale and fails to reflect important changes in system conditions that have occurred during the nearly seven years since the assessments were conducted." *Id.* at 1. More specifically, the analysis demonstrates the following significant changes:

- **ISO-NE has adopted a new methodology for the manner in which it conducts Reliability Needs Assessments.** At the time of the Reliability Needs Assessment which led to the selection of the proposed project, ISO-NE employed a "deterministic" methodology under which ISO-NE assumed two or more generators within a study area going "out of service" for purposes of assessing the system's reliability. *Id.* at 11. As a result of significant criticism by the New England State Committee on Electricity, beginning in September 2013 ISO-NE began exploring changes to assumptions and methods used in performing reliability studies. *Id.* at 12. ISO-NE subsequently adopted a "probabilistic" methodology, in place of its prior "deterministic" approach, to eliminate subjectivities. *Id.* ISO-NE is now proceeding with this new methodology in its needs assessments and even suspended the NH/VT 2023 Needs Assessment as a result of this important change. ISO-NE's new assumptions and methodology would likely alter the conclusions it reached when, under its now-outdated deterministic methodology, it identified the proposed project as part of the portfolio of projects it selected. *Id.* at 1, 13-14.

> Critical Energy Infrastructure Information each year. Requests for Critical Energy Infrastructure Information are submitted by, among others, public utilities, gas pipelines, Liquefied Natural Gas (LNG) facilities, hydroelectric developers, academics, landowners, public interest groups, researchers, renewable energy organizations, consultants, **and federal agencies**.

See Order No. 833, Docket Nos. RM16-15-000 and RM15-25-001; Regulations Implementing FAST (Fixing America's Surface Transportation) Act Section 61003 – Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information; Availability of Certain North American Electric Reliability Corporation Databases to the Commission, Issued November 17, 2016, 18 CFR Parts 375 and 388 (available at https://www.ferc.gov/whats-new/comm-meet/2016/111716/E-4.pdf) (emphasis added).

FERC also notes in Order No. 833 that Section 215A(d)(2)(D) of the Federal Power Act states that the Commission "shall promulgate such regulations as necessary to … facilitate voluntary sharing of critical electric infrastructure information…", and section 215A(d)(2)(D)(i) includes "Federal, State, political subdivision, and tribal authorities" as those who qualify for voluntary sharing. This voluntary sharing requires any individual, including federal employees such as at Corps, to file a request with the entity holding the CEII, which in this case is ISO-NE. The request form is available at https://www.iso-ne.com/static-assets/documents/2015/08/external_ceii_request.pdf. The Corps also can follow the steps outlined in a May 17, 2019 email from CLF (Tom Irwin) to the Corps (Lindsey Lefebvre). Once CEII access is granted, the Corps can access the CEII documents through the hyperlinks contained in Appendix 1 of Attachment A.

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- **Significantly lower load forecasts**. Substantial increases in energy efficiency measures and demand-side resources, photovoltaic resource installations, and ISO-NE's improved capabilities in accounting for load reducing measures all have contributed to lower load forecasts since the time the proposed project's Reliability Needs Assessment was done. *Id.* at 1, 7-9. In fact, the latest load forecast for New Hampshire in 2020 (which was the tenth year of the study planning horizon for the NH 2020 Needs Assessment), reveals a reduction in forecast load of 422 megawatts (MW).[6] *Id.* at 7-8.

- **The addition of new generation and demand capacity resources clearing in ISO-NE's forward capacity auctions, located in New Hampshire.** New capacity resources located in New Hampshire and clearing six Forward Capacity Auctions (Forward Capacity Auctions 6, 7, 8, 9, 10 and 11) total 221.3 MW of Summer Qualified Capacity. *Id.* at 1, 9-11, Table 4. These changes in capacity resources represent an important change in capacity resource assumptions and may alter the results of the needs analysis for the proposed project.

- **Significant changes to the transmission topology in New Hampshire, including a total of 38 transmission projects, since the proposed project's Reliability Needs Assessment.** Of those 38 transmission projects, ten are part of the Applicant's Seacoast Reliability suite of projects, seven of which have already been constructed and placed in service. *Id.* at 1, 14. The addition of transmission projects to the NH/VT 2020 Needs Assessment base case study model, along with other key transmission projects, would likely produce significantly different results regarding the need for the proposed project. *Id.* at 14.

- **A $57.3 million increase in the cost of the proposed project**. The Seacoast Reliability suite of projects was selected over the New Gosling Road Substation w/ Autotransformers alternative in part based on cost. During the SEC proceeding, the Applicant testified that cost was a major consideration in determining which project to proceed with. Tr. Day 4 AM at 78 (Andrew). At that time, the Seacoast Reliability suite of projects was forecast to cost $110.7 million, with the proposed project comprising $30.6 million of that cost.

[6] During the SEC proceeding, the Applicant attempted to justify the proposed project based on the claim that, without it, rolling brownouts may become necessary. According to the Applicant's own witness, however, ISO-New England's "year of need" for the Seacoast Reliability suite of projects has long since passed and there have been *no* rolling brownouts. Tr. Day 2 PM at 77 (Bowes). Just as important, the Applicant's witness Robert Andrews testified that "if you go back a few years, the [electricity] load forecasts were much higher," and those anticipated loads did not materialize. Tr. Day 4 PM at 61 (Andrew). There is no evidence that the Applicant, ISO New England, or any other entity has assessed – taking into account the seven Seacoast Reliability projects that are already in operation – the likelihood of rolling brownouts if the proposed project is not built. Tr. Day 2 PM at 77-78 (Bowes).

Attachment A at 13. Since then, however, the proposed project has more recently been estimated to cost $86.9 million – an additional $57.3 million (nearly a tripling of its initial estimated cost). *Id.* Had the Applicant accurately assessed the cost of the proposed project, in comparison with other projects, it likely would have resulted in the selection of another project. *Id.* at 1, 13.

Since completing the Reliability Needs Assessment used to select the proposed project, ISO-NE has initiated new Reliability Needs Assessments of the New Hampshire transmission system four additional times. *Id.* at 15. Most recently, on May 3, 2019, ISO-NE issued a notice of the initiation of the 2029 New Hampshire Needs Assessment. *Id.* The fact that ISO-NE repeatedly engages in these analyses, each time taking into account recent developments (and now using a new methodology), strongly reinforces the need to engage in an updated assessment to determine whether, in light of all of the foregoing changes, a need exists for the proposed project and, if a need *does* exist, whether the proposed project is the best solution.[7] *Id.* at 1, 15.

To comply with the Section 404(b) regulations, the Corps must require the Applicant to show that the project is needed, and that lesser impacting alternatives do not exist. One source of information for that determination is an update of the NH/VT 2020 Reliability Needs Assessment to address all of the changes discussed above, including the use of ISO-NE's new probabilistic methodology. Such an update could be accomplished using an updated study model in the manner described on page 15 of Attachment A, or by suspending review of the pending permit application to allow ISO-NE's completion of the NH 2029 Needs Assessment with specific instruction to Applicant to include a scenario in which the proposed project is removed from the transmission topology in the base case study model. Absent such updated analysis of need, the Corps lacks the information it requires to accurately assess whether the proposed project and its associated impacts are necessary, and whether there exists an alternative (including a No-Build alternative) that avoids or minimizes impacts to SAS and aquatic resources.

B. Applicant has failed to clearly demonstrate the unavailability of lesser impacting alternatives

During the SEC proceeding, the Applicant testified that cost was a major consideration in determining which project to proceed with. Tr. Day 4 AM at 78 (Andrew). Costs for the Seacoast Reliability suite of projects were premised on the assumption that the Applicant would jet-plow across Little Bay – an assumption that was made *before* any environmental assessment of jet-plowing in Little Bay had been conducted. Day 4 AM at 79-80 (Andrew). As discussed

[7] *See* Attachment B (ISO-NE presentation titled "New Hampshire (NH) 2029 Needs Assessment Details" (May 21, 2019). This document reinforces the fact that ISO-NE engages in these analyses with updated facts and assumptions. Among the updated facts being considered is the addition of the 1,090 MW New England Clean Energy Connect ("NECEC") project.

below, the Applicant's subsequent assessment of alternatives was improperly designed and weighted to provide post-hoc justification for its original, pre-environmental-review selection of the proposed project.

1. Applicant has failed to fairly and properly assess alternatives that avoid a crossing of Little Bay

The Applicant rejected alternative transmission routes, and alternative reliability projects, based on cost (as discussed above, the Applicant relied on a cost projection for the proposed project that has since increased by $57.3 million), and without a comparative analysis of environmental impact, including the ability of other projects to avoid SAS. The Applicant has not met its burden to clearly demonstrate that the proposed project is the least environmentally damaging practicable alternative, and that there are not alternatives that avoid SAS. As discussed above, the Corps should require a full update of the Reliability Needs Assessment which provided the basis for selecting the Seacoast Reliability suite of projects, including the proposed project. If the updated analysis demonstrates a continuing reliability need, the Corps should use such analysis, taking into account the seven Seacoast Reliability projects that are already in operation, to determine whether the remaining need can be met through other, lesser impacting alternatives, including alternatives that avoid SAS.[8]

2. Applicant has failed to fairly and properly assess horizontal directional drilling as an alternative

In its February 28, 2018 decision, NHDES recommended that the Applicant conduct a comparative study of jet plowing and horizontal directional drilling ("HDD"). As the basis for this recommendation, NHDES stated:

> Although there are environmental risks such as "frack-out", as well as other challenges associated with horizontal directional drilling (HDD), it may be feasible and have less impact on surface water quality than the proposed jet plow method which will result in hundreds of cubic yards of sediment being temporarily suspended in the water column and deposited elsewhere in Little Bay. In Document 1 of their submittal dated September 19, 2017 to the SEC and in the pre-filed direct testimony of James Jiottis (an employee of Eversource Energy), the Applicant provided a relatively brief explanation as to why HDD was not selected and, in our opinion, did not provide sufficient information to support their conclusion.

[8] During the SEC proceeding, the Applicant agreed that the selection of the Seacoast Reliability suite of projects, as part of the ISO-NE process, in no way limited or constrained the SEC's authority to grant or deny a certificate for the proposed project. Tr. Day 1 AM at 74 (Quinlan). The same holds true for the Corps.

SEC COMM Exh. 12a at 1-2. NHDES proceeded to recommend specific elements of a study comparing HDD and jet plowing, with the specific recommendation that "[i]f cost is the reason given for determining an alternative is not feasible, detailed cost estimates should be provided from at least two companies experienced with jet plowing and two companies experienced with HDD." SEC COMM Exh. 12a at 2.

Although the Applicant did conduct a comparative study of jet plowing and HDD, the study is effectively a results-oriented analysis intended to justify the Applicant's original preferred option: jet plowing across Little Bay. The study unfairly assessed HDD in two important ways: (1) it artificially inflated the potential environmental risks associated with HDD, and (2) it failed to comply with NHDES's specific recommendations to assess and compare the costs of HDD and jet plowing, as follows:

Inflating the Environmental Impact of HDD

By boring *under* Little Bay as opposed to plowing through Little Bay's sediments, HDD would avoid impacts to SAS, including the 1,500 tons of sediment release associated with the jet plow alternative, and the use of concrete mattresses. Nonetheless, in its analysis of HDD, the Applicant initially used identical language to describe the impacts of HDD as compared to jet plowing. *Compare* Section 2.1.5 of the HDD/Jet Plow report (describing impacts of jet plowing) *with* Section 2.2.5 (describing impacts of HDD) (App. Exh. 133 at 5, 8). In fact, Section 2.2.5's discussion of HDD includes a mistaken reference to "the jet plow site," showing that language from the jet plow discussion was simply copied and pasted into the HDD discussion. *See* App. Exh. 133 at 8) ("Large particles such as sands settle out of suspension rapidly and generally close to the *jet plow sit*e.") (emphasis added); *compare with* identical language at App. Exh. 133 at 5). Asked about this at the hearing, the Applicant's witness Sarah Allen testified that it was not unreasonable to describe the impacts with the same language, even though it created the impression that the impacts were similar. (p. 122, lines 8-18). This, despite Ms. Allen's testimony that horizontal directional drilling entirely under Little Bay would "theoretically eliminate impacts to water quality." Tr. Day 5 AM at 128 (lines 8-15) (Allen).

The Applicant's comparative study also failed to include any analysis whatsoever of the environmental impacts resulting from the cable removal associated with jet plowing. While the Applicant's study emphasizes the "impacts" resulting from seven geotechnical borings and barge anchoring for HDD, nothing is said about the impacts of cable removal related to the jet plow option. When questioned about why the report failed to discuss the environmental impact of cable removal, Ms. Allen admitted that "if it [the impact of the cable removal] was left out, that was probably an omission on our part." Tr. Day 5 AM at 128 (Allen). Finally, the pre-filed testimony of the environmental panel, with no modeling or analysis, and no quantification of how much bentonite would be released in a large inadvertent return, concluded that the bentonite from a large inadvertent return could impact eelgrass. Conversely, the environmental analysis of jet plowing concluded that the release of 1,500 tons of sediment from the jet plowing operation

would never reach any eelgrass beds. App. Exh. 16 at 8 (lines 14-18) (Pembroke, Pre-Filed Testimony); Tr. Day 5 AM at 105 (lines 6-14 (Pembroke).

At the hearing and in filed testimony, Applicant's expert Ann Pembroke conceded that absent a *large* inadvertent return involving the release of bentonite into the environment, horizontal directional drilling would have essentially no adverse environmental impact on Little Bay. Tr. Day 5 PM at 7 (lines 1-8) (Pembroke). When asked to quantify by cubic feet or weight what would constitute a "large" inadvertent return, Ms. Allen testified that she "could not define that." Tr. Day 5 AM at 130 (lines 13-15) (Allen). Absent a large or catastrophic inadvertent return, all the experts agreed that HDD would have little or no impact on Little Bay. *Id.* at 76 (lines 1-6) (Pembroke).

In rejecting HDD in favor of jet plowing, the Applicant relied almost exclusively on the notion there could be a large inadvertent return that would cause significant environmental harm. Its heavy reliance on this alleged threat is not credible for the following reasons. First, the Applicant conducted no bedrock core drillings to assess the probability of an incidental return. As a result, lacking the information that bedrock core drillings would provide, the Applicant's consultants could not testify at the hearing whether an inadvertent return would be likely or unlikely. Tr. Day 5 PM at 6 (lines 2-17) (Nelson). Second, the Applicant inflated the potential environmental impact of HDD by emphasizing concerns about the impact of a large release of bentonite into Little Bay, without quantifying or defining in any manner what would constitute a "large" release. Although it is not disputed that HDD would have an impact on residents of Newington and Durham residing near Little Bay, the Applicant provided no evidence of abutters actually having been consulted on the subject and rejecting it. The Applicant's environmental panel testified to having no knowledge of whether there has been any such objection to impacts associated with horizontal directional drilling. Tr. Day 5 AM at 120 (lines 16-19) (Nelson).

Failing to assess the costs of HDD

Despite NHDES's specific recommendation that the Applicant compare the costs of HDD and jet plowing, the Applicant failed to do so. In response to questioning about *why* its study failed to address comparative costs, the Applicant represented that "cost was not the dominant factor for rejection of HDD." Tr. Day 5 AM at 113 (lines 12-13) (Allen). This testimony, however, conflicts with other evidence offered by the Applicant that cost was the major consideration in selecting the jet plow approach. The Applicant's witness Robert Andrew, in describing the reasons for originally selecting the proposed project using jet plow installation over other alternatives, stated that cost was a major consideration. Tr. Day 4 AM at 78-79 (Andrew). Other witness testimony, as well as the HDD report itself, show that the Applicant considered cost as a major factor in selecting the jet plow alternative over the HDD alternative and in confirming its prior, preferred option of proceeding with a jet plow operation. *See* Tr. Day 5 AM at 116 (lines 16-23) (Allen); App. Exh. 133 (HDD/Jet Plow Report) at 34 (citing HDD's "significantly higher cost" to support the Applicant's selection of jet plowing).

Having relied on cost as a basis for rejecting HDD, the Applicant cannot now credibly claim that when conducting its study comparing HDD and jet plowing cost ceased being a substantial factor in its decision to proceed with the jet plow option. To the contrary, when the Applicant conducted the comparative study in response to the NHDES recommendation, cost was a substantial factor in its decision to use jet plowing, and detailed cost information obtained from two independent companies, as specifically recommended by NHDES, should have been included in its study. The Applicant's outright failure to comply with NHDES's recommendation renders its analysis of HDD deficient and reinforces the conclusion that its study was simply a biased effort to support a preordained result.

3. The Applicant failed to explore design alternatives that avoid or reduce the need for concrete mattresses

In determining the route for crossing Little Bay, the Applicant considered factors such as avoiding as much of its existing, abandoned cables as possible as a means *to reduce costs*, using as little cable as possible (*also to reduce costs*), and utilizing an existing easement in the vicinity of Welsh Cove in Newington. Tr. Day 2 PM at 68-70 (Wall, Dodeman). The Applicant did *not*, in selecting the route for crossing Little Bay, consider an alternative to reduce reliance on concrete mattresses. *Id.* It would be contrary to the Section 404(b) Guidelines to allow the Applicant to proceed with its proposed project without having even assessed the possibility that, using another route within the cable corridor (i.e., a route not constrained by cost considerations associated with avoiding existing cables), the installation of concrete mattresses could be avoided or greatly reduced.

III. <u>The Project Will Cause Unacceptable Impacts to the Environment (Including SAS) and the Public Health and Involves an Unreasonable Degree of Uncertainty and Risk</u>

A. Applicant has failed to demonstrate that the proposed use of a jet plow and hand-jetting will not have an unreasonable adverse effect on water quality, SAS, and public health

The Applicant's proposed jet plow operation is projected to release approximately 1,000 cubic yards of sediment into the water column – an amount of sediment equivalent to 1,500 tons and to the sediment yield that can be expected from approximately 165 square miles of land in the Great Bay estuary watershed.[9] As the Applicant acknowledges, sediments in the water column can act as transport agents for contaminants and nutrients and can adversely affect exemplary

[9] Tr. Day 5 AM at 71 (lines 12-13) (Allen); Tr. Day 13 AM at 37 (lines 8-14) (Dacey, Jones). Tr. Day 13 AM at 38 (line 11) (Jones); CLF Exh. 27.

communities, which the Applicant acknowledges are present in Little Bay. Tr. Day 5 AM at 60 (lines 12-17) (Pembroke); *id.* at 60-61 (Allen).

As discussed below, the disturbance and release into the water column of such a massive volume of sediment would have a significant impact on the health of Little Bay and the Great Bay estuary and would undermine management goals and public investments that are being advanced to restore the estuary. Also as discussed below – and despite the value and sensitivities of the Great Bay estuary and the magnitude of disturbance proposed by the Applicant – the project is plagued by uncertainties about the impacts it will cause.

1. The project poses a significant threat to oysters, oyster aquaculture, and public health

The Great Bay estuary's oyster population is severely depleted – down from more than 25 million adult oysters in 1993 to just 2.1 million oysters, on average, since 2012. CLF Exh. 22 at 32. As discussed above, the restoration of oysters, with a goal of increasing their numbers to 10 million by 2020, is an important management goal for the estuary. CLF Exh. 22 at 32. The proposed project, by exposing oysters to contaminants and sediments, will have an unreasonable adverse impact on oysters, public health, and New Hampshire's newly developing oyster aquaculture industry. The Applicant has failed in its burden to demonstrate otherwise.

(a) Applicant failed to demonstrate that its project will not harm oysters and the public's health by releasing contaminants, including harmful pathogens, from sediments

UNH/Durham witness Stephen Jones, Ph.D., an expert highly qualified to speak to the subject,[10] testified before the SEC about the threat to oysters, and to human health, from contaminants and pathogens contained in sediments. In particular, Dr. Jones explained that sewage treatment facilities and stormwater runoff from impervious surfaces contribute contaminants that "will settle out into the sediment, and this includes bacteria, viruses, parasitic pathogens of humans" and pathogens harmful to oysters. Tr. Day 13 AM at 14 (lines 14-23) (Jones). He explained that sediments are a "resting place" for these organisms; that the organisms "remain viable"; and that "if they're stirred up back into the water," oysters and other bivalve filter-feeders will "take them up," bringing the contaminants into their tissue and potentially causing people who eat them to become sick. *Id.* at 15 (lines 1-7) (Jones). As Dr. Jones testified: "[T]here's a public health as well as an oyster health concern about stirring sediments up and resuspending these microorganisms that have accumulated in the surface sediments." *Id.* at 15 (lines 7-11) (Jones). SEC intervenor Jason Baker, a commercial oyster farmer in Little Bay with education and

[10] Dr. Jones is an expert in environmental toxicology and microbiology, and in the assessment of the transport and fate of contaminants and sediments in water and in shellfish. Tr. Day 13 AM at 7-8 (Jones).

experience in coastal environmental management,[11] raised similar concerns and noted that "fine sediments like those on the substrate in Little Bay are very good at binding to contaminants." *See* Tr. Day 14 AM at 13 (Baker).

The Applicant has failed to adequately assess this significant issue pertaining to the impacts of contaminants – including viruses and pathogens – on oysters and people who consume oysters. The failure to address the impact of pathogens on oysters (Tr. Day 13 AM at 16) is particularly troubling given that two pathogens – MSX and Dermo – caused the near decimation of the estuary's oyster population in 1993, a population crash from which the estuary has yet to recover. CLF Exh. 22 at 32; Tr. Day 13 AM at 23-24 (Jones). The failure to address the issue as it relates to human consumption of oysters is equally troubling, given the implications to public health as well as to the health of New Hampshire's growing aquaculture industry.

Compounding the Applicant's failure to adequately address these issues is the recent announcement by NHDES and the N.H. Fish & Game Department that, as a result of pollution from Portsmouth's Peirce Island sewage treatment plant, the lower part of Little Bay (located north and east of Fox Point in Dover) has been closed seasonally for shellfish harvesting, and part of a closed area in *upper* Little Bay is now *opened* for shellfishing. CLF Exh. 24; Tr. Day 13 AM at 17-19 (Jones). As a result, areas in "[e]xtremely close proximity" to the proposed project will now be subject to shellfish harvesting. Tr. Day 13 AM at 19 (Jones). This recent development – opening areas for harvesting in close proximity to the project, and closing areas farther from the project – only increases concerns about the project and the risks its poses to oysters and the people who eat them. *Id.* at 20 (lines 11-23) (Jones).

(b) The Applicant has failed to demonstrate that its project will not harm oysters as a result of the suspension and settling of sediments

Separate and apart from the threat of pathogens and other contaminants, sediments alone can adversely affect the health of oysters. As stated in the 2018 *State of Our Estuaries* report, sedimentation, including the resuspension of sediments, "is another stressor on oysters. . . ." *See* CLF Exh. 22 at 33. As stated by Dr. Jones, "if [oysters] are filter feeding and there's suspended sediments in the water, it can stress them that way as well, and make them more susceptible to these diseases. . . ." Day 13 AM at 25 (lines 5-8) (Jones). Indeed, commercial oyster farmer Jason Baker testified at length about his concerns with sedimentation of his commercial oyster stock in Little Bay, including the greater susceptibility of oysters grown directly on the bay's substrate (his company's preferred approach) and the greater adverse impact of sediments during the dormancy period for oysters which begins when water temperatures drop to approximately

[11] Mr. Baker testified before the SEC as having an educational background primarily in marine biology, with an undergraduate degree in biology and a master of environmental management degree focusing on coastal environmental management. He further testified to having worked for thirteen years for the Commonwealth of Massachusetts in the area of coastal planning and habitat restoration. Tr. Day 14 AM at 7 (lines 2-15) (Baker).

50 degrees.[12] Tr. Day 14 AM at 9-12, 31-32. He testified at length about his concern that the addition of sediment from the project, on top of naturally occurring sediment load, will cross a tipping point that, cumulatively, causes mortality problems for his oysters. *Id.* at 32 (lines 6-13) (Baker).

Again, suspended solids in the Great Bay estuary have been identified as an indicator exhibiting cautionary trends, and as a management concern in the Piscataqua Region Estuaries Partnership's 2018 *State of Our Estuaries* report. CLF Exh. 22 at 12, 15-16. In fact, the report identifies sediments as a threat to oysters and establishes a management goal of "no increasing trends for total suspended solids." *Id.* Considering it would cause the release of sediments in an amount equivalent to the sediment yield of 165 square miles of land within the watershed, the risks to oysters – and to undermining this key management goal – is unreasonably high.

(c) The Applicant has failed to demonstrate that its project will not have an unreasonable adverse effect on New Hampshire's developing oyster aquaculture industry

In addition to impacts on oysters generally, the project poses a significant challenge for the newly developing oyster industry in Little Bay and the Great Bay estuary. The new closure in Lower Little Bay (the northern part of the bay) will prevent oyster farms from selling oysters out of the closure areas for a period of time. Tr. Day 13 AM at 20 (lines 1-7) (Jones). "The only area where they can [sell oysters from] is in the part of Little Bay that's closer to where the cable crossing will occur." *Id.* at 20 (lines 7-10) (Jones). As commercial oyster farmer Jason Baker explained:

> Lower Little Bay is closer to the Portsmouth wastewater discharge. And that's the area that's been closed for the winter. So several farmers, oyster farmers in Lower Little Bay have already moved a number of their – much of their gear to Upper Little Bay – and my farm is one example of that – so they can continue to harvest throughout the summer. *So it moves them away from the wastewater discharge in Portsmouth, but closer to the proposed jet plow area in Upper Little Bay.*

Tr. Day 14 AM at 17 (lines 9-20) (Baker) (emphasis added). Mr. Baker further testified to his concern that the addition of sediment from the project, on top of naturally occurring sediment load, will cross a tipping point that, cumulatively, causes mortality problems for his oyster stock. *Id.* at 32 (lines 6-13) (Baker). He also expressed significant concerns about the impacts of the project on his business and about the logistical challenges related to the Applicant's suggested

[12] Mr. Baker testified that September and October (the Applicant's proposed time period for jet plowing in Little Bay) is a transition period when oysters are "going from active pumping to dormancy." Tr. Day 14 AM at 35 (lines 16-19) (Baker).

mitigation approach of cleaning Mr. Baker's commercial oyster stock. *Id.* at 23, 66-71, 75-79, 83-84 (Baker).

2. The project poses a significant threat from its release of nitrogen, and to the estuary's recovery of eelgrass resources

The Town of Durham and University of New Hampshire presented experts during the SEC proceeding who identified the release of nitrogen from sediments as a major concern. Specifically, based on the presence of nitrogen in pore water within sediments, they calculated that the disturbance of sediments as part of the jet plow operation will release a significant amount of nitrogen into the water column – approximately 300 times the amount of nitrogen released by Durham's sewage treatment plant on a daily basis. Tr. Day 10 PM at 195 (lines 1-6) (Selig); Tr. Day 13 AM at 25-26 (Jones). This raises significant concern about the shock this large nitrogen release could cause to the estuary, and about the project's nitrogen release undermining investments made by numerous municipalities to reduce nitrogen loads from sewage treatment plants and stormwater runoff. Tr. Day 10 PM at 127-129 (Selig).

As Dr. Jones explained, municipalities in the Great Bay estuary watershed are investing in strategies, with respect to wastewater and stormwater, to reduce nitrogen effluent discharging into the estuary. Tr. Day 13 AM at 26-27 (Jones) *See also* Tr. Day 10 PM at 127-129 (Selig). The amount of nitrogen expected to be released as a result of the jet plow is not only significant in comparison to nitrogen loads from Durham's sewage treatment plant, but the amount also *exceeds* the amount of nitrogen Durham – with public investment – anticipates being able to reduce through further stormwater management. Tr. Day 13 AM at 27 (lines 5-12) (Jones).

The project's release of a significant load of nitrogen (nitrogen that will become biologically available) is of great concern to the health of the estuary, which already is suffering from excess nitrogen pollution, which, in turn, is prompting the regulatory actions that are causing municipalities like Durham, Exeter, Newmarket and other communities to incur substantial costs. Reducing nitrogen loads in the estuary remains a high priority management objective for restoring the estuary's health. CLF Exh. 22 at 16 ("PREP Goal: Manage nutrient load to the estuaries and the ocean to minimize adverse, nutrient-related consequences"). Dr. Jones, one of many scientists on the Management Committee for the Piscataqua Region Estuaries Partnership, testified that nutrient loading "remains a cornerstone indicator for the estuary." Tr. Day 13 AM at 30 (lines 14-20) (Jones).

Nutrient loading is a major priority and is forcing major investments in nitrogen loading reductions because of its adverse effect on water quality and, in particular, eelgrass habitat. As discussed above, eelgrass serves numerous critical functions and is considered a cornerstone of the estuary's ecological health. Unfortunately, as a result increasing nitrogen loads, eelgrass habitat has greatly declined. CLF Exh. 22 at 23-24. As described by Dr. Jones:

> [O]ne of the main species of concerns in the estuary that is now also declining is eelgrass. It's a critical habitat for fish. It's a nursery area, and the more that light penetration is impaired by phytoplankton in the water column, the less light gets to the eelgrass, and it weakens the eelgrass. It actually prevents eelgrass from growing in some deeper areas. It also weakens it, and it becomes more susceptible to disease as well.

Tr. Day 13 AM at 28-29 (Jones). Dr. Jones further explained that high nitrogen concentrations enable the growth of certain seaweeds that compete with eelgrass for habitat, contributing to the decline of eelgrass. *Id.* at 29-30 (Jones).

Little Bay historically had abundant eelgrass, with eelgrass present on the east and west sides of upper Little Bay, including in the area where the Applicant proposes to install its three cable crossings. *Id.* at 31 (lines 9-10) (Jones); CLF Exh. 25. Importantly, the fact that eelgrass does not currently exist in upper Little Bay does not mean that it will not exist there in the future. Rather, improvements in water quality – as a result of public investments in nitrogen load reductions – are creating conditions that already are leading to the return of eelgrass in the bay. As Dr. Jones testified:

> Dr. Short who is the resident eelgrass expert would tell you that eelgrass is recovering in Little Bay, and it happens to coincide with Durham's relatively recent upgrade of the wastewater treatment facility to reduce nitrogen inputs. There may be other factors concerned, but eelgrass is recovering in Little Bay.

Tr. Day 13 AM at 33-34 (Jones).

Restoring the health of eelgrass in the estuary, along with reduced nutrient loading, is a major management goal and is considered to be a highest priority indicator for the estuary's health. *Id.* at 30-31 (Jones); CLF Exh. 22 at 16, 23. It would be unreasonable to allow a project of the scale proposed by the Applicant to undermine the progress that is being made to reduce nutrient loads and enable the recovery of the estuary's (including Little Bay's) essential eelgrass habitat.

3. Despite the significant value of the Great Bay estuary and the massive scale of the project – releasing 1,500 tons of sediment into the water column – the proposal is plagued with uncertainties

Despite the magnitude of the project, and the significant value of, and threats facing, the Great Bay estuary, there remain significant uncertainties from the Applicant's analysis, including the following:

- The potential for the jet plow crossing time to be up to fifteen hours is inconsistent with the Applicant's modeling, which assumed a seven-hour crossing time. Tr. Day 13 AM at 38-39 (Dacey). The Applicant has described the jet plow operation as starting at high

slack tide, "so the tidal current will be taking any sediment plume away from the area [in Great Bay] that eelgrass exists" and suggests that jet plowing will occur only on the outgoing tide, preventing the project's sediment plume from traveling into Great Bay. Tr. Day 5 AM at 108-109 (Pembroke). The longer crossing time – up to fifteen hours – would be inconsistent with the Applicant's assumption that jet plowing will occur only on the ebb tide and raises significant questions about the Applicant's mixing zone projection, including the extent and impacts of the sediment plume reaching into Great Bay – and reaching eelgrass beds there – on a flood tide. Tr. Day 13 AM at 39 (Dacey).[13]

- The fact that the jet plow crossing time will not be continuous – as a result of the need to stop operations, re-set anchors, and pull the barge – was not part of the Applicant's model and, like a longer crossing time, undermines the model's predictions about the plume and mixing zone. *Id.* at 40-41 (Dacey).

- The SEC found that the Applicant's own witness, Mr. Swanson, acknowledged that the sediment plume "will travel further south into Little Bay than was estimated by the [sediment dispersion] model." SEC Decision & Order (Jan. 31, 2019) at 153-154. This shortcoming in the model poses a risk to Great Bay – which is located immediately south of Little Bay – where the estuary's most significant eelgrass habitat resides. *See* CLF Exh. 25. Absent a correction to the model to address this admission, any claim by the Applicant that sediments will not reach existing eelgrass resources cannot be supported and should be reconsidered.

- Elutriate analyses are needed to reduce uncertainties in the Applicant's water quality evaluation and relative to potential water quality violations. *Id.* at 11-13 (Famely).

- There is no empirical evidence to support the Applicant's modeling, despite the many factors involved in the jet plow operation (crossing rate, intensity of pressure used) and the tidal dynamics of Little Bay. NHDES originally recommended that a jet plow trial run be conducted prior to the SEC's issuance of a decision. NHDES subsequently changed that recommendation in a way that now precludes the SEC from reviewing data from the jet plow trial run data as part of its decision-making, creating an unreasonable data gap. *See id.* at 42-43 (Dacey).

- There have been no parameters established for the jet plow trial run required by the SEC to ensure that the results of the trial run will be representative of the actual jet plow operation and the impacts thereof. Because the trial run will be limited in distance, and will therefore involve a shorter time duration, it is unlikely to be exposed to the tidal

[13] The Applicant itself acknowledges that the greater the duration of the jet plow operation when crossing Little Bay, the more the project is subject to the impacts of tides. Tr. Day 5 AM at 99 (lines 7-11) (Swanson).

conditions involved in a full crossing of Little Bay. In fact, the trial run could potentially be implemented largely during slack-tide conditions, greatly reducing the influence of Little Bay's significant tides and undermining the trial run's purpose of assessing the predictive value of the Applicant's sediment dispersion model.

- There remains too much uncertainty regarding "the sediment plume geometry, suspended sediment concentrations, and subsequent deposition that may result from a range of likely conditions encountered during and following cable installation activities," with a failure on the part of the Applicant to account for the effects of wind and to account for likely operating and environmental conditions combined with a potential higher sediment loss rate from jet plowing. TD-UNH Exh. 3 at 2 (lines 26-28). Moreover, the Applicant's "model sensitivity runs that were conducted demonstrated how the sediment plume could vary; however the suspended sediment concentrations and deposition results from these model runs *were not utilized in evaluating potential environmental impacts within Little Bay*." *Id.* (lines 34-37).

- The Applicant has failed to apply the U.S. Army Corps of Engineers Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters (RIM) "in a consistent and diligent manner to fully address potential risk to aquatic communities resulting from exposure to the jet plow and hand jet sediment plumes." TD-UNH Exh. 3 at 4 (lines 29-33).

- The Applicant has failed to properly assess the impact of removing portions of its un-utilized, abandoned cables currently on the floor of Little Bay. According to the Applicant's analysis and testimony, several of those cables contain lead, some at high levels. *See* App. Exh. 106 at 2, Appendix C; Tr. Day 2 PM at 71-72 (Bowes). Despite analyzing all of the cables for lead and acknowledging that some of them contain high levels of lead, the Applicant has no clear understanding as to *which* cables are *where* on the floor of Little Bay. Tr. Day 2 PM at 72-74 (Bowes) (acknowledging Applicant's consultant's statement that "[w]hile OSI's survey identified the geospatial presence of the existing cables, *there is some uncertainty as to the cable type at each location*.") (emphasis added). Accordingly, the Applicant has no knowledge of whether the cables they will need to cut, for removal of portions thereof, are high in lead content, and what the impacts will be of cutting cable, removing cut portions (with the potential for deterioration in the process), and leaving cut portions of cable in the bay. Absent a clear understanding of the lead-related impacts of this process, the Applicant should not be permitted to proceed with its cable-removal plans.

In addition to the above, a comparative analysis of jet plowing and HDD prepared by the Applicant reflects the Applicant's underlying uncertainty about its conclusion that jet plowing will not have a significant adverse impact. The report, prepared in July of 2018, is replete with qualifying language relative to impacts associated with jet plowing, such as:

- "there are no *anticipated* impacts to water quality from hand jetting operations," App. Exh. 133 at 12 (emphasis added);

- "[n]o impacts to these [oyster] farms are *anticipated*," App. Exh. 133 at 14 (emphasis added);

- "It is *expected* that the benthic infaunal community will recover in terms of abundance . . . ," App. Exh. 133 at 15 (emphasis added);

- "It is *not expected* that [various fish species] would be impacted by exposure . . . ," App. Exh. 133 at 16 (emphasis added);

- "it is *unlikely* that entrainment will have a significant effect on [certain fish] populations," App. Exh. 133 at 16 (emphasis added).

During the SEC proceeding, asked if the intent of this language was to express some degree of uncertainty, the Applicant's environmental consultant testified as follows:

> Well, *there is a degree of uncertainty as to what the results would be*. The assessment of the likelihood of impact was based on our knowledge of the resources that are in the project area and review of literature, peer-reviewed literature, reports on projects that have been done using similar techniques and so on to assess whether or not impacts could be expected from such an action. You know, *we won't have any certainty until the Project is actually built and has been monitored*.

Day 5 PM at 31-32 (emphases added).

In light of the value of Little Bay and the larger Great Bay estuary, and in light of the environmental challenges these important resources already face, allowing a project of this magnitude to proceed with such uncertainty would be unreasonable and contrary to the Clean Water Act, its implementing regulations, and the public interest. Moreover, allowing the project to simply develop a better understanding of key impacts *as part of the project's construction and operation, <u>after</u>* impacts have occurred, would be equally unreasonable and unlawful.

The Applicant simply has not met its burden to demonstrate that the project will not result in unreasonable adverse impacts to the environment, including SAS, and to public health. The Corps cannot reasonably and lawfully rely on the SEC's requirement of a jet plow trial run as a basis for issuing its approvals.

B. The Applicant Failed to Obtain Necessary Property Rights for the Installation of Concrete Mattresses and Failed to Demonstrate that Its Proposed Use of Concrete Mattresses Will Not Have an Unreasonable Adverse Effect on Aesthetics and the Natural Environment

The Applicant intends to install up to 8,681 square feet of concrete mattresses in Little Bay. These structures, measuring eight feet wide by twenty feet long by nine inches high, will permanently occupy subtidal land in public waters in an area with numerous public uses. The Applicant has neither obtained all necessary approvals to install concreate mattresses on subtidal land in Little Bay, nor has it established that its proposed use of concrete mattresses will not result in unreasonable impacts to aesthetics and the natural environment, including SAS.

1. Concrete mattresses cannot be installed in Little Bay absent permission from the Governor and Council, which the Applicant has not obtained

The Applicant has proposed the installation of concrete mattresses in Little Bay, which undisputedly is a public water, on subtidal land that undisputedly is owned by the State of New Hampshire and held in trust for the benefit of the public. *See Opinion of the Justices (Public Use of Coastal Beaches)*, 139 N.H. 82, 89 (1994) ("New Hampshire has long recognized that lands subject to the ebb and flow of the tide are held in public trust.").[14] *See also* Day 7 PM at 168 (line 12), 171 (line 21) (Varney). Public uses of Little Bay – uses that are protected by New Hampshire's public trust doctrine – include boating, fishing (for finfish and shellfish), swimming, and recreation. *Opinion of the Justices*, 139 N.H. at 89-90 (discussing protected uses). *See also, e.g.*, Tr. Day 15 PM at 131-132 (R. Miller).

The installation of concrete mattresses will interfere with the public's use and enjoyment of Little Bay and permanently destroy natural habitat. Tr. Day 2 PM at 31-32 (Bowes). Mr. Dennis Hebert (on behalf of the Town of Newington), for example, expressed concerns about boats colliding with concrete mattresses in tidal conditions when they are covered with only a few inches of water. Tr. Day 11 AM at 22-23 (Hebert). Mr. Hebert also testified to concerns "about those mattresses which are coming up on to the shore [--] whether or not they would block anyone walking along the shoreline, just enjoying the shoreline, and I know quite a few people do walk down in that area." *Id.* at 23 (lines 1-6) (Hebert). Durham resident Dr. Regis Miller testified to her use and enjoyment of Little Bay, including for kayaking and its aesthetic value, and to the concrete mattresses interfering with those uses.

The Applicant has failed to obtain review and approval of its intended use of concrete mattresses by the Governor and Council, a failure which CLF recently appealed to the New Hampshire Supreme Court. *See* Attachment C. Having not obtained the right to use the inter-tidal land of

[14] For a discussion regarding the history of New Hampshire's public trust doctrine, *see Opinion of the Justices*, 139 N.H. at 87-88.

Little Bay for the permanent installation of concrete mattresses, the Applicant has failed to obtain the required property rights to proceed with the proposed project. Until such time as the Applicant obtains the property rights required for the permanent installation of concrete mattresses, the proposed project should not be approved.

2. Concrete mattresses will have an unreasonable, adverse effect on aesthetics

The concrete mattresses – articulated structures to be situated on top of the three cables – are proposed to be installed in Little Bay primarily near the eastern shore in Newington and the western shore in Durham. The installation of structures in these locations, particularly during low tide and tidal conditions on either side of low tide, will make them plainly visible from both the land and the water, including for people engaged in public uses of the bay, such as boating, fishing and swimming.

The visibility of the proposed concrete mattresses would unreasonably affect Little Bay's significant aesthetic values and has generated strong public concern. The Applicant failed to demonstrate that its proposed use of concrete mattresses will not have an unreasonable adverse aesthetic impact on Little Bay. During the SEC process, rather than properly assess these impacts, the Applicant relied on an impact analysis – conducted by Mr. David Raphael – that is flawed in several ways. First, Mr. Raphael's "moderate" rating for visual impacts on Little Bay was done before he even knew about the need for concrete mattresses, and his July 2018 report was prepared *before* a determination of the number and location of concrete mattresses to be used. Tr. Day 9 AM at 83 (lines 10-13), 111 (lines 15-22) (Raphael).

Second, Mr. Raphael's analysis of view impacts was conducted from the water, with a viewing distance of "a couple hundred feet or more,"[15] despite Mr. Raphael's acknowledgment that not all boats stay in Little Bay's channel and that there are "paddlers and folks who probably come closer to shore." Tr. Day 9 AM at 126 (lines 15-22) (Raphael). It cannot be disputed that people who operate boats close to the shoreline in Little Bay will clearly see the concrete mattresses as will people who walk along Little Bay's shores. Tr. Day 15 PM at 131-132 (R. Miller); Tr. Day 11 AM at 22 (Hebert). Nonetheless, Mr. Raphael failed to even consider a vantage point closer than "a couple hundred feet or more" from the concrete mattresses in assessing visual impacts.

Third, Mr. Raphael failed to provide visual simulations of the concrete mattresses at the time when they would have their greatest impact – low tide. As described by Durham resident Jeff Miller during the SEC proceeding, at low tide, mudflats on the west side of Little Bay extend almost a half mile, to the channel, meaning that all of the concrete mattresses on the Durham side would be fully exposed. Tr. Day 15 PM at 95 (lines 2-24), 126-129 (J. Miller); Durham

[15] Mr. Raphael testified about conducting his view analysis from "the centerline of the channel where most of the boat traffic is located and perhaps coming some distance on either side, you know, and could be a couple hundred feet or more." Tr. Day 9 AM at 131-132.

Residents Exh. 8. Mr. Raphael attempts to minimize the visual impact of the concrete mattresses in part based on the theory that "low tide is a time when people aren't out and about mucking around the shorelines. . . ." Tr. Day 9 AM at 78-79 (Raphael). While it is true that people may not be able to access the shoreline during low tide from the water, people can nonetheless enjoy Little Bay *from the land* during those time periods and, of course, still can enjoy the bay *on the water* during low tide in or closer to the channel.

Finally, notably lacking from Mr. Raphael's analysis was any consideration of the view impacts of concrete mattresses from the shorelines in either Durham or Newington, including from properties where homeowners enjoy views of Little Bay.

Individually and collectively, the above flaws render the Applicant's visual impacts analysis deficient for purposes of demonstrating the concrete mattresses will not unreasonably affect the significant aesthetic values of Little Bay.

3. Concrete mattresses will have an unreasonable, adverse effect on the environment and SAS

The proposed installation of concrete mattresses would result in a permanent change in benthic habitat. Tr. Day 6 AM at 75 (lines 4-6). As discussed above, areas in Little Bay to the east and west of the bay's channel have historically provided eelgrass habitat and, with improving water quality, could provide such habitat in the future. The Applicant's proposal to install concrete mattresses would permanently eliminate eelgrass habitat – in stark contrast to the management goal of *increasing* eelgrass in the estuary – rendering it unreasonable in terms of its impacts on Little Bay.

The proposed installation of concrete mattresses also would cause the permanent loss of potential feeding habitat for sturgeon, endangered and threatened species that feed on "soft bottom" habitat. Tr. Day 5 AM at 7-8; Tr. Day 6 AM at 125-126. While, during the SEC proceeding, the Applicant attempted to minimize this impact by characterizing the number of sturgeon entering the Great Bay estuary as "low" (Day 6 AM at 128 (lines 4-6)), it should not be allowed to *benefit* from the low number of these species in the estuary (i.e., from their endangered and threatened status) as a means to minimize impacts and obtain necessary Corps approvals. Rather, the endangered and threatened status of these species require greater vigilance in protecting habitat that they will use.

4. The project's reliance on concrete mattresses would establish a troubling precedent that will open the door to future, cumulative impacts in the Great Bay estuary

The permanent installation of concrete mattresses, as proposed by the Applicant, is unprecedented in Little Bay; and there is no evidence in the record that concrete mattresses have

been used elsewhere in the Great Bay estuary or, for that matter, in any water body held in public trust by the state of New Hampshire. Accordingly, the Applicant's proposed use of concrete mattresses raises important questions about whether, if permitted, concrete mattresses or similar permanent infrastructure might be proposed for use elsewhere in Little Bay or the Great Bay estuary in the future. In addition to their unreasonable adverse impacts on Little Bay, the precedent established by the Applicant's proposal could lead to impacts elsewhere in Little Bay or the Great Bay estuary, and to cumulative impacts associated with the introduction of more and more artificial structures into this highly valuable public asset – a resource that has been deemed an estuary of national significance and that is of tremendous value to the region, and whose subtidal lands are held in trust for the public.

C. The project's impacts will undermine concerted efforts by municipalities in the Great Bay estuary watershed – including significant public investments – to restore the estuary's health

As discussed above, the Great Bay estuary is in a state of decline, and concerted efforts – including the development of science-based management goals – have been established to restore its health. Consistent with the management goals of reducing nitrogen loads and restoring eelgrass and oysters, municipalities have been required to invest in wastewater treatment and stormwater management to reduce pollution loads to the estuary. *See* Tr. Day 10 PM at 123 (lines 2-22) (Selig). The proposed project will undermine these regional efforts by:

- releasing sediment in an amount equivalent to the sediment yield of 165 square miles of land within the watershed;

- releasing pollution that is harmful to eelgrass, including nitrogen in an amount equivalent to 300 days of nitrogen discharge from the Town of Durham's wastewater treatment plant, and in an amount that exceeds the nitrogen load it can reduce through investments in stormwater management;

- releasing contaminants, including pathogens, that are harmful to oysters, the public health, and New Hampshire's developing oyster aquaculture industry; and

- eliminating eelgrass habitat with the proposed installation of concrete mattresses.

Because it would undermine significant efforts, including public investments, to restore the health of the Great Bay estuary, the proposed project is contrary to the Section 404(b) Guidelines and the public interest and should not be permitted.

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D. The Applicant's cumulative installations of cables in Little Bay establishes a precedent that will be harmful to the Great Bay estuary

The proposed project also raises important concerns about the accumulation of infrastructure in public waters like Little Bay. As discussed above, the Applicant previously installed several cables that are currently un-utilized, that contain toxic substances like lead, and that will never be used again in the future. With the exception of small portions of the abandoned cable that will be removed to clear a path for three *new* cables, the Applicant has no plan to remove its previously installed cables. The Applicant's past and currently proposed use of Little Bay for cable crossings – effectively littering the floor of Little Bay with abandoned cables while using the bay to install three new ones – paves the way for the Applicant, or other entities, to add new infrastructure to obsolete, abandoned infrastructure in public waters, and on subtidal state land, in the future.

IV. Any Benefits of the Proposed Project Do Not Outweigh the Reasonably Foreseeable Detriments to Navigable Waters.

Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403, prohibits the unauthorized obstruction or alteration of any navigable water in the United States, and requires a permit from the Corps for any construction or excavation in or over navigable waters, or for the depositing of materials in such waters.[16] The regulations implementing Section 10 require that the Corps consider "the full public interest by balancing the favorable impacts against the detrimental impacts" when a permit is sought to impact a navigable water,[17] known as the "public interest review." This review must be based upon "a careful weighing of the probable impacts, including cumulative impacts" of the proposed activity.[18] A broad range of relevant factors must be considered in this analysis, including:

> conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.[19]

[16] *See also* 33 CFR § 320.2(b); *United States v. Alaska*, 503 U.S. 569, 576 (1992) ("The language of this provision is quite broad. It flatly prohibits the 'creation of *any* obstruction' to navigable capacity that Congress itself has not authorized, and it bans construction of any structure in water of the United States 'except on plans recommended by the Chief of Engineers and authorized by the Secretary of the Army.'") (emphasis in original) (citations omitted).
[17] 33 CFR § 320.1(a).
[18] 33 CFR § 320.4(a).
[19] 33 CFR § 320.4(a).

The Corps must consider the following criteria in its review of a permit application:

> (i) The relative extent of the public and private need for the proposed structure or work[;]
> (ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and
> (iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.[20]

These factors are weighted by importance differently in each case, depending on their relevance to a particular proposal, but full consideration must be given to each. The regulations provide guidance for the review of each criteria that must be considered, including a range of impacts such as those on navigation, floodplain management, economics, safety, and coastal zones.[21] The regulations also require mitigation, which includes "avoiding, minimizing, rectifying, reducing, or compensating for resource losses[,]" which must be "avoided to the extent practicable.[22]

As discussed in these comments, the Applicant has not met its burden to demonstrate a need for the proposed project,[23] nor has it satisfied its burden to demonstrate that there is no alternative that avoids impacts to Little Bay, including an alternative such as HDD that would avoid the proposed installation of concrete mattresses in Little Bay.[24] Moreover, as further discussed, the proposed project would result in unreasonable impacts to the ecological health of Little Bay, including SAS, to public health, and to the bay's significant aesthetic and recreational values, as well as its economic value for shellfishing.[25] Its proposed used of concrete mattresses – permanent structures that will reside on subtidal land, and that will be exposed or at least near the surface of Little Bay during low- and mid-tide conditions – will interfere with navigability in a location that is used for recreational boating purposes, for fishing, and that may become more prominent in commercial and recreational shellfishing.[26] Navigation and aesthetic concerns related to concrete mattresses[27] are particularly concerning in light of the shallow nature of portions of Little Bay during mid- and low-tide conditions, and the close proximity of a public

[20] 33 CFR § 320.4(a)(2).
[21] 33 CFR § 320.4(b)-(q).
[22] 33 CFR § 320.4(r).
[23] *See supra*, pages 5-8; Attachment A.
[24] *See supra*, pages 8-12; Attachment A.
[25] *See supra*, pages 12-25.
[26] *See supra*, pages 15-16, 22-24. *See also* Attachment C.
[27] These concerns include the adverse aesthetic impacts that would result from the use of physical markers to alert boaters to navigational hazards posed by the concrete mattresses.

boat launch at Adam's Point and a private, heavily used boat launch at Great Bay Marine.[28] For all of these reasons and those discussed further below, the Applicant fails to meet the requirements for a permit under Section 10 of the Rivers and Harbors Act.

V. The Proposed Project is Contrary to the Public Interest

As discussed throughout these comments, the proposed project will have significant impacts on the natural environment, SAS, water quality, public health, public uses of public trust resources, and aesthetics – all within the context of a resource designated as an estuary of national significance. The proposed project also is strongly opposed by a large number of Seacoast-area residents, including users of Little Bay and the Great Bay estuary. Even if the Applicant could meet its burden to clearly demonstrate that the proposed project is needed and that there is not a practicable, lesser impacting alternative, the impacts and significant risks associated with the proposed project outweigh the claimed benefits, rendering the proposed project contrary to the public interest.

VI. The Proposed Project Will Significantly Affect the Quality of the Human Environment, Requiring the Preparation of an Environmental Impact Statement

Section 102(2)(C) of NEPA and the Council on Environmental Quality's ("CEQ") implementing regulations require the preparation of an EIS for any major federal action (including the approval of projects proposed by private entities) significantly affecting the quality of the human environment. *See* 42 U.S.C. § 4332(2)(C), 40 C.F.R. § 1502.3. Pursuant to CEQ's regulations implementing NEPA, the term "affecting" means "will or *may* have an effect on," and the term "'human environment' shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment." 40 C.F.R. § 1508.3 (defining "Affecting") (emphasis added); *id.* § 1508.14 (defining "Human environment").

For purposes of determining whether a proposed project is one "significantly" affecting the quality of the human environment, and therefore necessitating an EIS, the CEQ's regulations make clear that the term "'[s]ignificantly' as used in NEPA requires considerations of both context and intensity." 40 C.F.R. § 1508.27 (defining "Significantly"). With specific regard to "context," the regulations state:

> the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a

[28] The federal interest in navigation, for purposes of the Rivers and Harbors Act, is not limited to the main channel in Little Bay but extends from the ordinary high water mark one one side of the bay to the ordinary high water mark on the other side. *See Coastal Petroleum Co. v. United States*, 524 F.2d 1206, 1209-1210 (U.S. Ct. of Claims 1976).

> site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short and long-term effects are relevant.

Id. With respect to "intensity," the regulations provide as follows:

> [Intensity] refers to the severity of impact. . . . The following should be considered in evaluation intensity:
> (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.
> (2) The degree to which the proposed action affects public health or safety.
> (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
> (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.
> (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
> (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
> (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
> . . . .
> (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

Within the meaning of these standards, and in light of the proposed project's many impacts discussed in these comments, above, there can be no question that the Corps' approval of the project would be a major federal action significantly affecting the quality of the human environment. The proposed project will *or may* have an impact on Little Bay and the Great Bay estuary, as well as on communities and natural resources spanning several communities in which the construction of transmission infrastructure is proposed, meaning that it will affect the human environment. *See* 40 C.F.R. §§ 1508.3, 1508.14. And those effects will be significant – both in context and intensity, in that:

- Impacts will occur on a regional level within New Hampshire, in several communities: Madbury, Durham, Newington, and Portsmouth.

- Impacts will occur in or affect public waters, including Little Bay, a highly unique and sensitive resources which is an important *local* resource but which is also part of the

Great Bay estuary, a critically important *regional* resource and an estuary of *national* significance.

- The intensity of the impacts will be significant, with:

  - impacts to public health from the disturbance of (a) pathogens in Little Bay sediments that may have adverse effects on oysters and people who eat them, (b) toxics in Little Bay sediments, (c) existing cables in Little Bay which contain lead, and (d) per- and polyfluorinated alkyl substances on property located in Newington;
  - impacts to an affected geographic area that includes a highly unique estuarine resource (Little Bay and the larger Great Bay estuary) and diverse habitat types, including but not limited to special aquatic sites, such as mudflats, vegetated shallows containing eelgrass, and wetlands;[29]
  - impacts to the environment that are highly controversial, with significant public concern and opposition to many elements of the project, including the proposed crossing of Little Bay and associated effects on the Great Bay estuary and related resources, including but not limited to the release of pathogens, nitrogen, and toxics through the significant disturbance of sediments, and the construction of concrete mattresses on subtidal lands used and enjoyed by the public for recreational, navigational, and aesthetic purposes;
  - uncertainty and significant risk to public health and natural resources associated with the proposed use of jet plowing and hand-jetting, as well as uncertainty about the number and geographical extent of concrete mattresses to be used;
  - the unprecedented use of concrete mattresses in Little Bay, opening the door for similar industrial structures to be used in the Great Bay estuary with adverse, cumulative effect;
  - the release of nitrogen into the water column, with cumulative impacts that, in combination with other sources of nitrogen and other stressors to Little Bay and the Great Bay estuary, jeopardize eelgrass habitat and aquatic health and significant public investments by municipalities to reverse declines in water quality;
  - impacts to sensitive habitat used by threatened Atlantic sturgeon.

As discussed in these comments, including Attachment A, there remain significant questions about the need for the proposed project and whether there are alternatives (including a No-Build alternative) that would avoid impacts to water resources, including SAS. There also remains a significant need for an *independent* analysis of alternatives – i.e., a rigorous alternatives analysis

[29] The 404(b) Guidelines state that special aquatic sites, or SAS, "are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as *significantly influencing or positively contributing to* the general overall environmental health or vitality *of the entire ecosystem of a region*." 40 C.F.R. § 230.4 (q-1) (emphases added).

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that is not conducted by the Applicant and is not influenced by the Applicant's preferred project approach. Indeed, no such analysis – for example, of HDD – has occurred to date.

In light of the standards established by CEQ, the significance of the natural resources involved, and the significant effects the project may have on those resources, it cannot be disputed that the proposed project would significantly affect the environment and that, pursuant to NEPA and its implementing regulations, an EIS is required as a matter of law.

* * *

CLF appreciates the opportunity to provide these comments. For the reasons set forth herein, CLF respectfully requests that the Corps (1) deny approvals for the proposed project under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, (2) find that the proposed project is contrary to the public interest, and (3) unless it denies the above approvals, proceed with the preparation of an EIS as required by the National Environmental Policy Act. Finally, CLF reiterates its April 25, 2019 request that the Corps hold a public hearing.

Respectfully submitted,

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