

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

Docket No. 2015-04

Application of Public Service Company of New Hampshire
d/b/a Eversource Energy for Certificate of Site and Facility

**DECISION AND ORDER GRANTING APPLICATION
FOR CERTIFICATE OF SITE AND FACILITY**

January 31, 2019

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I. INTRODUCTION

Public Service Company of New Hampshire d/b/a Eversource Energy (Applicant) filed an application for a Certificate of Site and Facility (Application) with the Site Evaluation Committee (Committee). The Applicant seeks the issuance of a Certificate of Site and Facility (Certificate) approving the siting, construction, and operation of a new 115kV electric transmission line between existing substations in Madbury and Portsmouth (Project). The new transmission line will be approximately 12.9 miles in length and will be comprised of a combination of aboveground, underground, and underwater segments. It will be located in the Towns of Madbury and Durham in Strafford County and the Town of Newington and the City of Portsmouth in Rockingham County.

II. PROCEDURAL HISTORY

The Application was filed on April 12, 2016. On April 15, 2016, the Administrator forwarded correspondence to all the state agencies with permitting, licensing or other regulatory authority over matters covered in the Application. The Administrator requested that each state agency review the relevant portions of the Application and advise the Committee whether the Application contained sufficient information to consider the issuance of any permit, conditions, or licenses under the agencies' jurisdictions.

On May 3, 2016, the Administrator notified the City of Dover and the Towns of Newington, New Castle, Madbury, Greenland, Durham, Portsmouth, Barrington and Lee that the Application had been received. The Administrator sent similar notices to the Strafford Regional Planning Commission and the Rockingham County Planning Commission.

On April 21, 2016, the Attorney General designated Assistant Attorney General Christopher G. Aslin to serve as Counsel for the Public in this docket. On April 29, 2016, an Order was issued appointing a Subcommittee to consider the Application.

On June 13, 2016, the Subcommittee issued an Order accepting the Application and finding that the Application contained sufficient information to carry out the purposes of RSA 162-H.

On June 23, 2016, the Presiding Officer issued a Procedural Order scheduling public information sessions pursuant to RSA 162-H:10, I-a, scheduling a prehearing conference, and setting forth a deadline for motions to intervene. The public information sessions were conducted on July 14, 2016 and July 21, 2016, in Durham and Newington, respectively.

On August 5, 2016, an Order and Notice of public hearings pursuant to RSA 162-H:10, I-c was issued scheduling hearings on August 31, 2016 and September 1, 2016 in Newington and Durham.

The Subcommittee granted Motions to Intervene filed by the following parties:

- Town of Newington (Newington);
- Town of Durham (Durham) and the University of New Hampshire (University or UNH);
- Durham Historic Association (DHA)-limited intervention;
- Conservation Law Foundation (CLF);
- The Nature Conservancy (TNC);
- Helen H. Frink;
- Keith Frizzell;
- Matthew and Amanda Fitch, Jeffrey and Vivian Miller, Lawrence and Anne Guns, Deborah Moore, Thomas A. DeCapo and Yael D. DeCapo, Donna Heald McCosker, Dr. Nick Smith, and Dr. Regis C. Miller (Durham Residents);

- Jason and Elizabeth Baker, as owners of Fat Dog Shellfish Co., LLC (Fat Dog).

On December 15, 2016, Durham and UNH filed a Partially Assented-To Motion to Postpone the Procedural Schedule. The Presiding Officer issued an Order on the Motion to Postpone the Procedural Schedule, postponing the technical sessions that were scheduled for December 19 and 21, 2016 and directing the parties to develop and submit a revised procedural schedule. On December 28, 2016, a revised Procedural Schedule and Order was issued.

On January 20, 2017, the Applicant filed an Uncontested Motion to Stay Procedural Schedule. On February 15, 2017, the Presiding Officer issued an order granting the Applicant's Motion and stayed the procedural schedule until such time as an amendment to the Application was filed.

On February 3, 2017, the Division of Historic Resources (DHR) requested an extension of time, until March 31, 2017, to complete its review, due to the receipt of extensive public comments. On April 24, 2017, DHR informed the Subcommittee that it could not complete its review of historic aboveground resources before June 16, 2017.

On February 6, 2017, the Department of Environmental Services (NHDES) requested an extension of time to a date that is "30 days after the date when Eversource provides all final requests for project impacts to be reviewed by NHDES, or to a date to be determined in accordance with proposed provisions included within the Applicant's Uncontested Motion to Stay Procedural Order." On April 24, 2017, Rene Pelletier of NHDES, advised counsel to the Subcommittee that NHDES could not complete its review of the Project before August 1, 2017.

On March 29, 2017, the Applicant submitted an amendment to the Application.¹

¹ The Applicant also supplemented the Application on May 27, 2016, November 11, 2016, December 1, 2016, January 26, 2017, and February 7, 2017.

On April 3, 2017, the Applicant submitted a proposed revised procedural schedule. On April 5, 2017, the Town of Newington submitted a proposed schedule that differed from that proposed by the Applicant. On April 7, 2017, an Order on Revised Partial Procedural Schedule was issued.

On April 26, 2017, the Subcommittee held a hearing on pending matters. On May 22, 2017, the Subcommittee issued an Order on Agency Requests to Suspend Certain Statutory Deadlines and Revised Procedural Schedule memorializing the decisions that were made on the record at the hearing. The Subcommittee suspended the 240-day timeframe in RSA 162-H:7, IV-d and established a new deadline of December 29, 2017, to issue the final decision and order in this docket. The Subcommittee also ruled that agencies with permitting or other regulatory authority should submit their final decisions to the Subcommittee on or before August 1, 2017. A Revised Procedural Schedule was issued on June 20, 2017.

On August 1, 2017, NHDES advised the Subcommittee that it was not able to complete its investigation by the deadline set forth by the Subcommittee. NHDES reported it needed additional information to complete its investigation. On August 10, 2017, the Applicant filed a Motion to Postpone Final Adjudicative Hearings.

On August 21, 2017, an Order on the Applicant's Motion to Postpone Final Adjudicative Hearings was issued. The Subcommittee suspended all procedural deadlines and suspended the adjudicative hearings. The Subcommittee requested that NHDES provide monthly status reports to the Administrator of the Subcommittee.

On February 28, 2018, NHDES made its final recommendations. A Revised Procedural Order was issued on April 6, 2018. At a hearing on March 14, 2018, the Subcommittee voted to suspend the statutory timeframe to issue its final decision until April 1, 2019. On April 6, 2018,

the Subcommittee issued an Order Suspending Statutory Timeframe of RSA 162-H:7, VI-b (365 days for denial or issuance of the Certificate), memorializing its decision.

The adjudicative hearing started on August 29, 2018. The record was closed on October 26, 2018. The Subcommittee re-opened the record on November 15, 2018 for limited purpose of receiving additional testimony of the Applicant's aesthetics expert. During the adjudicative hearing, the Applicant presented testimony of its witnesses who were cross-examined by members of the Subcommittee, Counsel for the Public and Intervenors. Counsel for the Public presented the testimony of his witnesses and they were also cross-examined by the Applicant, Intervenors, and the members of the Subcommittee. The Intervenors also presented testimony and were cross-examined.

The Subcommittee deliberated on November 28 and 29, 2018 and December 3, 6, 7, and 10, 2018.

III. APPLICATION

The Applicant is proposing to construct an approximately 12.9-mile 115 kV electric transmission line and associated facilities from the Madbury Substation through Durham and Newington, to the Portsmouth Substation in Portsmouth. App. 1, at 3. The line will be designated within the Public Service Company of New Hampshire system as Line F107. App. 1, at 3.

The Project generally will consist of the following sections:

- Section 1 (approximately .5 miles) – Madbury Substation to NH Route 4 (Structures 1 to 10) – This section of the Project will be located on PSNH-owned property, on a newly acquired easement, and on a New Hampshire Department of Transportation easement. App. 1, at 17, 39. The new transmission line will be located approximately 50 feet west of the existing distribution circuit. App. 68, at 7. The cleared width will be widened to 45 feet westerly from the centerline of the proposed line. App. 1, at 17. The structures along this section of the route will be direct embedded monopole tubular self-weathering steel structures between approximately

55 and 98 feet above grade. App. 68, at 7.

- Section 2 (0.9 miles) – Route 4 to UNH Parking Lot A (Structures 10-23) - This Section of the Project will predominantly be located within an existing Pan Am Railroad corridor. App. 1, at 17. The Applicant has contracted to expand the corridor to include 25 feet of new width on UNH property. App. 1, at 17, 40. One structure will be located on the easement acquired from UNH. App. 1, at 40. The new transmission centerline will be approximately 50 feet from the newly-acquired western corridor edge and 36 feet from the existing rail centerlines. App. 1, at 40. The transmission structures will be constructed approximately 95 feet west of the railroad centerline. App. 1, at 40. The structures along this section of the route will be direct embedded monopole, tubular self-weathering steel or galvanized steel structures. App. 1, at 40. Their heights will vary between approximately 80 feet and 95 feet above grade. App. 1, at 40.
- Section 3 – Structure 23 to UNH Waterworks Road (Underground Cable) – This section will begin at an 80-foot monopole self-supported self-weathering transition structure that will be located on UNH property adjacent to the Pan Am Railroad corridor. App. 1, at 18, 40. The Project will transition from overhead to underground at the transition structure. App. 1, at 18, 40. The underground section will continue for 2,100 feet, crossing under Main Street in Durham to south of Main Street on UNH property adjacent to the Pan Am Railroad corridor. App. 1, at 18, 40. The Project then will transition from underground to overhead at an 80-foot monopole self-supported self-weathering steel transition structure. App. 1, at 40.
- Section 4 (0.7 miles) – UNH to Durham Substation (Structures 24-33) – From the transition structure, the Project will continue overhead within the existing right-of-way on UNH property to the Durham Substation. App. 1, at 18. The structures along this portion of the Project will be direct embedded monopole, tubular self-weathering steel or galvanized steel structures. App. 1, at 41. Monopole structure heights will vary between approximately 80 feet and 100 feet above grade. App. 1, at 41.
- Section 5 (5.1 miles) – Durham Substation to Little Bay Crossing (Structures 33 to 101) – This section of the Project will be constructed within the existing electric utilities easement. App. 1, at 41-44. The deeded right-of-way in this section is 100 feet wide. App. 1, at 18. The right-of-way will be cleared to its full width of 100 feet to accommodate the new transmission line. App. 1, at 18. From Packers Falls Substation to Durham Point Road crossing, the new double circuit transmission line will share the corridor with another existing 34.5 kV electric utility line. App. 1, at 41-43. In general, Section 5 of the Project will consist of the following distinct subsections: (i) Packers Falls Substation to Structure 57 (structures 49 to 57) - direct embedded monopole, tubular self-weathering steel structures between approximately 80 feet and 95 feet above grade; (ii) Structure 57 to NH Route 108 and Longmarsh Road (structures 57 to 62) - direct embedded multi-pole H-frame tubular self-weathering steel structures between approximately 50 feet and 80 feet above grade; (iii) Longmarsh Road to Timber Brook Lane (structures 62 to 64) - direct embedded

monopole, tubular self-weathering steel structures between approximately 70 feet and 80 feet above grade; (iv) Timber Brook Lane to Durham Point Road (structures 64 to 91) - direct embedded monopole, tubular self-weathering steel structures between approximately 85 feet and 105 feet above grade; (v) Durham Point Road Crossing (Structures 91 to 96) - direct embedded monopole, tubular self-weathering steel structures between approximately 80 feet and 95 feet above grade; and (vi) Durham Point Road to Little Bay Crossing (structures 96 to 101) - direct embedded monopole, tubular self-weathering steel with some multi-pole horizontal configuration structures between approximately 66 feet and 85 feet above grade. App. 1, at 40-44; App. 68, at 7.

- Section 6 (1.4 miles – 1.1 miles underwater segment and 0.3 miles underground segment) – Little Bay Crossing to Little Bay Road (Submarine and Underground Cable) - The transition from overhead to submarine cable on the western shore will occur on a monopole self-supported self-weathering steel structure approximately 70 feet in height. App. 68, at 7-8. From a transition structure, the Project will continue underground approximately 360 feet to the edge of Little Bay. App. 68, at 7-8. From there, it will cross Little Bay (approximately 5,470 feet). App. 68, at 8. The existing obsolete cable within the path of the Project under the Little Bay will be removed in accordance with the Cable Removal Plan filed with NHDES on June 30, 2017. App. 106. The Project's submarine cable consisting of three individual solid dielectric insulated cables will be buried in the soft sediments across the Bay. App. 68, at 8. A fiber optic cable will be bundled with two of the three conductors to allow for a communication path. App. 68, at 8. The nominal depth of burial for each cable will be 42 inches in the shallow mud flats on the western shore and up to five (5) feet in the deeper portions of the Bay. App. 68, at 8; Tr., Day 1, 08/29/2018, Afternoon Session, at 76-77. Mechanical stabilization, commonly referred to as concrete mattresses, will be installed in areas where the depth of 42 inches cannot be achieved. Day 3, 09/17/2018, Afternoon Session, at 73. Each cable will be separated by a distance of approximately 30 feet. App. 68, at 8; Tr., Day 1, 08/29/2018, Afternoon Session, at 76-77. A submarine cable will terminate at a man-hole on the eastern shore of Little Bay. App. 68, at 8. Thereafter, it will proceed as underground cable for approximately 360 feet easterly to Gundalow Landing in Newington and approximately 1,000 feet along Gundalow Landing to three self-supported steel transition structures located approximately 440 feet off Little Bay Road. App. 68, at 4, 8.
- Segment 7 (2.9 miles) – Little Bay Road to Spaulding Turnpike Crossing (Structures 102-137) – This section of the Project will consist of the following 5 sections: (i) transmission structure 102 on East Side of Little Bay Road to transmission structure 109 (0.53 miles overhead section with direct embedded monopole, tubular self-weathering steel structures between 65 and 80 feet above grade); (ii) transmission structure 109 to transmission structure 113 on the East Side of Nimble Hill Road (0.51 underground section); (iii) transmission structure 113 to Fox Point Road (structures 113 to 115) – direct embedded monopole, tubular self-weathering steel (structures between 80 and 84 feet above grade); and (iv) transmission structure 115

to the Spaulding Turnpike Crossing (structures 115 to 137) - direct embedded monopole tubular self-weathering steel structures between 65 feet and 100 feet above grade. App. 1, at 19; App. 68, at 4-5, 9-10. The 34.5 kV line located between Fox Point Road and Spaulding Turnpike Crossing will be relocated. App. 1, at 46. The Spaulding Turnpike/Spaulding Turnpike Crossing portion of the line will be adjacent to a 30-foot corridor for a natural gas line and water main. App. 1, at 19.

- Segment 8 (0.3 miles) – Spaulding Turnpike Crossing to Existing E194 Transmission Line (Structures 137-140) – This portion of the Project will be located within a 300-foot wide right-of-way. App. 1, at 19. Most of this area is a parking lot for the Crossings at Fox Run. App. 1, at 19.
- Segment 9 (0.8 miles) – E194 Transmission Line to Portsmouth Substation (Structures 147-151) – This section of the Project will consist of two general parts: (i) E194 Transmission Line to Newington Generation Station (0.5 miles); and (ii) Newington Generation Station to Portsmouth Substation (0.3 miles). App. 1, at 19-20. The line will be located within the right-of way that currently accommodates two other 115 kV lines and one 345 kV line. App. 1, at 47. One existing 115 kV line (E194) will be relocated. App. 1, at 47.

The Applicant seeks to upgrade the Madbury and Portsmouth substations. App. 1, at 47.

The upgrades will not include expansion of the substation sites. App. 1, at 47. At the Madbury substation, the Applicant will modify an existing steel terminal structure and install a new 115 kV disconnect switch, circuit breaker, coupling capacitor voltage transformers, lightning arrestors, a 55-foot wooden pole, and additional controls and relaying. App. 1, at 47. At the Portsmouth substation, the Applicant will install a new bus extension with a new 50-foot tall galvanized steel terminal structure, rigid aluminum bus, a new 115 kV disconnect switch, a new 115 kV circuit breaker, and three coupling capacitor voltage transformers and lightning arrestors. App. 1, at 48.

Construction of the Project will require the establishment of marshalling yards² and laydown areas.³ App. 1, at 22-23. The Applicant asserts that the majority of laydown and marshalling yards have been identified. App. 140, at 4. A former gravel pit located off of Route 125/Calef Highway in the Town of Lee will be used as a marshalling yard. App. 140, at 4; App. 190. A laydown area will be located either at Parking Lot A, north of Main Street, or at a gravel parking lot near the intersection of Waterworks Road and South Drive at UNH. App. 140, at 4. The Applicant requests that the Subcommittee delegate authority to NHDES to issue approvals and other conditions required for the establishment and use of additional laydown areas or allow their installation in accordance with the Memorandums of Understanding executed with the host communities. App. 140, at 4.

The Applicant will construct various 16-foot wide access roads. Tr., Day 1, 08/29/2018, Afternoon Session, at 170. The Applicant agrees to remove the roads and restore the areas at the end of construction. Tr., Day 1, 08/29/2018, Afternoon Session, at 171.

IV. POSITIONS OF THE PARTIES

A. Applicant

The Applicant pre-filed the testimony (original and amended) of the following witnesses:

- William J. Quinlan, President and Chief Operating Officer for Public Service Company of New Hampshire d/b/a Eversource;
- Robert D. Andrew, Director, System Planning of Eversource Energy Service Company;

² Marshalling yards are defined by the Applicant as off-right-of-way locations generally consisting of existing open areas approximately three to five acres in size and used for material and equipment storage, work force parking, and field offices. App. 1, at 22.

³ Laydown areas are defined by the Applicant as locations within the Project's right-of-way that are used for the temporary staging of materials, construction matting prior to installation, and for equipment staging when the equipment is not in use. App. 1, at 22.

- Aaron Cullen, Manager, Middle Office and Credit for Eversource Energy Service Company;⁴
- Kenneth Bowes, Vice President of Transmission Performance at Eversource Energy;⁵
- David L. Plante, Manager of the Project Management Department for Public Service Company of New Hampshire d/b/a Eversource;
- Nicholas Strater, Principal and the Trenchless Practice Leader at Brierley Associates;
- Marc Dodeman, Director of Submarine Cable Projects at LS Cable America, Inc.;
- Bjorn Bjorkman, Senior Ecotoxicologist at GEI Consultants, Inc.;
- Craig Swanson, Principal Associate at Swanson Environmental Associates, LLC, f/k/a RPS ASA;
- William Wall, Project Director for LS Cable America;⁶
- Lynn Frazier, Licensed Engineer and Traffic Operations Engineer for Louis Berger;
- David Raphael, Principal and Owner of LandWorks;
- Cherilyn E. Widell, Owner of Widell Preservation Services, LLC;
- Victoria Bunker, Ph.D., President and Principal Investigator of Victoria Bunker, Inc.;
- Sarah D. Allen, Senior Principal Wetland Scientist in the Wetland/Terrestrial Group of Normandeau Associates, Inc.;
- Ann E. Pembroke, Vice President and Technical Director of the Marine Group of Normandeau Associates, Inc.;
- Kurt Nelson, Senior Land Use Licensing & Permitting Specialist at Eversource Energy;
- William H. Bailey, Principal Scientist in the Center for Occupational and Environmental Health Risk Assessment of Exponent, Inc.;

⁴ Originally pre-filed as the testimony of Michael J. Ausere, Vice President of Energy Planning & Economics of Eversource Energy Service Company. The testimony was adopted by Mr. Cullen.

⁵ Originally pre-filed as the testimony of James Jiottis, Project Manager-Transmission Siting of Public Service Company of New Hampshire d/b/a Eversource. The testimony was adopted by Mr. Bowes.

⁶ Originally pre-filed as the testimony of Anthony Troy Godfrey, Director of Marine Engineering for Caldwell Marine International, LLC. Prior to Mr. Wall, it was adopted by Marc Dodeman, Director of Business Development and Project Manager for Caldwell Marine International, LLC.

- Robert W. Varney, President of Normandeau Associates, Inc.;
- James Chalmers, Principal of Chalmers & Associates, LLC; and
- Lisa K. Shapiro, Chief Economist at Gallagher, Callahan & Gartrell, P.C.

The Applicant argues that the information contained in the Application, pre-filed testimony, and exhibits clearly demonstrates that the Applicant has the financial, managerial and technical capacity to construct, manage, and operate the Project in accordance with the conditions of the Certificate. App. 1, at 62-67. The Applicant also argues that the Project is in the public interest and it will not unduly interfere with the orderly development of the region and will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, natural environment, or public health and safety. App. 1, at 67-128. The Applicant requests that the Subcommittee grant the Application and issue the Certificate.

B. Counsel for the Public

Counsel for the Public pre-filed the testimony of the following witnesses:

- Payson R. Whitney, III, Vice President of Water & Coastal Engineering for ESS Group, Inc., and Matthew D. Ladewig, Senior Scientist for ESS Group, Inc.;
- Patricia O'Donnell, Principal of Heritage Landscapes, LLC; and
- Michael C. Lawrence, ASLA, Principal of Michael Lawrence Associates, PLC.

Counsel for the Public took no position as to whether the Applicant has satisfied its burden of proof. *See Post-Hearing Brief*, at 94. Counsel for the Public and the Applicant filed Stipulated Conditions to the Certificate and requested that the Subcommittee adopt these as conditions of the Certificate, if one is issued. *See Post-Hearing Brief*, at 93; App. 193. Counsel for the Public and the Applicant also filed a Stipulated Findings of Fact and a limited Amendment to the Finding of Fact. App. 184, 194.

C. Intervenor

1. Conservation Law Foundation

CLF did not pre-file testimony, but submitted a Post-Hearing Brief in which it argues that the Project will have an unreasonable adverse effect on water quality, the natural environment, public health, and aesthetics, will not be in the public interest and will unduly interfere with the orderly development of the region. *See* Post-Hearing Brief, at 31. CLF requests that the Subcommittee deny the Applicant's request for the Certificate. *See* Post-Hearing Brief, at 32.

2. Town of Durham

Durham and UNH pre-filed the testimony of the following witnesses:

- Joseph J. Famely, Project Manager and Environmental Scientist of Applied Ecology and Sustainability Group of Woods Hole Group;
- Stephen H. Jones, Research Associate and Associate Director of New Hampshire Sea Grant Program of the University of New Hampshire;
- Matthew F. Shultz, Senior Coastal Engineer in the Coastal Sciences, Engineering & Planning Group of Woods Hole Group;
- Michael F. Dacey, Senior Consultant and Operations Manager of GeoInsight, Inc.; and
- Todd Selig, Durham Town Manager.

The Town of Durham and UNH argue that the Applicant has not met its burden of proof and failed to demonstrate that the Project will not have an unreasonable adverse effect on historic sites, water quality, and the natural environment of Little Bay. *See* Post-Hearing Memorandum, at 3, 8-16, 20-25. They also argue that the Project will unduly interfere with the orderly development of the region and will be contrary to the public interest. *See* Post-Hearing Brief, at 3, 16-20, 25-32.

3. Town of Newington

Newington pre-filed the testimony of Denis J. Hebert and Eric Weinrieb. Newington also filed a Post-Hearing Brief. Newington argues that the Project will be contrary to Newington's Master Plan and Zoning Ordinance because it will be constructed within its residential district. *See* Post-Hearing Brief, at 4. Newington also asserts that the Project, if constructed, will convert Little Bay into a high voltage transmission line corridor. *See* Post-Hearing Brief, at 4-5. Newington concludes that the Project will interfere with the orderly development of the region. *See* Post-Hearing Brief, at 4-5.

Newington also argues that the Applicant improperly engaged in communications with NHDES following the issuance of NHDES' final decision, failed to carry its burden of proof, and failed to demonstrate that the Project will not have an unreasonable adverse effect on water quality and the natural environment of Little Bay. *See* Post-Hearing Brief, at 5.

Newington opines that the Applicant failed to demonstrate the impact on aesthetics and historic sites by the relocation of the distribution line will not be unreasonable and that the impact assessments regarding aesthetics and historic resources were flawed and contrary to the Committee's rules. *See* Post-Hearing Brief, at 5. Newington concludes that the Project will have an unreasonable adverse effect on aesthetics and historic sites in Newington. *See* Post-Hearing Brief, at 5.

Newington also argues that, as evidenced by multiple public comments received by the Subcommittee, the Project will not be in the public interest where another better alternative is available to satisfy reliability needs of the Seacoast region. *See* Post-Hearing Brief, at 5.

Newington concludes that the Subcommittee should deny the Application or, in the alternative, grant the Application and request that the Applicant bury the Project in Newington's Residential District. *See* Post-Hearing Brief, at 6.

4. Durham Historic Association

DHA pre-filed the testimony of the following witnesses:

- Nancy P. Sandberg, Durham Historic Association Museum Curator; and
- Janet A. Mackie, Durham Historic Association Vice President.

DHA expresses concerns about the accuracy and reliability of the maps provided by the Applicant. *See* Post-Hearing Brief, at 2-3. DHA argues that the Applicant failed to identify and evaluate the Project's impact on all historic sites with scenic qualities, employed a methodology that eliminated a number of historic resources from evaluation, and committed to inadequate mitigation measures. *See* Post-Hearing Brief, at 7-12. DHA also argues that the Applicant failed to identify all historic resources, as defined by the Committee's rules, and failed to accurately ascertain the Project's impact on historic sites. *See* Post-Hearing Brief, at 17-30.

5. Durham Residents

The Durham Residents pre-filed the testimony of the following Intervenors:

- Donna M. Heald McCosker;
- Dr. Regis C. Miller;
- Jeff and Vivian Miller; and
- Matthew and Amanda Fitch.

Ms. McCosker argues that the Project will have a negative impact on her gardening business, water supply, enjoyment of her property, and health. *See* Post-Hearing Brief, at 4-7.

Dr. Regis Miller argues that the Applicant failed to demonstrate that the Project will not have an unreasonable adverse effect on water quality, natural environment, and the value of real estate and also failed to consider available less impactful alternatives. *See* Post-Hearing Brief.

Jeff and Vivian Miller argue that the Applicant failed to demonstrate that it has the technical and managerial capability required for construction and operation of the Project. *See* Post-Hearing Brief, at 1-2. They also assert that the Project will unduly interfere with the orderly development of the region and will not be in the public interest. *See* Post-Hearing Brief, at 2-3. Additionally, they argue that the Applicant failed to provide sufficient information demonstrating that the Project will not have an unreasonable adverse effect on water quality, natural environment, and aesthetics. *See* Post-Hearing Brief, at 3.

Mr. Fitch argues that the Applicant failed to consider available alternative routes and failed to demonstrate by the preponderance of evidence that the Project will not have an unreasonable adverse effect on water quality, aesthetics, historic sites, natural environment, and public health and safety. *See* Post-Hearing Brief, at 4-6. He argues that the Project will unduly interfere with the orderly development of the region and will not be in the public interest. *See* Post-Hearing Brief, at 3, 6.

6. Individual Intervenors

The Subcommittee received the testimony of Helen H. Frink, Keith Frizzell, and Jason Baker on behalf of Fat Dog Shellfish Co., LLC.

Ms. Frink argues that the Applicant provided insufficient data, used misleading and inaccurate maps, engineering drawings, photographs, and cost estimates, and disregarded the views of municipalities and public citizens. *See* Post-Hearing Brief, at 3. She also argues that the transition structure to be constructed at the Darius Frink Farm will adversely affect the

Farm's aesthetics and historic qualities. *See* Post-Hearing Brief, at 10-14. Ms. Frink also argues that the Project will have an adverse impact on the natural environment, water quality, and soils. *See* Post-Hearing Brief, at 16-20.

Mr. Frizzell argues that the Project will fundamentally change the real estate value and aesthetics of his property located on Fox Point Road in Newington. *See* Post Hearing Brief, at 1-2.

Mr. Baker argues that the Project may have an adverse effect on oysters in Little Bay, may interfere with the operation of his business, and potentially cause him to lose customers. FD 1.

V. DELIBERATIONS

A. The Subcommittee Deliberation Process

The Subcommittee used RSA 162-H:16 to define the contours of its deliberations. First, the Subcommittee reviewed the status of state permits. The Subcommittee then deliberated on criterion established in RSA 162-H:16. The Subcommittee engaged in a general discussion of each subject area. Mostly, the general discussion was led by one member of the Subcommittee, followed by a discussion by the entire Subcommittee. At the conclusion of the discussion, the Presiding Officer sought a sense of the Subcommittee's position regarding that subject area. In some cases, a non-binding "straw vote" of the Subcommittee was taken. In other cases, the sense of the Subcommittee was apparent from the discussion. This section of the Decision and Order summarizes each topic and the Subcommittee's deliberations.

B. State Agency Permits and Reports

1. Wetlands Permit – Department of Environmental Services

a. NHDES Review and Determination

The Applicant filed a Wetlands Permit application with NHDES. App. 32. The Applicant amended that application on March 29, 2017, and September 15, 2017. App. 88, 128. The final Wetland Permit application identifies the following impacts associated with the Project:

- Forested wetlands:
 - Permanent impact – 26 square feet;
 - Temporary impact – 4,514 square feet.
- Scrub-shrub wetlands:
 - Permanent impact – 511 square feet;
 - Temporary impact – 238,443 square feet.
- Emergent wetlands:
 - Permanent impact – 204 square feet;
 - Temporary impact – 43,108 square feet.
- Wet meadow:
 - Permanent impact – 37 square feet;
 - Temporary impact – 20,566 square feet.
- Perennial stream/River:
 - Temporary impact – 523 square feet/176 linear feet.
- Tidal water:
 - Permanent impact – 8,681 square feet;
 - Temporary impact – 268,531 square feet.
- Salt marsh:
 - Temporary impact – 1,456 square feet.
- Prime wetland:
 - Permanent impact – 31 square feet;
 - Temporary impact – 34,976 square feet.
- Previously-developed upland:
 - Permanent impact – 11 square feet;
 - Temporary impact – 21,166 square feet.

App. 88 and 128, at 5.

The Applicant asserts that it avoids a direct permanent impact on streams. App. 88, at 10. Temporary impact on streams will total 568 square feet (221 linear feet) consisting of: (i) Town

of Durham – 374 square feet (127 linear feet); and (ii) Town of Newington – 194 square feet (94 linear feet). App. 88, at 11, Table 3.

The Applicant explains that the Project will have a secondary impact on wetlands and streams. App. 88, at 11. The secondary impact will include conversion of forested wetlands to scrub-shrub or emergent wetlands through tree clearing and clearing of upland forest within 100 feet of perennial streams, 50 feet of intermittent streams, and 25 feet of ephemeral streams. App. 88, at 11. The Applicant identifies the following forested wetland conversion that will be caused by construction and operation of the Project: (i) Madbury – 2,072 square feet (0.05 acres); (ii) Durham – 216,621 square feet (4.97 acres); (iii) Newington – 76,726 square feet (1.76 acres); and (iv) Portsmouth – 11,305 square feet (0.26 acres). App. 88, Table 4. The Applicant also identifies the following upland stream buffer clearing: (i) Madbury – 7,383 square feet perennial stream buffer; (ii) Durham – 53,324 square feet perennial stream buffer, 11,452 square feet intermittent stream buffer, and 4,221 square feet ephemeral stream buffer; and (iii) Newington – 5,010 square feet perennial stream buffer, 4,691 intermittent stream buffer, and 1,119 ephemeral stream buffer. App. 88, Table 5.

The Applicant identifies one vernal pool in the Newington Town Forest called the Flynn Pit. App. 88, at 3-5. The Applicant asserts that the Flynn Pit, will not be directly impacted by the Project. App. 88, at 3-8.

On February 28, 2018, NHDES issued a Decision containing conditions. Comm. 12c. Following the issuance of the Decision, the Applicant engaged in discussions with NHDES and requested that NHDES change some conditions. App. 182. On August 31, 2018, NHDES advised the Subcommittee of amendments to the conditions. Comm. 12b. On October 30, 2018,

NHDES provided the report incorporating the revised conditions into the Decision. Comm12c, 12d.

NHDES identified the following Project specific conditions related to monitoring (excluding Little Bay):

- At least sixty (60) days prior to the start of construction, the Applicant shall retain an independent environmental monitor to assure compliance with permit conditions during and after construction activities, including one year of post-construction corridor monitoring after one full growing season and preparation of appropriate compliance reports for submittal to NHDES. The monitoring shall include a site inspection, vegetation cover estimates in restored freshwater wetlands, salt marsh, and uplands, including tidal buffer zone and protected shoreland, by species in random plots, photographs, and wildlife observations. Areas with less than 80% cover at the end of the growing season will require additional seed or other appropriate enhancements. Areas with erosion shall be repaired immediately. Invasive species shall be removed from restoration areas and disposed of in a manner and location to preclude their survival and spread. A monitoring report shall be submitted to NHDES by November 1 of the year following construction impacts.
- The Applicant shall notify the NHDES Wetlands Program in writing of the independent environmental monitor who will be responsible for monitoring the project. The Applicant shall re-notify the NHDES Wetlands Program if the identity of the individual changes during the project.
- All temporary wetland and stream bank impact areas shall have at least 75% successful establishment of wetlands vegetation (or where applicable appropriate stream bank vegetation) after one full growing season, or it shall be replanted and re-established in a manner satisfactory to the NHDES Wetlands Program.

NHDES also established the following conditions related to the Project's impact on wildlife, fisheries, botanical resources, and essential fish habitat:

- At least sixty (60) days prior to the start of construction, the Applicant shall notify and coordinate with NH Natural Heritage Bureau ("NHB") and NH Fish and Game Department ("NHFGD") to the satisfaction of NHB and NHFGD, to establish protocols for encounters with any rare, threatened, or endangered species during the project, and shall submit the agreed protocols to NHDES. Applicant shall then implement the approved protocols as a condition of this approval.
- NHB and NHFGD shall be notified in writing immediately upon encountering any rare, threatened, or endangered species that are found within the project area during construction.

- A NH Certified Wetland Scientist or similarly qualified professional shall walk the areas of proposed activity and the wetland impact areas, in particular, prior to construction to survey for any rare, threatened, or endangered species, and prior to ground disturbance each day to check timber mats for basking turtles and snakes. Animals shall be safely relocated if found by the qualified professional. Contractors shall avoid moving or disturbing any of the species.
- At least sixty (60) days prior to the start of construction, Project specific best management practices shall be developed in coordination with NHB and NHFGD and submitted to NHDES for review and approval, and implementation, for the following activities: (a) construction mat use in areas identified as sensitive; (b) ground-based construction techniques and use of smaller, lighter, or low ground pressure equipment for sensitive areas; (c) fenced exclusion zones and wildlife survey areas; and (d) on-site construction monitoring for protection of resources.
- At least sixty (60) days prior to the start of construction, the Applicant shall coordinate with NHB, NHFGD, NOAA-National Marine Fisheries Service (“NMFS”), and US Fish and Wildlife Service (“USFWS”) to produce a report which examines time of year restrictions for all rare, threatened, endangered, or Essential Fish Habitat (“EFH”) species found to be associated with the project, and which provides the best resource protection timing requirements practicable as agreed to by the agencies to the agencies’ satisfaction, in consideration of the construction temperature, logistics, and desired schedule for this project. This report shall be submitted to NHDES for review and approval. Applicant shall then implement the approved NHDES timing restrictions.

NHDES required that the Applicant comply with the following conditions related to coordination with its Waste Management Division:

- At least sixty (60) days prior to the start of construction of the submarine cable crossing in Little Bay, the Applicant shall coordinate with the NHDES Waste Management Division Spill Response and Complaint Investigation Section (“SRCIS”) to identify a specific staff contact representative for both NHDES and the Applicant. The Applicant's representative shall notify the NHDES contact upon each commencement of work and upon completion of work involving cable installation, so that cable installation does not impede NHDES oil spill incident command emergency response capability, and to avoid the interaction of an incident or its response with an active cable installation resulting in a greater environmental impact than the cable installation on its own would ordinarily produce.
- At least ninety (90) days prior to conducting dewatering activities in the vicinity of the Pease International Tradeport [i.e., the former Pease Air Force Base (Pease)] and the Darius Frink Farm property in Newington, the Applicant shall consult with the Pease Development Authority, NHDES Waste Management Division, and the US

Environmental Protection Agency to determine if groundwater has been contaminated by perfluorinated compounds (e.g., PFOA, PFOS) to levels which would require special treatment. Should special treatment be necessary, the Applicant shall submit a plan to the NHDES Waste Management Division for approval and then implement the approved plan.

NHDES required that the Applicant comply with the following conditions relative to the Little Bay crossing:

- Independent Environmental Monitor: At least sixty (60) days prior to installing cable in Little Bay, the Applicant shall retain an Independent Environmental Monitor for work in Little Bay at the Applicant's expense. The selection of the Independent Environmental Monitor shall be approved by NHDES. The Independent Environmental Monitor shall be empowered to order corrective actions related to surface water quality and to order the temporary cessation of construction activities until corrective action has been implemented.
- Eelgrass Survey: To assess the impact of work associated with laying cable in Little Bay on eelgrass, the Applicant shall conduct an eelgrass survey in the Little Bay estuary the summer before construction commences and, if directed by NHDES, approximately one year after work is completed. To the maximum extent practicable, the methodology for conducting the survey shall be consistent with recent surveys conducted for the Piscataqua River Estuaries Program (PREP). At least ninety (90) days prior to the scheduled date for conducting the pre-construction survey, the Applicant shall submit a plan describing:
 - how, when and where the survey will be conducted;
 - how results will be assessed to determine impact on eelgrass;
 - how and when results will be reported to NHDES;
 - mitigation measures that will be implemented based on eelgrass impacts and recovery; and
 - when the data will be provided to NHDES in a geodatabase that NHDES can use to update its current eelgrass GIS coverage.

The Applicant shall then implement the approved plan. Results of the pre-construction survey shall be submitted to NHDES no less than thirty (30) days prior to the scheduled cable installation date and shall be approved by NHDES prior to cable installation in Little Bay. A report comparing the pre to post- construction survey results, if required, shall be submitted to NHDES for approval no more than ninety (90) days after the post-construction survey is completed. Modifications to this condition may be allowed at the discretion of NHDES.

- Benthic Habitat Monitoring: At least sixty (60) days prior to the start of construction in Little Bay, the Applicant shall obtain NHDES and NHFGD approval of a Benthic Habitat Monitoring Plan (BHMP). The purpose of the plan is to determine if

substrate conditions (topography and grain size distribution) in the Little Bay estuary in the vicinity of the proposed underground cables were significantly altered during construction. The plan shall include, but not be limited to, details regarding the method, accuracy and extent of the bathymetric survey, when the study will be conducted, the locations and methods for sampling and analyzing grain size distribution, how the data will be assessed, how the data will be reported and provisions for inputting the data electronically into the NHDES Environmental Monitoring Database. The Applicant shall then implement the approved plan.

- Benthic Infaunal Community Plan: To assess the impact of work associated with laying cable in Little Bay on the benthic infaunal community, the Applicant shall conduct pre- and post-construction monitoring of the benthic infaunal community in the Little Bay estuary. At least ninety (90) days prior to the scheduled date for conducting the pre-construction monitoring, the Applicant shall submit a plan to NHDES describing
 - how, when and where the monitoring will be conducted;
 - how results will be assessed to determine impact on the benthic infaunal community;
 - how and when results will be reported to NHDES;
 - mitigation measures that will be implemented based on benthic infaunal community impacts and recovery; and
 - when the data will be input electronically into the NHDES Environmental Monitoring Database.

The Applicant shall then implement the approved plan. Results of the pre-construction monitoring shall be submitted to NHDES for approval no less than thirty (30) days prior to the scheduled cable installation date. A report comparing the pre to post-construction monitoring results shall be submitted to NHDES for approval no more than ninety (90) days after the post-construction monitoring is completed.

- Mixing Zone Plan: At least sixty (60) days prior to the start of construction in Little Bay, the Applicant shall submit a mixing zone request to the NHDES Watershed Management Bureau for approval that includes a description and map showing the proposed mixing zone in Little Bay, justification for the proposed limits of the mixing zone and documentation demonstrating that the proposed mixing zone complies with the minimum criteria in administrative rules Env-Wq 1707.02. The mixing zone shall be established for all jet plow and hand-jetting activities. Prior to submitting the proposed mixing zone request, the Applicant shall determine if there are any new aquaculture operations in Little Bay. Unless otherwise authorized by NHDES, the mixing zone shall not include any portion of an aquaculture site that has aquaculture product (i.e., oysters, etc.) in the water during and up to 24 hours following jet plow and hand-jetting activities.
- Water Quality Monitoring and Adaptive Management Plan: At least ninety (90) days prior to in-water work in Little Bay, the Applicant shall submit to the NHDES Watershed Management Bureau for approval, at Water Quality Monitoring and

Adaptive Management Plan for work in Little Bay. The Applicant shall implement the approved plan.

The Wetlands Permit also set forth the NHDES Shellfish Program Monitoring and

Reporting Requirements:

- Two-Week Prior Notification: At least two-weeks prior to the start of jet plowing activities, the Applicant shall notify the NHDES Shellfish Program of the dates and times of all activities that will re-suspend sediments and introduce turbidity to the water column of Little Bay, so that NHDES may assess possible changes in water column fecal coliform concentrations that may warrant temporary closure of shellfish harvest areas.
- Plan to Assess Shellfish Tissue Before and After Little Bay Cable Crossing: At least six months prior to the start of jet plowing activities (or other time frame acceptable to NHDES) the Applicant shall submit a plan to the NHDES Shellfish Program for approval for assessing molluscan shellfish tissue concentrations of selected chemical contaminants before and after the project. The Applicant shall then implement the approved plan. Unless otherwise authorized by NHDES, the plan shall include provisions for the following:
 - Species to be tested: Blue mussels and American oysters shall be the primary species to be tested. To the extent practical, native species shall be used at all sites. If transplanted species must be used, NHDES Shellfish Program and the NH Fish and Game Department will need to approve the source of the shellfish, and the contractor will need to include provisions for additional shellfish tissue testing to document' contaminant levels in the shellfish prior to transplant.
 - Location of testing sites: A total of at least four sites shall be monitored, with two sites inside the area affected by the plume, and two sites outside of the area affected by the plume.

Water temperature and salinity shall be documented with continuous data loggers (15-minute interval) at all sites. QA procedures to quantify data logger performance, accuracy, and precision shall be included in the plan and reported.

- Timing of Sample Collection: All sites shall be sampled 1-2 two weeks before dredging or jet plowing begins and within one week of the completion of all dredging or jet plowing activities. A final round of sampling shall be completed within one week of the completion of all dredging activities.

All collected samples shall be immediately transported to the analytical laboratory(ies). The Applicant and/or its contractor shall assure the analytical laboratory completes testing as soon as possible, and report the results as soon as they are completed.

- Constituents for Tissue Analysis:
Parameters Specified in the National Shellfish Sanitation Program shall be tested: Deleterious Substances and Chemotherapeutics. Additional parameters that are part of the NH GulfWatch Program. Metals, Physical, PAHs, Pesticides, and Polychlorinated Biphenyls (PCBs)
- Field and Laboratory Methods and Protocols: Field and laboratory methods and protocols shall be consistent with methods and protocols specified in the *National Shellfish Sanitation Program, Guide for the Control of Molluscan Shellfish (2015 Revision)* and in documentation describing the New Hampshire Gulf Watch Program, including the number of organisms in each sample, and number of duplicates as specified in the Gulf Watch program documentation.
- Data Management and Communication of Results: All data will be digitally provided to the NHDES Shellfish Program in Microsoft Excel files and in a format consistent with NHDES Environmental Monitoring Database protocols, procedures, and reporting formats.
- Compliance with all laws: The Applicant and/or its contractor shall be responsible for complying with all applicable local, state, and federal laws to execute this monitoring program, including but not limited to a NH Fish and Game Department permit to collect and test shellfish.

NHDES provides that if violations of surface water quality standards (Env-Wq 1700) occur, and if directed by NHDES, that the Applicant will submit a mitigation plan for approval within sixty-days of notification. NHDES also sets-forth these additional conditions, among others, relevant to the Little Bay crossing:

- Spill Prevention and Cleanup Plan: At least ninety (90) days prior to in-water work in Little Bay, the Applicant shall submit to the NHDES Watershed Management Bureau for approval, a Spill Prevention and Cleanup Plan. The Applicant shall then implement the approved plan. The plan shall describe responses to potential spills associated with work in Little Bay (such as from fuel, hydraulic fluid and other potentially hazardous fluids).
- Existing Cable Removal Remedial Response Plan: The Applicant shall remove the existing cable in Little Bay in accordance with the Existing Cable Removal Plan submitted on June 30, 2017.
- Notify Marine Patrol Regarding Concrete Mattresses: Prior to the placement of concrete mattresses in Little Bay, the Applicant shall coordinate with the NH Division of Ports and Harbors (“DPH”) and/or the NH Department of Safety Marine

Patrol (“Marine Patrol”), to determine if the placement of the mattresses creates a navigational hazard which will require navigational marker(s). If navigational markers are required, then the Applicant shall comply with any request to install such markers that the DPH or Marine Patrol requires.

- Weather: At least seven (7) days prior to the start of cable installation across Little Bay, the Applicant shall check the weather forecast for the area, shall maintain a written weather log, and shall not proceed with jet plowing for cable installation if the forecast predicts a storm event or excessive wind, which, in combination with tidal influences shall exacerbate the sediment turbidity plume beyond that predicted in the turbidity plume modelling presented in the application.
- Wind: Beginning at least twelve (12) hours prior to planned cable installation activities, the independent environmental monitor shall monitor the latest National Weather Service weather forecast for Great Bay/Adams Point. If sustained wind speeds in excess of fifteen (15) mph are forecast, the environmental monitor shall, based upon predicted and observed conditions within Little Bay, and in conjunction with NHDES, decide if cable installation should be allowed to commence.⁷
- Cable Depths and As-Builts: To the maximum extent practicable, the maximum jet plow and hand-jetting trench depths shall be in accordance with the depths defined in the design drawings submitted July 27, 2018, and in conjunction with Document 1 of the supplemental information filed with the Site Evaluation Committee on June 30, 2017, titled “Revised Modeling Sediment Dispersion from Cable Burial for Seacoast Reliability Project, Upper Little Bay, New Hampshire, June 2017.” As-Built (including plan and profiles) showing the actual depths and locations of the cable as well as the location of concrete mattresses shall be provided to NHDES within sixty (60) days following completion of cable installation. If directed by NHDES, as-built information for the portion of cables installed by jet plow (not hand-jetting) shall be provided to NHDES after each individual cable installation and prior to the next cable installation.
- Silt Curtains: To the maximum extent practicable, silt curtains shall be used to minimize turbidity during installation of the underground cables in the Little Bay Estuary. As a minimum, silt curtains shall be installed when divers hand-jet the cables on the west side of Little Bay and along approximately 311 feet (of the total 541 feet) of cable that is to be hand jetted on the east side of the estuary. At least ninety (90) days prior to removal of the silt curtains, the Applicant shall consult with and receive NHDES approval of, a plan to remove the silt curtains in a manner that will minimize turbidity associated with resuspension of the sediment deposited within the silt curtains due to hand-jetting. Monitoring to determine the effectiveness of the plan shall comply with the Water Quality Monitoring and Adaptive Management Plan (condition 45).

⁷ NHDES did not increase this requirement to 20 miles per hour as recommended by Counsel for the Public’s experts. App. 183.

- Water-lift devices to assist the diver operated hand-jetting of sediment in Little Bay shall not be used.
- Timing of Hand-Jetting and Jet Plow: Unless otherwise authorized by NHDES, and to limit the combined impacts of construction activities on Little Bay water quality, hand-jetting shall not be conducted for the period beginning six hours before and ending six hours after jet plow cable installation or within six hours of turbidity criterion exceedances at the mixing zone boundary in the vicinity of the hand-jetting operation(s).
- Minimum Time Between Cable Installations: Unless otherwise authorized by NHDES, after a cable is buried by jet plowing, installation of the next cable by jet plowing shall not commence for at least five (5) days.
- Screen of Jet Plow Intake: The end of the jet plow intake pipe shall be equipped with a screen with openings no greater than 2 inches in diameter.

NHDES addressed the impact of the Project on salt marshes by setting forth the following conditions:

- The salt marsh vegetation shall be removed to the maximum depth allowable by the substrate, and under the direction of the Environmental Monitor. The blocks will be as large as practicable to be set aside, right side up and protected from desiccation to ensure successful replacement and to support existing functions by watering the vegetation blocks with freshwater while they are set aside.
- After the utility line is installed in the trench, the blocks of soil and vegetation shall be placed back with exceptional care being taken to reestablish the same surface elevation as the surrounding marsh;
- Final estimates of the area of salt marsh to be restored and linear feet of shoreline shall be provided for review and approval by NHDES and ACOE;
- Plans for the living shoreline and salt marsh restoration in areas impacted by the project shall be submitted and approved by NHDES and ACOE prior to construction;
- The living shoreline and salt marsh restoration shall be monitored for a minimum of five (5) years. Performance standards shall be established and approved by NHDES and the ACOE to evaluate the success of restoration. If the restoration is not successful, the Applicant shall submit a plan for review and approval by NHDES to correct any deficiencies;
- Seed mix used within the restoration areas shall be a wetland seed mix appropriate to the area and shall be applied in accordance with manufactures' specifications. NHDES must approve the seed mix prior to application.

As mitigation, DES requires the Applicant to pay \$349,834.26 into the Aquatic Resource Mitigation Fund (ARM) within 120 days of issuance of the Certificate. It is estimated that \$213,763.28 of this payment will be paid to Durham for salt marsh restoration at Wagon Hill Farm and \$120,990.23 will be paid to Newington. Any remaining funds will revert to the ARM Fund to be used in the next ARM Fund competitive grant round. Comm. 12c, at 18.

NHDES requires the Applicant to execute a conservation easement on 10 acres of land in Newington within 240 days of the issuance of the Certificate. Comm. 12c, at 18. NHDES identifies the following conditions specific to a conservation easement:

- The draft deed for the conservation parcel proposed in Newington shall be reviewed and approved by NHDES and the ACOE prior to construction. The applicant must prepare a forest management plan limited to wildlife habitat management only. The plan must be approved by NHDES prior to construction.
- The conservation parcel proposed in Newington shall have a minimum of a 100 foot no-cut buffer adjacent to aquatic resources and there shall be no increase in agriculture activities on the property. If these measures cannot be achieved the funds will revert to the ARM Fund for issuance during a future competitive grant round.
- The conservation parcel proposed in Newington shall be protected through a conservation easement to the Town of Newington within 240 days of the issuance of the SEC Certificate.
- Following permit issuance and prior to recording of the conservation deed, the natural resources existing on the conservation parcel proposed in Newington shall not be removed, disturbed, or altered without prior written approval of NHDES and the easement holder.
- The conservation deed to be placed on the conservation parcel proposed in Newington shall be written to run with the land, and both existing and future property owners shall be subject to the terms of the restrictions.
- The plan noting the conservation easement with a copy of the final easement language shall be recorded with the Registry of Deeds Office for the conservation parcel proposed in Newington. A copy of the recording from the County Registry of Deeds Office shall be submitted to NHDES prior to the start of construction.

- The Applicant shall prepare a final baseline documentation report that summarizes existing conditions within the conservation area. Said report shall contain photographic documentation of the easement area that have been taken in the absence of snow cover, and shall be submitted to the NHDES within 240 days of the issuance of the SEC certificate to serve as a baseline for future monitoring of the area.
- The conservation area shall be surveyed by a licensed surveyor, and marked by monuments (stakes).
- NHDES shall be notified of the placement of the parcel boundary monuments to coordinate on-site review of their location.
- Activities in contravention of the conservation easement shall be construed as a violation of RSA 482-A, and those activities shall be subject to the enforcement powers of NHDES (including remediation and fines).

App. at 66, at 18-19.

NHDES indicated that, as of August 31, 2018, it did not receive satisfactory: (i) Eelgrass Survey; (ii) Benthic Habitat Monitoring; (iii) Benthic Infaunal Community Plan; (iv) Mixing Zone Plan; and (v) Water Quality Monitoring and Adaptive Management Plan. App. 183.

b. Positions of the Parties

(1) Applicant

For the most part the Applicant agrees with the conditions in the NHDES permits. But, the Applicant argues that conditions related to the conservation easement should be stricken because compliance with such conditions is beyond the Applicant's control. Tr., Day 5, 09/20/2018, Morning Session, at 47-48.

The Applicant's experts confirmed that they are revising the Eelgrass Survey, Benthic Habitat Monitoring, Benthic Infaunal Community Plan, Mixing Zone Plan, and Water Quality Monitoring and Adaptive Management Plan. Tr., Day 6, 09/21/2018, Morning Session, at 158. They testified that NHDES was reviewing a Soil and Groundwater Management Plan filed by the Applicant in July, 2018. Tr., Day 6, 09/21/2018, Morning Session, at 160. A Spill and

Prevention Cleanup Plan has not been filed with NHDES. Tr., Day 6, 09/21/2018, Morning Session, at 160. The Applicant also must update a Salt Marsh Monitoring Plan. Tr., Day 6, 09/21/2018, Morning Session, at 158.

(2) Counsel for the Public

Counsel for the Public's construction experts reviewed the NHDES Final Decision. In their supplemental pre-filed testimony, they request that the Subcommittee modify the following conditions recommended by NHDES:

- Condition 20 – “All refueling of equipment shall occur outside of surface waters or wetlands during construction. Machinery shall be staged and refueled in upland areas only.” Counsel for the Public's experts argue this condition should specify that it does not apply to floating equipment associated with the submarine cable installation because such equipment cannot be refueled outside of surface water.⁸ CFP 3, at 6-7.
- Condition 45 – “Water Quality Monitoring and Adaptive Management Plan: At least ninety (90) days prior to in water work in Little Bay, the Applicant shall submit to the NHDES Watershed Management Bureau for approval, a Water Quality Monitoring and Adaptive Management Plan for work in Little Bay.” Parameters required to be monitored do not include PFOA and PFOS. CFP 3, at 6-7. Counsel for the Public's experts argue that, if there are still concerns about PFOA/PFOS, these analytes should be included for laboratory analysis during water quality monitoring. CFP 3, at 6-7.
- Condition 53 – “Weather: At least seven (7) days prior to the start of cable installation across Little Bay, the Applicant shall check the weather forecast for the area, shall maintain a written weather log, and shall not proceed with jet plowing for cable installation if the forecast predicts a storm event or excessive wind, which, in combination with tidal influences shall exacerbate the sediment turbidity plume beyond that predicted in the turbidity plume modeling presented in the application.” Counsel for the Public's experts request that the condition specify under which weather conditions jet plow cable installation can proceed. CFP 3, at 6-7.
- Condition 54 – “Wind: Beginning at least twelve (12) hours prior to planned cable installation activities, the independent environmental monitor shall monitor the latest

⁸NHDES agreed with this recommendation and modified Condition 20 of the Wetlands Permit. As modified, it states as follows: “[a]ll refueling of equipment shall occur outside of surface waters or wetlands during construction. Machinery shall be staged and refueled in upland areas only. When equipment cannot practicably be moved away from a wetland or surface water, refueling can be allowed if secondary containment is provided in accordance with the guidance in NHDES Fact Sheet WD-DWGW 22-6, dated 2010, and all other practices described in that Fact Sheet are complied with. This is particularly critical for refueling that may be done from barges or other waterborne vessels.” Comm. 12c, at 8.

National Weather Service weather forecast for Great Bay/Adams Point. If sustained wind speeds in excess of fifteen (15) mph are forecast, the environmental monitor shall, based upon predicted and observed conditions within Little Bay, and in conjunction with NHDES, decide if cable installation should be allowed to commence.” Counsel for the Public’s experts opine that the threshold should be increased to 20 mph⁹ – a fresh breeze on the Beaufort Wind Scale that results in moderate waves. They also state that a NHDES representative should be available at non-business hours to make a decision about satisfaction of this condition. CFP 3, at 6-7.

- Condition 55 – “Cable Depths and As-Built: To the maximum extent practicable, the maximum jet plow and handjetting trench depths shall be in accordance with the Document 1 of the supplemental information filed with the Site Evaluation Committee on June 30, 2017 titled “Revised Modeling Sediment Dispersion from Cable Burial for Seacoast Reliability Project, Upper Little Bay, New Hampshire, June 2017.” “Or to the cable burial depths specified in the US Army Corps of Engineers permit for the Project” should be added to this sentence. CFP 3, at 6-7.
- Condition 56 – “Silt Curtains: . . . At least ninety (90) days prior to removal of the silt curtains, the Applicant shall consult with and receive NHDES approval of, a plan to remove the silt curtains in a manner that will minimize turbidity associated with resuspension of the sediment deposited within the silt curtains due to hand-jetting.” Counsel for the Public’s experts explain this condition is contrary to the construction process that requires movement of the curtains during installation. CFP 3, at 6-7. It is unnecessary because the sediment will settle shortly after the installation and its implementation may cause negative impacts like bottom scour, freezing in place during winter months, impeding navigation, and negative visual impact. CFP 3, at 6-7.

Counsel for the Public, in his Post-Hearing Brief, does not request that the Subcommittee modify the NHDES Wetlands Permit.

(3) Town of Durham

Mr. Famely, Dr. Jones, Mr. Schultz and Mr. Dacey argue that the Applicant should not have communicated with NHDES after NHDES issued the February Decision. TD/UNH 3, at 2. The Town of Durham argues that the Subcommittee should not consider NHDES’ report provided after issuance of the recommended Wetlands Permit. The Town argues that the

⁹ NHDES did not increase this threshold to 20 miles per hour. Comm. 12c, at 16, Condition 54.

Subcommittee should consider conditions only as reflected in the NHDES Decision dated February 2, 2018.

Durham's experts claim that the Revised Environmental Monitoring Plan prepared by the Applicant does not comply with Condition 45 of the Wetland Permit. TD/UNH 3, at 3. They argue that the Mixing Zone Plan does not comply with Condition 44 of the Wetland Permit. TD/UNH 3, at 3. They opine that, at a minimum, the Mixing Zone Plan should meet the requirements of Env-Wq 1707.02. TD/UNH 3, at 3. They request that the Subcommittee order the Applicant to prepare a Mixing Zone Plan that meets the requirements of Env-Wq 1707.02 and Condition 44 and to provide it to NHDES 60 days before the installation of the cable. TD/UNH 3, at 4.

Durham's experts also argue that the Cable Removal Plan prepared by the Applicant does not satisfy Condition 49. TD/UNH 3, at 8. They opine that the timing between installation of the cables should be sufficient to analyze the data received and implement corrective measures, if needed. TD/UNH 3, at 9. They agree with Condition 59, requiring at least 5 days between cable runs as long as it is sufficient for analyzing the results and implementing corrective actions. TD/UNH 3, at 9.

Durham requests that the Subcommittee, if it issues the Certificate, require the Applicant to provide to the public all plans filed with NHDES and to establish a process for the submitting public comments and conducting a hearing before the Subcommittee on all plans pertaining to Little Bay. *See* Post-Hearing Brief, at 36.

c. Deliberations

The parties' request to strike the NHDES correspondence filed with the Subcommittee after February, 2018, was already denied by the Order on Motion to Strike dated November 20,

2018. The Subcommittee cannot disregard documents that are part of the record. The enabling statute requires that the Subcommittee consider all relevant information. RSA 162-H:16, IV. The NHDES reports and recommended conditions filed on August 31, 2018, as incorporated in NHDES correspondence dated October 30, 2018, contain relevant information. The Subcommittee cannot disregard such information while considering the NHDES permits and recommended conditions.

The record indicates that suggestions and concerns raised by Counsel for the Public were provided to NHDES and that NHDES either addressed them by amending the number of proposed conditions or declining to incorporate them. Nothing in the record indicates that NHDES's decision to reject some of Counsel for the Public's suggestions was unreasonable and/or erroneous. Counsel for the Public, in his Post-Hearing Brief, does not request that the Subcommittee amend the conditions in the Wetlands Permit. The Subcommittee is confident in NHDES' experience and qualifications to determine which permit conditions should be imposed to minimize and mitigate the Project's impact on water quality. In the absence of evidence that the conditions are unreasonable, the Subcommittee adheres to NHDES' expertise and experience to determine which conditions the Applicant should be required to comply with.

The Subcommittee agrees that the public should have access to the plans and reports filed with NHDES as required by the Wetlands Permit. Although such plans and reports will be filed with NHDES and will be available to the public upon request, to ensure easy access and full disclosure of such plans and reports, it is reasonable to require the Applicant to provide such plans and reports to the Administrator for posting on the Committee's website. It is reasonable to also require the Applicant to post such plans and reports on its own website. It is unnecessary, however, to establish a separate process for public comments and hearings on these plans and

reports. The plans and reports will be reviewed and their sufficiency will be determined by NHDES. The public is not precluded from providing its comments to NHDES so they can be addressed. NHDES has the experience and expertise to review and address such plans, reports, and comments. Providing an additional process for review, comments, and hearings on the plans and reports filed with the NHDES would cause undue delay. The Subcommittee must avoid undue delay in construction of energy facilities. *See* RSA 162-H:1. Durham's request to establish a separate process for review and hearings to address plans and reports filed with NHDES is denied.

RSA 162-H:16, I, provides that the Certificate in this docket is conditioned upon the Applicant's compliance with the conditions, limitations, and mitigation measures identified in the Wetlands Permit, as amended on August 31, 2018, and reflected in Exhibit Comm. 12c. The Wetlands Permit is incorporated as a condition of the Certificate to be issued in this docket. In accordance with RSA 162-H:4, III and Site 301.17(d), the Subcommittee delegates its authority to NHDES to monitor the construction and operation of the Project to ensure that terms and conditions of the Wetlands Permit and the Certificate are met. Pursuant to RSA 162-H:4, III-a and Site 301.17(e), the Subcommittee delegates to NHDES the authority to specify the use of any technique, methodology, practice, or procedure approved by the Subcommittee within the Certificate, as may be necessary to effectuate conditions of the Certificate and Wetlands Permit. NHDES may enforce the terms of the Wetlands Permit. *See* RSA 162-H:12, IV. However, any action to enforce provisions of the Certificate must be brought before the Committee. *See* RSA 162-H:4, I(d). The Applicant shall file with the Administrator (who will post the same on the Committee's website) and shall post on the Applicant's project website any plans and reports filed with NHDES pursuant to the Wetland Permit.

2. Shoreland Protection Permit – Department of Environmental Services

a. Review and Final Decision

The Applicant filed an application for a Shoreland Protection Permit with NHDES. App.

34. An Amended Shoreland Permit Application was filed on March 29, 2017. App. 90.

A Shoreland Protection Permit is needed to perform construction, trenching, and tree cutting activities within the 250-foot shoreland buffer, to bury the transmission cables that will cross Little Bay and to expand the existing transmission line corridor. App. 34, at 1. The Applicant anticipates that the Project will have temporary impacts on protected shoreland at the Little Bay Crossing in Durham: (i) 0'-50' waterfront buffer – 295.80 square feet associated with clearing and 4,672 square feet associated with the installation of a construction pad; (ii) 50'-150' natural woodland buffer – 2,028 square feet associated with clearing and 12,105 square feet associated with installation of a construction pad; and (iii) 150'-250' shoreland buffer – 870.1 square feet associated with clearing and 11,494.6 square feet associated with installation of a construction pad. App. 34, Table 1. The Applicant anticipates that the Project will have temporary impacts on protected shoreland at the Oyster River Crossing in Durham: (i) 0'-50' waterfront buffer – 4,926.8 square feet associated with clearing and 6,671.1 square feet associated with installation of a construction pad and construction of access roads; (ii) 50'-150' natural woodland buffer – 10,168.4 square feet associated with clearing and 11,460 square feet associated with installation of a construction pad and construction of access roads; and (iii) 150'-250' shoreland buffer – 11,255.9 square feet associated with clearing and 11,587.3 square feet associated with installation of a construction pad and construction of access roads. App. 34, Table 2. The Applicant also seeks to place two monopole structures in the waterfront buffer and

in the protected shoreland buffer. App. 34, at 4, Table 2. Each monopole will permanently impact 112.5 square feet. App. 34, at 4, Table 2.

On May 12, 2016, the NHDES Water Division issued Shoreland Protection Permits for the following three locations: (i) 44 Gundalow Landing in Newington (6,078 square feet); (ii) Main Street in Durham (29,943 square feet); and (iii) 295 Durham Point Road in Durham (17,311 square feet). Comm. 12c. These permits contain, among others, the following Project specific conditions:

- All work shall be in accordance with plans by Normandeau Associates dated January 7, 2016, and received by NHDES on April 14, 2016;
- The permit does not authorize the removal of trees or saplings within the waterfront buffer that would result in a tree and sapling point score below minimum required per RSA 488-B:9, V, (a), (2), (D), (iv);
- All activities conducted in association with the completion of the Project shall be conducted in a manner that complies with applicable criteria of Administrative Rules Chapter Env-Wq 1400 and RSA 483-B during and after construction;
- Erosion and siltation control measures shall be installed prior to the start of work, be maintained throughout the Project, and remain in place until all disturbed surfaces are stabilized;
- Erosion and siltation controls shall be appropriate to the size and nature of the Project and to the physical characteristics of the site, including slope, soil type, vegetative cover, and proximity to wetlands or surface waters;
- No person undertaking any activity in the protected shoreland shall cause or contribute to, or allow the activity to cause or contribute to, any violations of the surface water quality standards established in Env-Ws 1700 or successor rules in Env-Wq 1700; and
- Any fill used shall be clean sand, gravel, rock, or other suitable material.
Comm. 12c.

NHDES limited the area of protected shoreland that may be covered by impervious surfaces without additional approvals: (i) 44 Gundalow Landing –.7%; (ii) Main Street – .4%; and (iii) 295 Durham Point Road – 5%. Comm 12c.

At the time of its decision, NHDES was not aware that the Project is within the jurisdiction of the Committee. On November 30, 2016, NHDES issued a clarification indicating that the May 12, 2016, permits and incorporated conditions should be treated as drafts. On February 28, 2017, NHDES issued a Decision indicating that the permits issued on May 12, 2016, should be treated as final permits. Comm. 12c.

On August 31, 2018, NHDES advised the Subcommittee that the Shoreland Permits should reference plans prepared by Normandeau Associates dated January 11, 2017. App. 183, at 17; Comm. 12c.

b. Deliberations

Neither party argued that the Shoreland Protection Permit should not be adopted by the Subcommittee as proposed by NHDES. Pursuant to RSA 162-H:16, I, the Certificate in this docket is conditioned upon the Applicant's compliance with the conditions, limitations, and mitigation measures identified within the Shoreland Permit, as amended on August 31, 2018, and reflected in Exhibit Comm. 12c. The Shoreland Permit is incorporated into the Certificate to be issued in this docket. Pursuant to RSA 162-H:4, III and Site 301.17(d), the Subcommittee delegates to NHDES authority to monitor the construction and operation of the Project to ensure that terms and conditions of the Shoreland Permit and the Certificate are met. Pursuant to RSA 162-H:4, III-a and Site 301.17(e), the Subcommittee delegates the authority to NHDES to specify the use of any technique, methodology, practice, or procedure approved by the Subcommittee within the Certificate, as may be necessary to effectuate conditions of the Certificate and Shoreland Permit. NHDES may enforce the terms of the Shoreland Permit.

However, any action to enforce the provisions of the Certificate must be brought before the Committee. *See* RSA 162-H:4, I(d).

3. Alteration of Terrain Permit – Department of Environmental Services Section 401 Water Quality Certificate

a. Review and Final Decision

The Applicant filed an Alteration of Terrain Permit application with NHDES on April 12, 2016. App. 35. An Amended Alteration of Terrain Permit application was filed on March 29, 2017. App. 91.

The Alteration of Terrain Permit application states that the Project will be constructed within the watersheds of several stream channels and waterbodies, including the following hydrologic unit code (HUC) 12 watersheds:¹⁰ (i) Bellamy River (HUC 12 010600030904); (ii) Oyster River (HUC 12 010600030904); (iii) Lower Lamprey River (HUC 12 010600030904); (iv) Great Bay (HUC 12 010600031001); and (v) Portsmouth Harbor (HUC 12 010600031001). App. 35, at 15. Each identified local watershed has several smaller contributing streams and rivers. App. 35, at 15. The Alteration of Terrain Permit application states that the Project will cause approximately 1,705,961 square feet of total disturbance and 7,226 square feet of impervious cover. App. 91, at 2. Blasting of bedrock will be required and approximately 1,100 cubic yards of blast rock will be generated. App. 91, at 3.

The Alteration of Terrain Permit application states that, according to the NHDES One Stop GIS database and the 2012 Surface Water Impairments listing, “nearly” the entire Project corridor will be within one mile of an impaired freshwater waterbody. App. 35, at 15.

¹⁰ Hydrologic unit codes (HUC) reference hydrologic units identified in the Watershed Boundary Dataset of the Environmental Protection Agency. HUC 12 is used to identify local sub-watershed level units including tributary systems.

On February 28, 2018, NHDES issued a Final Decision recommending approval of the Alteration of Terrain application, subject to the following Project specific conditions:

- Revised plans shall be submitted in writing prior to the start of construction and upon completion of construction;
- All activities shall comply with the plans and information provided with the Alteration of Terrain Application submitted as part of the application to the Committee;
- The Applicant shall identify to NHDES all marshalling yards, laydown areas, and off-right-of-way access ways not currently identified for review prior to their construction;
- Removal of vegetation within 50 feet of all surface waters (including wetlands) shall be minimized to the maximum extent practicable to reduce the potential for erosion and deposition of material into the surface waters, to protect rare, threatened and endangered species and habitats and to minimize the potential for increases in water temperature increases that could be harmful to aquatic life. Limits of clearing will be clearly marked in the field prior to construction to prevent inadvertent excursion beyond what is necessary;
- The Applicant shall employ the services of an environmental monitor. The monitor shall be a Certified Professional in Erosion and Sediment Control or a Professional Engineer licensed in the State of New Hampshire and shall be employed to inspect the site from the start of alteration of terrain activities until the alteration of terrain activities are completed and the site is considered stable;
- During this period, the monitor shall inspect the subject site at least once a week, and, if possible, during any ½ inch or greater rain event (i.e. ½ inch of precipitation or more within a 24-hour period). If unable to be present during such a storm, the monitor shall inspect the site within 24-hours of this event;
- The inspections shall be for the purposes of determining compliance with the permit. The monitor shall submit a written report to NHDES within 24-hours of the inspections. The reports shall describe, at a minimum, whether the Project is being constructed in accordance with the approved sequence, shall identify any deviation for the conditions of this permit and the approved plans, and identify any other noted deficiencies; and
- Unless otherwise authorized by NHDES, the Applicant shall keep a sufficient quantity of erosion control supplies on the site at all times during construction to facilitate an expeditious (i.e., within 24-hours) response to any construction related erosion issues on the site.
Comm. 12c, at 5-6.

Construction of the Project will involve the discharge of dredge or fill material into surface waters of the United States and, therefore, requires a Federal Clean Water Act Section 404 (33 U.S.C. 1344) permit from the United States Army Corps of Engineers. Under 33 U.S.C. 1341 (Section 401 of Clean Water Act Water) and RSA 458-A:12, III, construction of the Project requires a Section 401 Water Quality Certification. A Water Quality Certification application was filed with the NHDES Water Division on April 12, 2016. App. 33. It was amended and supplemented on March 29, 2017. App. 89.

On February 28, 2018, NHDES issued a Final Decision stating that the United States Army Corps of Engineers indicated that the Section 404 General Permit (the New Hampshire Programmatic General Permit) applies to the Project. NHDES further advised that it has determined that compliance with a 401 Water Quality Certification (WQC # 2017-404P-001) for the Programmatic General Permit and the conditions for the Alteration of Terrain and Wetlands Permits “provide[s] reasonable assurance that construction and operation of the [Project] will not violate surface water quality standards.” Comm. 12c, at 24.

b. Deliberations

The parties do not dispute that the Alteration of Terrain Permit should be approved as proposed by NHDES. Pursuant to RSA 162-H:16, I, the Certificate in this docket is conditioned upon the Applicant’s compliance with the conditions, limitations and mitigation measures identified within the Alteration of Terrain Permit. The Certificate also is conditioned upon the Applicant’s compliance with the Section 404 General Permit (the New Hampshire Programmatic General Permit) and the 401 Water Quality Certification. The Alteration of Terrain Permit is incorporated into the Certificate to be issued in this docket. Pursuant to RSA 162-H:4, III and Site 301.17(d), the Subcommittee delegates to NHDES its authority to monitor the construction

and operation of the Project to ensure that terms and conditions of the Alteration of Terrain Permit, Section 404 General Permit (the New Hampshire Programmatic General Permit), the 401 Water Quality Certification, and the Certificate are met. Pursuant to RSA 162-H:4, III-a and Site 301.17(e), the Subcommittee delegates to NHDES the authority to specify the use of any technique, methodology, practice or procedure approved by the Subcommittee within the Certificate, as may be necessary to effectuate conditions of the Certificate, the Alteration of Terrain Permit, Section 404 General Permit (the New Hampshire Programmatic General Permit), and the 401 Water Quality Certification. NHDES may enforce the terms of the Alteration of Terrain Permit. *See* RSA 162-H:12, IV. However, any action to enforce provisions of the Certificate must be brought before the Committee. *See* RSA 162-H:4, I(d).

4. Department of Environmental Services – Additional Recommendations

While not set forth as a condition to the permits, NHDES recommended that the Subcommittee “consider having the Applicant” conduct a more thorough evaluation of the Horizontal Directional Drilling (HDD) method for installing cable under Little Bay. Comm. 12a, at 1-2.

NHDES also recommended that the Subcommittee require the Applicant to conduct a trial jet plow run (without cable) in Little Bay and submit: (i) a Jet Plow Trial Plan for NHDES approval at least ninety days prior to conducting the trial; and (ii) a report summarizing the jet plow trial to NHDES and the Committee at least ninety days prior to the proposed cable installation. Comm. 12a, at 3. NHDES indicated that, upon receipt and review of the report, it might provide further recommendations to the Applicant and to the Committee. Comm. 12a, at 3.

On August 31, 2018, NHDES stated that it agreed to allow the Applicant to conduct a jet plow trial within twenty-one days of the scheduled cable installation date, provided that a complete trial summary report will be provided to NHDES fourteen days prior to the scheduled start of the submarine cable installation in Little Bay. Comm.12b, at 2-3.

On October 29, 2018, NHDES recommended that the Subcommittee consider the following conditions for the jet plow trial run, if the Subcommittee determines that construction of the Project should proceed by jet plow and a jet plow trial run is warranted:

The Applicant shall, unless otherwise authorized by NHHNHDES, comply with the following:

- At least 90 days prior to the trial, the Applicant shall submit a Jet Plow Trial Plan (JPTP) to NHDES for approval and then implement the approved plan. The JPTP shall describe in detail how and when the trial and monitoring will be conducted and results reported.
- At least 14 days prior to the scheduled start of submarine cable installation in Little Bay, the Applicant shall submit a jet plow trial run summary report to the SEC and NHDES that addresses the following:
 - how well the model predicts the sediment plume;
 - how well the water quality monitoring plan works (including communication between the monitors and jet plow operators) and what if, any, modifications to the plan are necessary;
 - water quality monitoring results within the mixing zone and at the boundary;
 - how measures taken to reduce sediment suspension due to jet plowing (including, but not limited to jet plow speed and pressure reductions) impact water quality;
 - if results suggest that cable installation by jet plowing is likely to meet NH surface water quality standards; and
 - if any additional sediment suspension reduction measures are needed to help ensure surface water quality standards will be met.

Installation of submarine cable in Little Bay shall not proceed until authorized by NHDES and the SEC.

Comm. 12c, at 17.

a. Positions of the Parties

(1) Applicant

The Applicant filed the following documents addressing the NHDES recommendations:

(i) a Report entitled “Comparison of Jet Plow and Horizontal Directional Drilling Techniques and Impact for 115-kV Cable Burial under Little Bay;” (ii) joint pre-filed testimony of Kenneth Bowes, David Plante, Nicholas Strater, and Marc Dodeman; and (iii) joint pre-filed testimony of Sarah Allen, Ann Pembroke, and Kurt Nelson. App. 133, 134, 135.

The Applicant’s experts testified that they evaluated two HDD design configurations for Little Bay crossing: (i) full HDD¹¹; and (ii) shore landing HDD.¹² App. 134, at 7. Both design options would require installation of 6 power cables and 2 fiber optic communications cables to provide the required ampacity and meet the open sheath voltage requirements for the Project. App. 134, at 7.

For the full HDD option, manholes would have to be installed on both sides of Little Bay to transit from the HDD installation to the terrestrial duct bank system. App. 134, at 7. The cables installed in the HDD bores would be pulled into the manholes and would be spliced to underground cables in an underground duct bank system from the manhole in Newington and from the manhole to the riser structure in Durham. App. 134, at 7-8.

For the shore landing HDD option, manholes would have to be installed on both sides of Little Bay to transition from the HDD installation to the riser structure. App. 134, at 8. On the Durham side of Little Bay, the cables would run to a manhole and then to the riser structure.

¹¹ A single complete bore from a point in Durham to an end point in Newington with the bore completely under Little Bay. App. 134, at 5.

¹² Shore landing HDD from the shore in Durham out to a location where the cable could be installed by jet plow with a second HDD from the shore in Newington to a location where the cable could be installed by jet plow. App. 134, at 6.

App. 134, at 8. At the riser structure, six conductors would be brought up the pole and connected to the overhead line. App. 134, at 8.

The Applicant's experts testified that HDD was not selected as a construction method for the Project for several reasons. App. 134, at 18. They claim that HDD would require at least 30,000 square feet of workspace on each shore of the Bay for drilling and other support equipment and the Applicant does not have property rights required for such construction. App. 134, at 8-9. On the Newington side of Little Bay, the existing easements owned by the Applicant do not allow for the type or scope of HDD construction and the staging area for HDD installation on the Durham side would have to extend beyond the land owned by the Applicant. App. 134, at 9. Mr. Bowes clarified that for: (i) full HDD the Applicant would have to acquire property rights for 11 properties in Durham and 2 properties in Newington; and (ii) shore landing HDD the Applicant would have to acquire property rights for 5 properties in Durham and 10 properties in Newington. Tr., Day 1, 08/29/2018, Afternoon Session, at 166.

The Applicant's experts also assert that delivery of HDD equipment would require developing additional traffic controls. App. 134, at 9-10. They claim noise and construction traffic associated with HDD operations would be significant. App. 134, at 15.

The estimated time for a full HDD installation is approximately 28 months. App. 134, at 14. The estimated time for completing HDD for shore landings is approximately 10 months. App. 134, at 17. It would require additional 3 weeks for the jet plow installation process and one month for hand jetting installation. App. 134, at 17.

The estimated cost of the Project incorporating the full HDD option is approximately \$132 million more than using full jet plow installation. App. 134, at 15. The estimated cost of the Project incorporating two shore landing HDD installations (including the additional cost for

the jet plow installation between the two shore landings) is approximately \$100 million more than using full jet plow installation. App. 134, at 17.

The Applicant's experts claim they would have to conduct approximately 7 (full HDD) or 4 (shore landing HDD) additional sample test borings to a depth of approximately 20 feet below the planned borehole depth (up to 90 feet below the Bay bottom). App. 134, at 10; App. 135, at 3, 6. The borings would cause sediment disturbance and direct impacts to organisms from the studs used to hold the barge stationary. App. 135, at 3, 6. They also would cause minor turbidity from the drilling process. App. 135, at 3, 6. The Applicant would have to work with NHDES to acquire the appropriate permits for the additional geotechnical investigations. App. 135, at 3. They also claim that subsurface conditions across Little Bay increase the likelihood of an unsuccessful drill attempt. App. 134, at 10.

The Applicant's contractors used the results of the geophysical survey and conducted a preliminary annular pressure analysis ("frac-out" analysis) evaluating the risk of inadvertent return¹³ during pilot hole drilling. App. 134, at 10. They admit that the annular pressure analysis does not exactly predict the location or degree of an inadvertent return. App. 134, at 11. It also does not accurately predict borehole leakage. App. 134, at 11. The results of the analysis indicate, however, that: (i) the risk of inadvertent return is greater in the middle of Little Bay for the full HDD option; (ii) the risk of inadvertent return is greater near HDD exits for the shore landing HDD option; and (iii) the risk of inadvertent return associated with the shore landing HDD option appears to be greater than the risk associated with the full HDD option. App. 134, at 11. The Applicant's experts conclude there is a risk of an inadvertent return occurring while installing the Project using HDD across Little Bay. App. 134, at 11. The extent and

¹³ An inadvertent return is a condition whereby the drilling mud (bentonite slurry) being pumped into the borehole during drilling operations finds a point of egress through a fracture and seeps out onto the surface. App. 134, at 10.

concentration of bentonite resulting from an inadvertent return would depend on the severity of the return, the location, and the tide stage in Little Bay. App. 134, at 4. The bentonite clay-based drilling fluid has the potential to smother marine organisms if an inadvertent return occurs. App. 135, at 3. The inadvertent return may clog the gills and filters of small embedded or attached organisms in the bottom sediment. App. 135, at 3. A larger release may cause injury or death to larger non-mobile organisms such as shellfish and oysters. App. 135, at 3. Depending on the time of the year and the volume of the inadvertent return, it is possible (not probable) that the bentonite plume will reach and settle on live eelgrass beds mapped south of the Project hindering photosynthesis and productivity of the eelgrass. App. 135, at 3; Tr., Day 5, 09/20/2018, Morning Session, at 107-109.

With an inadvertent return, the Applicant most likely would have to confine the plume with a gravity cell and suction up any detectable bentonite in the water column or settled on the bottom. App. 135, at 4. It would cause a bottom disturbance within the footprint of the cell and a loss of substrate as the surface sediments would be suctioned up. App. 135, at 4. Organisms within those surface sediments, including benthic macroinvertebrates and shellfish, would die. App. 135, at 4. Suctioning the bottom sediments to recover the bentonite not contained by the gravity cell would cause sediment loss and mortality of benthic organisms. App. 135, at 4. The egg and larval stages of fish and shellfish, plankton, and other floating organisms would be entrained during the suction process. App. 135, at 4.

The Applicant's experts conclude, however, that "[s]imilar to impacts from the proposed jet plow operation, HDD impacts to Little Bay are expected to be relatively minor and temporary, with recovery expected by the next growing season." App. 135, at 4, 7.

Ann Pembroke, Sarah Allen, and Kurt Nelson testified that an inadvertent return may also happen on the land-based portion of the HDD and remedial activities associated with such return may cause additional surface disturbance, including impacts to surface water, vegetation, and soils. App. 135, at 5.

They explain that full HDD would temporarily impact approximately 2.7 acres of freshwater wetlands and one stream. App. 134, at 5. A shore landing HDD would impact 2.9 acres of wetland and 3.7 acres of subtidal wetlands. App. 135, at 5, 8-9. Wetlands would be protected with timber mats and erosion controls. App. 135, at 5, 8. The vegetation under mats most likely would not survive. App. 135, at 5, 8. Full HDD also would cause some wildlife mortality due to smaller animals attempting to cross the workspace and either getting caught in equipment or crushed by traffic. App. 135, at 6, 9. It would not impact salt marshes and would not require installation of concrete mattresses. App. 135, at 5.

With respect to a shore landing HDD, the Applicant's experts claim that if vibratory hammers are used, vibration resulting from the use of the hammers would affect behavior or cause injury to fish. App. 135, at 7. They assert that the plume caused by jet plowing would be similar to the plume that may be caused by jet plow as proposed under the entire Bay. App. 135, at 8. Deposition in the channel, however, would be greater due to an increase in the number of cables that would have to be buried. App. 135, at 8.

The Applicant agrees, if required to use HDD: (i) to develop an HDD design, to the maximum extent feasible, which would minimize the risk of inadvertent returns; and (ii) to require its HDD contractor to monitor and control downhole drill fluid pressures during drilling. App. 134, at 12. As to remedial measures for inadvertent returns that may happen at the land-based portions of HDD, the Applicant agrees to contain returns by using hay bales and to remove

it using shallow surface excavation, hand tools, and vacuum tracks. App. 135, at 10. For inadvertent returns in Little Bay, the Applicant agrees to use silt booms and a gravity cell. App. 135, at 10.

The Applicant presented a table summarizing the comparison and associated issues between HDD options and a jet plow method and it is included as Attachment A to this Decision.

Mr. Quinlan and Mr. Andrew testified there is a possibility that additional costs associated with HDD will be localized by ISO-NE and must be paid by New Hampshire ratepayers alone and not regionalized. Tr., Day 1, 08/29/2018, Afternoon Session, at 53-54; Tr., Day 4, 09/18/2018, Afternoon Session, at 11-12.

The Applicant's experts conclude that the "potential risks and technical challenges for HDD are significantly outweighed from its benefits for this Project." App. 134, at 19.

As to a trial jet plow run, the Applicant agrees to conduct a 1,000-foot trial jet plow run near the eastern end of the western tidal flat approximately 21 days prior to cable installation. App. 140, at 3; Tr., Day 6, 09/21/2018, Morning Session, at 69. The Applicant agrees to provide the results of the trial jet plow run to NHDES fourteen (14) days before commencing cable installation, with the understanding that NHDES will issue a final approval seven days after receipt of the jet plow trial run sampling data results. App. 140, at 3.

(2) Counsel for the Public

Counsel for the Public's expert, Payson R. Whitney, III, testified that installation of the submarine cables by jetting is a well-proven, low-impact, and short duration methodology that is used around the world for installing submarine electric and fiber optic telecommunication cables. CFP 2, at 8. He opines that shore land HDD is very common where nearshore impacts must be

avoided. CFP 2, at 8. In comparing HDD to jetting, Mr. Whitney provided the following opinion:

Switching from hand-jetting to HDD at the Little Bay landfalls may reduce certain nearshore impacts while simultaneously introducing new impacts (e.g., increased construction noise, changes in construction duration). These new impacts would be significantly increased if HDD is selected to install the cable across the entire 1.1 mile width of Little Bay while the impact to water quality or sediments would be likely eliminated unless a frac-out occurs. From review of the project maps submitted to the record, both landfalls appear to be located adjacent to residential properties, and the addition of HDD to the project could result in increased impact to these residences when compared to the jetting installation proposed by the Applicant.
CFP 2, at 8.

Counsel for the Public submitted a table summarizing and comparing potential impacts from HDD and jet plowing, that can be found as Attachment B to this Decision.

As to the jet plow trial, Counsel for the Public's expert testifies that trials are typically performed approximately one to two weeks prior to installation of submarine cables. CFP 2, at 10. He explains that performance of jet plow trials close to the time of construction assures that: (i) the trials will use the same equipment and personnel used for the cable installation; (ii) the trials are conducted during the same seasonal condition as the installation; and (iii) vessel crews will familiarize themselves with similar tidal, current, and navigational conditions. CFP 2, at 10. To comply with the NHDES recommendation (submission of the report on jet plow trial 90 days prior to the installation), however, the trial would have to be performed at least 120 days before the installation. CFP 2, at 10. Besides losing the advantage of a timely performed trial, it would cause the Applicant to incur additional costs associated with a separate mobilization and demobilization of the equipment to and from the Site. CFP 2, at 10-11. These costs would be passed on and be borne by ISO-NE ratepayers. CFP 2, at 11.

Counsel for the Public's expert notes that the Applicant failed to provide detailed cost estimates for HDD, as requested by NHDES. CFP 2, at 8. He confirms, however, that using HDD would be significantly more expensive than using the jet plow method. CFP 2, at 8.

Counsel for the Public's expert does not provide an opinion as to which method of installation of submarine cable the Applicant should utilize. CFP 3, at 8. He asserts he was retained to inform and assist the Subcommittee with its decision-making. CFP 3, at 8. It is up to the Subcommittee to decide which method of installation should be utilized. CFP 3, at 8.

(3) Town of Durham

Claiming uncertainty in the sediment reports provided by the Applicant, Durham's experts request that the Subcommittee order the Applicant to conduct the jet plow trial run. TD/UNH 3, at 3; *see* Post-Hearing Brief, at 16. They argue that the timing of the trial run should allow NHDES to review and respond to the results of the trial and to allow the Applicant to incorporate any requests that NHDES may make. TD/UNH 3, at 4. They challenge the Applicant's ability to prepare a meaningful report for review by NHDES within seven days of the trial plow run. Tr., Day 13, 10/23/2018, Morning Session, at 123, 176-177. They argue that it would be more appropriate to allow the Applicant to spend between 14 and 30 days on preparing a report identifying the results of the trial plow run. Tr., Day 13, 10/23/2018, Morning Session, at 192-193.

The Town submits that the Subcommittee is precluded from delegating authority to review and approve the results of a jet plow trial run to NHDES. *See* Post-Hearing Brief, at 31-32. The Town argues that it is the Subcommittee, not NHDES, who must assess the Project's impact on water quality and the natural environment. *See* Post-Hearing Brief, at 31-32. It may determine and ascertain such impacts, however, only after it reviews the results of the trial. *See*

Post-Hearing Brief, at 31-32. As an alternative, if the Subcommittee issues the Certificate, Durham requests that the Subcommittee establish a process for making the results of the jet plow trial run available for review, comment, and a hearing before the Subcommittee, making sure there is a reasonable and practicable timeframe for thorough review, comments, and consideration, before jet plowing may proceed. *See* Post-Hearing Brief, at 36.

b. Deliberations

The Project, as currently proposed and permitted by NHDES, contemplates construction under Little Bay using jet plow. Both Applicant's and Counsel for the Public's experts, pursuant to NHDES' recommendation and the Subcommittee's Order, provided the Subcommittee with a description of the HDD process that would be required for installation of the Project under Little Bay. They also compared it to the currently proposed jet plow process. The information provided to the Subcommittee indicates that installation of the Project by HDD would require significantly more time and money. Additional costs of construction may be considered as unreasonable by ISO-NE and may be localized by ISO-NE. More importantly, it would require acquisition of land rights that the Applicant does not have. The probability of an inadvertent return and its intensity cannot be ascertained at this time.

Counsel for the Public's experts did not favor HDD over jet plow and did not recommend that the Subcommittee order the Applicant to use HDD. They did confirm, however, that jet plow represents a reliable well-proven method for installing cables that was successfully utilized before. The Subcommittee received no other expert testimony on the issue of HDD as compared to jet plow in Little Bay.

The Subcommittee received a number of public comments and arguments asserting that HDD should be utilized. These comments and arguments, however, were not supported by

empirical evidence and were not presented by experts in the field. They indicated a lack of understanding of the HDD process and its potential impacts on local residents and Little Bay. They did not consider that HDD would require the acquisition of additional property rights, would cause construction noise that would last for months, would require larger marshalling yards, and would be the longest HDD ever performed.

Testimony and reports filed with the Subcommittee did not evaluate and did not provide any information that would allow it to ascertain with certainty the impacts HDD would have on historic properties, aesthetics, water quality, and natural environment. At best, they briefly addressed potential impacts without providing any level of detail. They indicate, however, that HDD constitutes an entirely different method of construction that would require acquisition of additional real estate rights and would cause entirely different impacts. It would require developing construction plans and obtaining different permits. The proponents of HDD would ask the Subcommittee to issue a certificate authorizing construction with project impacts that remain unknown. In contrast, testimony and reports submitted by the Applicant and Counsel for the Public indicate that jet plow is a reliable method that is commonly used for installation of cables. It was approved by NHDES. The impacts on aesthetics, historic sites, natural environment, water quality, economy, value of real estate, and public health and safety were fully addressed and evaluated in testimony and evidence before the Subcommittee. Requiring the Applicant to conduct HDD is not supported by sufficient evidence in the record. The Subcommittee will not require the use of a construction method, the impacts of which remain unknown. The Project shall be constructed using the method proposed by the Applicant.

The Applicant's assessment of the jet plow's impact on Little Bay is based on modeling conducted by its experts. The Applicant's experts are confident in the accuracy of their models.

The Intervenor's argue that the Applicant's models are unreliable because they failed to account for a number of variables (wind, speed of jet plow, consistency of jet plow, etc.). The Applicant's construction experts respond by stating that the Applicant is willing to conduct a jet plow trial run that will verify the accuracy of the modeling. They are confident that the jet plow trial run will confirm the accuracy of the modeling and, if minor variations are detected, they will be addressed by adjusting the jet plow process. Counsel for the Public's experts confirm that jet plow trial runs are common in the industry and are helpful in assessing the impacts that jet plow may cause in each particular location. NHDES recommends that the Subcommittee require the Applicant to conduct the jet plow trial run.

Considering the fact that the Applicant's assessment of impact on Little Bay is based on results of modeling, it is reasonable to require the Applicant to conduct a jet plow trial run in order to confirm the accuracy of the modeling and to collect data that would allow mitigation and minimization measures that may be implemented prior to the beginning of construction. NHDES has sufficient expertise and experience to review the results of a jet plow trial run and to develop appropriate minimization and mitigation measures. No independent review of the results of the jet plow trial by the Subcommittee is needed. The Subcommittee agrees, however, that results of the jet plow trial run should be readily available to the public and should be posted on both the Applicant's and the Committee's website.

The Subcommittee understands Durham's concerns that NHDES may not be able to review and address the results of the jet plow trial run within fourteen days. Apart from generalized concerns about the quality of the reports and NHDES' resources, Durham does not state any facts indicating that NHDES, in fact, will not be able to conduct such review. NHDES, however, indicates that it will be able to conduct such review within this time frame. The

Subcommittee gives significant weight to NHDES' determination because it is in a better position to ascertain its resources and to determine whether such review can be completed. The Applicant is required to provide the results of the jet plow trial run to NHDES and the Committee fourteen days before the scheduled start of the submarine cable installation.

The Subcommittee is cognizant of the fact that the results of the jet plow trial run may indicate that modeled predictions were inaccurate and no adjustments can be made to address the Project's impact. If no additional trial runs are allowed to refute the results of the first trial run, the Project will not be constructed within the anticipated construction period. That, in turn, will cause delay in resolving the reliability needs of the region. The Subcommittee, however, received no testimony indicating the impacts that such multiple trials may have on water quality and the natural environment. In fact, there was no testimony whatsoever presented indicating that multiple trial runs may be required. The Applicant and its experts stated that they are confident in the accuracy of modeled results and the ability to adjust the jet plow, if required, after a single trial run. The Applicant does not request authority for a subsequent jet plow trial. The Subcommittee gives due weight to the expert testimony and finds that one jet plow trial run is sufficient to confirm the Applicant's estimates and to demonstrate the adjustments that should be made.

The recommended condition by NHDES reserves its authority to decide that a jet plow trial is not warranted. Having decided that jet plow trial run is required, the Subcommittee refuses to allow NHDES authority to cancel the jet plow trial run. Considering the aforementioned, the Certificate is conditioned upon the following:

- At least 90 days prior to the trial, the Applicant shall submit a Jet Plow Trial Plan (JPTP) to NHDES for approval. The JPTP shall be provided to the Committee to be posted on the Committee's

website. The JPTP shall describe in detail how and when the trial and monitoring will be conducted and results reported.

- The Applicant shall conduct one jet plow trial run in accordance with the JPTP as approved by NHDES.
- At least 14 days prior to the scheduled start of the submarine cable installation in Little Bay the Applicant shall submit a jet plow trial run summary report to NHDES and to the Committee, for posting on the Committee's website, and that addresses the following:
 - how well the model predicts the sediment plume;
 - how well the water quality monitoring plan works (including communication between the monitors and jet plow operators) and what if, any, modifications to the plan are necessary;
 - water quality monitoring results within the mixing zone and at the boundary;
 - how measures taken to reduce sediment suspension due to jet plowing (including, but not limited to jet plow speed and pressure reductions) impact water quality;
 - if results suggest that cable installation by jet plowing is likely to meet NH surface water quality standards; and
 - if any additional sediment suspension reduction measures are needed to help ensure surface water quality standards will be met.
- Installation of the submarine cable in Little Bay shall not proceed until authorized by NHDES.

NHDES is authorized to permit installation of the Project by jet plow under Little Bay.

5. Historical Resources – Department of Natural and Cultural Resources, Division of Historical Resources

a. Review and Final Decision

The Applicant filed a Phase I-A Preliminary Archaeological Survey and three addendums with the New Hampshire Division of Historical Resources (DHR). App. 28. The Applicant supplemented the Application and filed a number of historical resource survey forms with the Subcommittee and DHR. App. 112-119, 162-165, 174-175.

On June 20, 2017, DHR advised the Subcommittee that it reviewed the archaeological studies and determined that no significant archaeological sites will be affected by the Project.

Correspondence from DHR (June 20, 2017), at 1. DHR also indicated that, if the Project's plans change, the Applicant should consult with DHR on the need for appropriate evaluative studies, determination of National Register eligibility, and mitigation measures. Correspondence from DHR (June 20, 2017), at 1.

DHR also reviewed aboveground studies and determined that the Project will have an adverse effect on the following aboveground historic properties listed or eligible for listing in the National Register of Historic Places: (i) Alfred Pickering Farm located as 339 Little Bay Road in Newington; (ii) Durham Point Historic District in Durham; (iii) Little Bay Underwater Cable Terminal House Historic District in Durham/Newington; and (iv) Newmarket and Bennett Roads Farms Historic District in Durham. Correspondence from DHR (June 20, 2017), at 2.

Based on the impact of the Project on these historic properties, DHR made a final finding of an "Adverse Effect." Correspondence from DHR (June 20, 2017), at 2. DHR further indicated that it was concerned with the physical impact of the Project on historic walls and features that contribute to the rural character of the area, impacts to the Cable Terminal House in Durham and the introduction of visual changes, such as large scale towers and additional transmission lines near or at historic properties. Correspondence from DHR (June 20, 2017), at 2. DHR stated that the Applicant should continue its consultations with DHR to avoid, minimize, or mitigate the identified adverse effects. Correspondence from DHR (June 20, 2017), at 2.

On August 1, 2017, DHR submitted a Final Report. App. 167. DHR confirmed its determination of no effect on archaeological sites and confirmed its determination of an "Adverse Effect" on four aboveground historic resources. App. 167.

DHR also reported that the US Army Corps of Engineers determined the portion of the Project within its jurisdictional permit area will have an adverse effect on the Little Bay Underwater Cable Terminal Houses Historic District. App. 167.

The Applicant entered into a Memorandum of Understanding with DHR and a Memorandum of Agreement with US Army Corps of Engineers and the DHR. App. 200; App. 200, Att. A; Tr., Day 10, 10/16/2018, Morning Session, at 54. The Memorandum of Understanding reflects the Applicant's agreement to minimize the visual impact of the Project on the Alfred Pickering Farm by using a weathering steel H-frame structure and by publishing a publicly oriented booklet that will provide a brief history of agriculture in Newington from its founding to the present. App. 200, at 2. The Applicant agreed to minimize the Project's impact on stone walls within the Durham Point and the Newmarket & Bennett Roads Farms Historic Districts by: (i) not traversing the walls; (ii) traversing the walls through existing breaches; (iii) traversing the walls using timber matting; or (iv) placing the work pads on top of timber matting to elevate the work pad above the walls. App. 200, at 3-4; Tr., Day 10, 10/16/2018, Morning Session, at 16-17.

DHR requests that the Subcommittee condition the Certificate upon the following requirements: (i) the Applicant should comply with stipulations in the mitigation documents executed by DHR, United States Army Corps of Engineers, and the Applicant; (ii) if the Applicant changes plans for the proposed Project and such changes may lead to newly-discovered effects on historic properties, the Applicant should consult with DHR to resolve any adverse effects to such properties; (iii) if any unanticipated archaeological resources, historic properties, or other cultural resources are discovered as a result of Project planning or construction, the Applicant should consult with DHR to determine the need for appropriate

evaluative studies, determinations of National Register eligibility, and/or mitigation measures, if needed, to resolve adverse effects; and (iv) DHR is authorized to specify the use of any appropriate technique, methodology, practice or procedure associated with archaeological, historical, and other cultural resources affected by the Project. App. 167, at 3.

b. Deliberations

The Parties did not challenge DHR's determination and recommendations.¹⁴

The Certificate is conditioned upon the Applicant's compliance with the Memorandum of Understanding executed by DHR and the Applicant (App. 200) and the Memorandum of Agreement executed by US Army Corps of Engineers, DHR, and the Applicant (App. 200, Appx. A). The Memorandum of Understanding and the Memorandum of Agreement shall remain in effect for purposes of this Decision and Order regardless of whether they are terminated by the parties.

If the Applicant changes plans for the Project and such changes may lead to newly-discovered effects on historic properties, the Applicant shall consult with DHR/SHPO to resolve any adverse effects to such properties. If any unanticipated archaeological resources, historic properties, or other cultural resources are discovered as a result of Project planning or construction, the Applicant shall consult with DHR/SHPO to determine the need for appropriate evaluative studies, determinations of National Register eligibility, and/or mitigation measures, if needed, to resolve adverse effects. The Applicant shall continue consultations with DHR and U.S. Army Corps of Engineers. In accordance with RSA 162-H:4, III-a, the Subcommittee delegates to DHR the authority to specify the use of any appropriate technique, methodology, practice, or procedure associated with architectural, historical, or other cultural resources

¹⁴ The section addresses the findings of DHR only. The effect of the Project on historic sites is addressed in more detail in Section V.D.2., below.

affected by the Project. However, any action to enforce the provisions of the Certificate must be brought before the Committee. *See* RSA 162-H:4, I(d).

6. State Fire Marshal

The Applicant filed an e-mail from the Assistant Director/Deputy State Fire Marshal dated February 9, 2015. App. 31. The Department of Safety Office of the Fire Marshal determined that there is no need for it to be involved in the “planning” of the Project. App. 31.

7. Department of Transportation

a. Review

The Applicant filed the following Permit Applications with the Department of Transportation (DOT):

- Use and Occupancy Agreements;
- Aerial Utility Permit applications;
- Excavation (trench) permit application; and
- Turnpike encroachment agreement application.

App. 36; 92.

The Applicant requests that DOT authorize the following aerial crossings over State highways: (i) Madbury Road in the Town of Madbury; (ii) Route 4 in Durham; (iii) Route 108 in Newmarket; (iv) Spaulding Turnpike: Ramp 1 in Newington; (v) Spaulding Turnpike: Ramp 2 in Newington; (vi) Spaulding Turnpike: Mainline in Newington; and (vii) Woodbury Avenue in Newington. App. 36, Att. A; App. 92, Att. A. The Applicant requests that DOT grant the Use and Occupancy Agreements required for limited access right-of-way (LAROW) crossings.

App. 36.

As to the excavation (trench) permit application, the Applicant requests that DOT authorize a disturbance of the pavement, shoulders and slopes on the north side of Route 4 in Durham. App. 36, Att. B.

In its Turnpike Encroachment Permit Application, the Applicant requests a temporary encroachment agreement within the LAROW of the Spaulding Turnpike in the vicinity of Exit 1. App. 36, Att. C.

On November 21, 2017, the Subcommittee received a progress report from DOT. The DOT progress report contains two general comments and eight site specific comments regarding concerns or lack thereof for certain road crossings. The general comments advise the Applicant that the type of right-of-way must be shown on the plan sheets and environmental maps. In addition, the Applicant was advised that bridge abutment locations must be shown on the plan sheets.

In the progress report, DOT reports the following site specific comments:

Madbury Road Crossing

1. Proposed and existing facilities will be a construction concern for future maintenance and replacement of the bridge. NHDOT requests the crossings be moved northwest to not be over the bridge. Coexisting and proposed facilities be co-located on the same poles where crossing the right-of-way of Madbury Road.
2. Proposed construction access from outside the CAROW is acceptable.

NH 4 Crossing

1. Proposed and existing facilities will be a construction concern for future maintenance and replacement of the bridge, especially the angle crossing from separate pole structures on the north side of NH 4 to a single pole structure on the south side of NH 4. NHDOT requests the existing and proposed crossings be moved westerly to not be over the bridge on single pole structures crossing NH 4.
2. Proposed construction access from outside the ROW is acceptable.

NH 108

1. No concerns with the proposed aerial facilities crossing NH 108 on the same pole structures as the existing facilities outside the ROW.

2. Proposed construction access needs to be shown.

Spaulding Turnpike Ramp 1 (Woodbury Avenue Extension)

1. No concerns with the existing aerial facilities proposed to be relocated northerly and proposed aerial facilities located southerly of the relocated existing facilities across Woodbury Avenue Extension.
2. Proposed construction access from Woodbury Avenue Extension as stated in the Use & Occupancy Agreement created for the Newington-Dover 11238-M project when existing electric facilities were relocated within Eversource Energy's existing easement is acceptable.

Spaulding Turnpike Ramp 2 (Spaulding Turnpike Southbound Off and On-Ramp)

1. Proposed northwest relocated structure #11 and new structure #125 are too close to the edge of pavement of the Southbound Off-Ramp and need to move northwesterly to the area of the existing structure #11.
2. Proposed construction access for northwest structures (#11 & #125) from Woodbury Avenue Extension as stated in the Use & Occupancy Agreement created for the Newington-Dover 11238-M project when existing electric facilities were relocated within Eversource Energy's existing easement is acceptable.
3. Proposed relocated structure #12 and new structure #126 appear to be close to the relocated M & N Operating Company high pressure gas transmission pipeline.
4. Proposed construction access for southeast structures (#12 & #126) from the Southbound Off-Ramp is not acceptable. Construction access for southeast structures shall be from the gate in the Right-of-Way fence south of the City of Portsmouth water facilities parcel.

Spaulding Turnpike Parallel Construction

1. No concerns with the proposed locations of the existing aerial facilities relocated to the east towards the Spaulding Turnpike from the Southbound Off and On-Ramps to the gate in the Right-of-Way fence south of the City of Portsmouth water facilities parcel. No concerns with the proposed locations of the new aerial facilities being west and parallel to relocated and unmoved existing facilities along the Spaulding Turnpike including structures #135, #136 and #137 which will contain existing and proposed circuits.
2. Proposed construction access from the Southbound Off-Ramp for structures #13, #14, and #127 through #132 is not acceptable. Construction access shall

be from the gate in the Right-of-Way fence south of the City of Portsmouth water facilities parcel.

3. Proposed construction access from the Water Treatment Basin north of the Spaulding Turnpike southbound Off-Ramp to Gosling Road for structure #133 and from the Spaulding Turnpike southbound Off-Ramp to Gosling Road for structures #134, #135, #136, and #137 is acceptable with the work performed during non-peak traffic volumes.

Spaulding Turnpike/NH 4/16 Crossing

1. No concerns with proposed aerial facilities crossing the Spaulding Turnpike with structures outside the Limited Access Right-of-Way (LAROW) and construction access from the Spaulding Turnpike southbound Off-Ramp to Gosling Road for structures #137 with the work performed during non-peak traffic volumes and from outside the Spaulding Turnpike LAROW for structure #138.

Woodbury Avenue Crossing

1. No concerns with the northerly aerial facility proposed to be relocated northerly and the proposed aerial facility crossing Woodbury Avenue parallel with the existing facilities southerly of the relocated facility with structures outside the ROW.
2. Proposed construction access needs to be shown.

See Correspondence from DOT (November 21, 2016).

DOT has not filed a final decision/report/recommendation, nor has DOT issued any permits for the Project.

On July 27, 2018, the Applicant filed a request for exception from the requirement of Section XII.A.4 of the Utility Accommodation Manual stating that it cannot achieve the required 50-feet of clearance from the centerline of the Project to the closest point of the bridge structures for the bridge on Madbury Road and the bridge carrying NH Route 4. App. 140. DOT granted the request. Tr., Day 3, 09/17/2018, Afternoon Session, at 9.

b. Deliberations

The Subcommittee did not receive final determinations, licenses, and/or permits granted by DOT. It is clear from the record that various licenses and/or permits must be issued by DOT for the Project to proceed as proposed. Many of the DOT determinations require review of the final construction plans which are not usually prepared during the siting process. The parties do not challenge the ability of DOT to conduct an appropriate review and issue the required licenses and/or permits. The Subcommittee delegates to DOT the authority to make its determinations and to issue the required permits, licenses, and approvals in accordance with existing DOT policies, rules, and recommendations. Pursuant to RSA 162-H:4, III and Site 301.17(d), the Subcommittee delegates to DOT the authority to monitor the construction and operation of the Project to ensure that the terms and conditions of the Certificate, permits, licenses, and approvals that will be issued by DOT are met. Pursuant to RSA 162-H:4, III-a and Site 301.17(e), the Subcommittee delegates the authority to DOT to specify the use of any technique, methodology, practice or procedure approved by the Subcommittee within the Certificate, as may be necessary to effectuate conditions of the Certificate and any permit, license, or approval issued by DOT. However, any action to enforce the Certificate must be brought before the Committee. *See* RSA 162-H:4, I(d).

8. Public Utilities Commission

a. Review and Final Decisions

The Applicant filed two Water and Public Land Crossing License Applications with the Public Utilities Commission (PUC): (i) an Application to Construct and Maintain Electric Lines, Neutral Wires and Fiber Optic Cable Over and Across the Oyster River and Pickering Brook and under Little Bay in the Towns of Durham and Newington; and (ii) an Application to Construct

and Maintain Electric Lines, Neutral Wire and Fiber Optic Cable at Three Locations Over and Across Public Lands Owned by the State of New Hampshire in the Town of Durham. App. 38.

On February 8, 2017, the Applicant filed revisions to the Petitions for Licenses to Construct and Maintain Electric Lines, Neutral Wire and Fiber Optic Cable Over and Across Public Waters and Public Lands of the State. App. 187, at 44-65.

On March 10, 2017, PUC issued an Order *Nisi* granting the Applications to construct and maintain electric lines, neutral wire, and fiber optic cable over and across the Oyster River and under Little Bay in the Town of Durham and over Pickering Brook and under Little Bay in the Town of Newington. App. 154. The PUC conditioned its Order on the approval by the Subcommittee of the Application. App. 154. It requires the Applicant, among other conditions, to: (i) construct the line as depicted in the petitions and supporting documents filed with PUC; (ii) construct, install, operate, maintain, and alter the lines consistent with the provisions of the National Electrical Safety Code, in accordance with Puc 306.01; and (iii) to submit to PUC any future proposed alterations to the crossing licenses at least 60 days prior to undertaking any such alterations. App. 154. PUC received no further comments or requests for a hearing and the Order *Nisi* became final on April 10, 2018. App. 154.

On January 29, 2018, the PUC submitted a letter stating that Eversource advised the PUC that the depth of each jet plow trench was reduced from 8-feet to 5-feet in the main channel section of Little Bay. The PUC stated in the letter that the original Order *Nisi* authorizing such crossing did not need to be amended as a result of the change in depth.

On June 14, 2018, PUC issued an Order *Nisi* granting the Applicant's petition for seven licenses to construct and maintain electric lines, neutral wire, and fiber optic cable over and across public lands owned by the State of New Hampshire in Durham. App. 158. The PUC did

not receive comments or requests for a hearing. The Order *Nisi* became effective on July 14, 2018. App. 158.

On October 5, 2018, the PUC determined that two additional crossings of parcels in Newington maintained by DOT are within the licensing jurisdiction of DOT under RSA 231:161. App. 202.

b. Positions of the Parties

The Towns of Newington and Durham argue that the PUC issued a license for crossing of Little Bay without knowing that the Applicant will utilize concrete mattresses to protect the submerged utility lines. *See* Newington Post-Hearing Brief, at 60; Durham Post-Hearing Brief, at 30. They request that the Subcommittee require the Applicant to advise the PUC of its intent to use concrete mattresses so that the PUC can reconsider its decision. *See* Post-Hearing Brief, at 60.

Newington, Durham, and CLF also argue that, in order to construct the Project under Little Bay, the Applicant should be required to obtain an easement from the Governor and Council and the Long Range Capital and Utilization Committee, with advice from the Council on Resources and Economic Development, because a license that was granted by PUC pursuant to RSA 371:17-23, is not sufficient to authorize construction under Little Bay. *See* Durham Post-Hearing Brief, at 29-30; Newington Post-Hearing Brief, at 5-6; CLF Post-Hearing Brief, at 16-17.

c. Deliberations

(1) Disclosure of Concrete Mattresses to PUC

On March 10, 2017, PUC issued an Order *Nisi* authorizing the Applicant to cross Little Bay. The Application for a license filed with PUC by the Applicant does not specifically state

that the Applicant will be using concrete mattresses. The license issued by the PUC is expressly conditioned on a requirement that Eversource must construct, maintain and, “if applicable, alter the lines consistent with the provisions of the National Electric Safety Code.” The record indicates that the Applicant advised the PUC that the depth of each jet plow trench would be reduced from 8-feet to 5-feet. In its correspondence to the PUC, the Applicant also stated that “supplemental mechanical protection will be used per NESC to protect the cable and the public.” App. 187, at 79-80. Following the Applicant’s communication, the PUC advised the Subcommittee that no modification of the Order *Nisi* is required. App. 187, at 79-84. The Applicant notified the PUC of its intent to use concrete mattresses by advising that it may be using “supplemental mechanical protection” to ensure compliance with the National Electric Safety Code. The PUC considered the information provided by the Applicant and stated that the Order should remain in effect. Further review by the PUC is unnecessary.

(2) Governor and Executive Council Approval

Whether the Applicant is required to obtain an easement or other approval from the Governor and Council requires interpretation of two relevant statutes – RSA 371:17 and RSA 4:40.

When construing statutes and administrative regulations, we first examine the language used, and, where possible, we ascribe the plain and ordinary meanings to words used. Words and phrases in a statute are construed according to the common and approved usage of the language unless from the statute it appears that a different meaning was intended. Additionally, we interpret disputed language of a statute or regulation in the context of the overall statutory or regulatory scheme and not in isolation. We seek to effectuate the overall legislative purpose and to avoid an absurd or unjust result. We can neither ignore the plain language of the legislation nor add words which the lawmakers did not see fit to include.

Bovaird v. N.H. Dep't of Admin. Servs., 166 N.H. 755, 758-759 (2014) (citations and quotations omitted). When interpreting two or more statutes that deal with a similar subject matter, the Courts construe them so they do not contradict each other, and so they will lead to reasonable results and effectuate the legislative purpose of the statutes. *Maroun v. Deutsche Bank Nat'l Trust Co.*, 167 N.H. 220, 225 (2014) (citation omitted).

RSA 371:17 states:

Whenever it is necessary, in order to meet the reasonable requirements of service to the public, that any public utility should construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over, under or across any of the land owned by this state, it shall petition the commission for a *license* to construct and maintain the same.

RSA 4:40, I states:

Except as provided in RSA 4:39-c, RSA 228:31-b, and RSA 204-D, upon recommendation of the head of any state department having jurisdiction over the same, all requests for the disposal or leasing of state-owned properties shall be reviewed and approved by the long range capital planning and utilization committee, with advice from the council on resources and development, prior to submission to the governor and council for approval.

The plain language of RSA 371:17 requires the Applicant to obtain a license in order to construct the Project in Little Bay. The Applicant complied with this requirement by obtaining a license to cross Little Bay from the PUC.

Governor and Council approval is required only when the state-owned property is “disposed” or “leased.” There is no evidence the Applicant entered into a lease agreement with the State. Therefore, the Applicant must obtain Governor and Council approval only if construction of the Project causes a “disposal” of state-owned property.

A license to use the state property for specific purposes does not amount to a “disposal” of the property. A license is “not a grant” and “may be recalled immediately.” *See Stevens v. Dennett*, 51 N.H. 324, at 331 (1872).

The Applicant does not seek to purchase state-owned property. There is no disposal or lease of the state waters. Therefore, Governor and Council approval is unnecessary.

The only other way the Project may cause a “disposal” of state property is by altering its *fee* status and creating a permanent encumbrance in the form of an easement. The Applicant has sought a license to cross the water body. The Applicant does not seek an easement. An easement would affect the title of the land and provide the Applicant with greater property rights than a license. However, that is not the case here. The New Hampshire Supreme Court recognized distinct differences between a license and an easement:

An appurtenant easement is a nonpossessory right to the use of another’s land. It is an incorporeal right generally created for the purpose of benefiting the owner of the dominant estate . . . as the possessor of such estate; it runs with the land, is incapable of existence separate and apart from the dominant tenement, and is inheritable. A license, on the other hand, is defined as a transient or impermanent interest which does not constitute an interest in land. It may be created orally and is merely a revocable personal privilege to perform an act on another individual’s property. The intent of the parties to an instrument determines whether or not an easement or a license was granted.

Quality Discount Mkt. Corp. v. Laconia Planning Bd., 132 N.H. 734, 739-40 (1990) (internal quotations and citations omitted).

The license issued by the PUC does not purport to transfer an easement, but only a license. It is revocable and is conditioned by the PUC. It is not transferable and does not run with the land. It does not transfer authority to prohibit others from using Little Bay.

Some parties argue that installation of concrete mattresses will cause a “disposal” of state-owned property that should be approved by the Governor and Council. This argument assumes that the mattresses are permanently installed and will not be removed if the Project is decommissioned or the crossing license is revoked. However, the Applicant agreed to file a decommissioning plan that will detail the decommissioning of each element of the Project and the Applicant did not seek to exempt concrete mattresses from this decommissioning plan.

Because the crossing of Little Bay does not involve a sale, a lease, or an easement, it is not a “lease or disposal” of state owned property and Governor and Council approval is unnecessary.

(3) Conditions

Pursuant to RSA 162-H:16, I, the Certificate in this docket is conditioned upon the Applicant’s compliance with the conditions identified within licenses issued by PUC. The Orders *Nisi* are incorporated into the Certificate to be issued in this docket. Under RSA 162-H:4, III and Site 301.17(d), the Subcommittee delegates its authority to the PUC to monitor the construction and operation of the Project to ensure that terms and conditions of the licenses and the Certificate are met. Pursuant to RSA 162-H:4, III-a and Site 301.17(e), the Subcommittee delegates to the PUC the authority to specify the use of any technique, methodology, practice, or procedure approved by the Subcommittee within the Certificate, as may be necessary to effectuate conditions of the Certificate and the licenses. The PUC may use its authority to enforce the terms and conditions of the licenses. *See* RSA 162-H:12, IV. However, any action to enforce the provisions of the Certificate must be brought before the Committee. *See* RSA 162-H:4, I(d).

C. Applicant's Financial, Technical, and Managerial Capability

RSA 162-H:16, IV(a) requires the Subcommittee to consider whether the applicant has adequate financial, technical, and managerial capability to assure construction and operation of the facility in continuing compliance with the terms and conditions of a certificate.

1. Technical and Managerial Capability

Under Site 301.13(b)(1)-(2), when determining whether an Applicant has the technical capability to construct and operate the Project, the Subcommittee is required to consider the following:

- (1) The applicant's experience in designing, constructing, and operating energy facilities similar to the proposed facility; and
- (2) The experience and expertise of any contractors or consultants engaged or to be engaged by the applicant to provide technical support for the construction and operation of the proposed facility, if known at the time.

When determining whether an Applicant has the managerial capability to construct and operate the Project, the Subcommittee is required to consider the following:

- (1) The applicant's experience in managing the construction and operation of energy facilities similar to the proposed facility; and
- (2) The experience and expertise of any contractors or consultants engaged or to be engaged by the applicant to provide managerial support for the construction and operation of the proposed facility, if known at the time.

Site 301.13(c)(1)-(2).

a. Positions of the Parties

(1) Applicant

The Applicant proffers that it has sufficient technical and managerial capability to construct and operate the Project in compliance with the Certificate. App. 1, at 64-67.

The Applicant owns, operates, and maintains transmission facilities in New Hampshire and has done so for more than one-hundred years. App. 1, at 64. The Applicant's principal, Eversource, operates New England's largest utility system serving over 3.6 million electric and natural gas customers across Connecticut, Massachusetts, and New Hampshire. App. 1, at 64. At the time of filing the Application, Eversource owned and operated approximately 4,270 circuit miles of transmission lines, 72,000 pole miles of distribution lines, 578 transmission and distribution stations, and 450,000 distribution transformers. App. 1, at 64. Eversource is a leading expert in building, owning, and operating transmission facilities and is an Edison Award recipient for transmission ownership and providing service. App. 1, at 64.

The Applicant avers that its ability to construct and operate the Project is also demonstrated by having recently completed construction of the 9.8 mile Merrimack Valley Reliability Project transmission line. App. 140, at 1.

The Applicant concludes that, independently and as an affiliate of Eversource, it has sufficient technical and managerial resources to assure construction and operation of the Project in accordance with the conditions of the Certificate. App. 1, at 64.

The Applicant retained Power Engineering to provide technical support for the design and construction of the Project. App. 1, at 65. According to the Applicant, Power Engineering has extensive experience in design and construction of high voltage transmission lines and won the Edison Award for work on the Arrowhead-Weston 345 kV transmission line in Wisconsin.

App. 1, at 65. The Applicant also asserts that Power Engineering has substantial experience in the design and construction of underground transmission lines, including a 3.4 mile 115 kV electric transmission line between the Vermont Hill and Bloomingdale substations in Worcester, Massachusetts. App. 1, at 66.

LS Cable America (LS Cable) will manufacture and install the submarine portion of the Project. App. 73, at 1. LS Cable manufactured and directed the installation of a 32 kilometer (just under 20 miles) 34.5kV submarine transmission cable system between Block Island, RI and Narragansett on mainland, RI as part of the Block Island Wind Farm project. App. 73, at 2. For the same project, LS Cable manufactured and installed the 34.5kV distribution and export submarine power cables for five offshore wind turbines. App. 73, at 2. LS Cable is manufacturing and installing a 230kV submarine cable system for the New York Power Authority. App. 73, at 2.

The Applicant retained Leidos Engineering (Leidos) as a contractor for upgrades and additions required for two substations. App. 1, at 66. The Applicant claims that Leidos has extensive experience in engineering and designing substations, including work on over three hundred substation, distribution, and transmission line projects. App. 1, at 66.

The management structure of the Project will include: (i) a Project manager; (ii) construction manager; (iii) safety specialists; (iv) environmental monitors; and (v) community relations representatives. App. 1, at 66; App. 39. The Project manager will monitor the construction contractors, confirm that the contractors' operations comply with the contract documents, monitor construction activities for schedule compliance, review daily construction reports for completeness and accuracy, conduct weekly construction status update meetings with contractors, review quality concerns, and participate in the outage coordination process and

management of the construction budget. App. 8, at 9. The construction manager will report to the Project manager. App. 8, at 9. The construction manager will be responsible for planning and coordinating all construction activity. App. 8, at 9. The construction manager will provide the field observations and monitoring of the contractors' operations and compliance with the Project Health and Safety Plan. App. 8, at 9. Safety representatives will make routine work site visits, observe work activities, review the contractors' safety plans, record safety information in daily reports, attend weekly construction status update meetings, and monitor the contractors' compliance with the Project Safety Plan. App. 8, at 9-10. Environmental inspectors will provide the field observations and will monitor the contractors' activities for compliance with permit requirements. App. 8, at 10. The community outreach representatives will coordinate with the project management team and construction manager for community relations. App. 8, at 10.

Once the Project is completed, it will become part of the interconnected transmission network operated by ISO-NE. App. 8, at 18. The Applicant and ISO-NE will work together to ensure that the Project is operated in a safe, reliable, and compliant manner. App. 8, at 18.

The Applicant predicts the Project will require little routine maintenance. App. 8, at 18. Routine maintenance will include replacing damaged insulator discs, repair or replacement of damaged guy wires, aerial patrols for inspection of structures, foot patrols to visually inspect the facilities, aerial thermographic inspections, patrol of lines after every interruption if the specific cause cannot be identified, aerial patrol of lines for vegetation management inspection, recurring vegetation maintenance within cleared areas and within right-of-way, and repair of the underground cable. App. 8, at 18-20.

The Applicant's experts testified that, typically, no maintenance is required on buried submarine cables. App. 73, at 7; Tr., Day 1, 08/29/2018, Afternoon Session, at 141-142. If a

break occurs, the cable will be raised to the surface by use of a barge, the faulty section will be cut, a section of new cable will be spliced in, the cable will be laid on the seafloor and diver buried and/or covered with an articulated concrete mattress. App. 73, at 2; Tr., Day 2, 08/30/2018, Afternoon Session, at 23-24; Tr., Day 3, 09/17/2018, Afternoon Session, at 157-159. Depending on complexity, that process may take from several weeks to months. Tr., Day 2, 08/30/2018, Afternoon Session, at 23, 25.

The Applicant concludes that it has the requisite technical and managerial capability to design, construct, and operate the Project in compliance with the Certificate. App. 8, at 23.

(2) Counsel for Public

Counsel for the Public agrees that the Applicant and its selected contractors have experience in designing, constructing, operating, and maintaining transmission facilities similar to the Project throughout New England. App. 184, ¶10. Counsel for the Public does not dispute that the Applicant has sufficient technical and managerial capability to construct and operate the Project in compliance with the Certificate. *See* Post-Hearing Brief, at 8. Counsel for the Public argues, however, that the Applicant and its contractors should have to implement and follow Best Management Practices during construction and maintenance of the Project to avoid, minimize, and mitigate the Project's impacts. *See* Post-Hearing Brief, at 8.

(3) Town of Newington

Newington urges the Subcommittee to consider that jet plowing has never been conducted in New Hampshire. *See* Post-Hearing Brief, at 54.

(4) Individual Intervenors

Helen Frink disputes the Applicant's technical ability to construct the Project in accordance with the Certificate. Tr., Day 11, 10/17/2018, Afternoon Session, at 30-31. She

asserts that the Applicant's contractors failed to conduct vegetative clearing in compliance with the agreement between her, her brother, and the Applicant. Tr., Day 11, 10/17/2018, Afternoon Session, at 30-31, 44. The Applicant also failed to accurately identify historic districts on its maps and failed to include the Darius Frink Farm in the district. Tr., Day 11, 10/17/2018, Afternoon Session, at 31-32. It also failed to update the maps and provide information accurately describing the transmission structure located on the Darius Frink Farm. Tr., Day 11, 10/17/2018, Afternoon Session, at 30-31. Although Ms. Frink attempted to clarify the design issues with the Applicant's engineer, she was not provided with the requested information and was advised to contact the Applicant's counsel. Tr., Day 11, 10/17/2018, Afternoon Session, at 52.

Jeff and Vivian Miller argue that it is questionable whether the Applicant has sufficient managerial and technical capability required for construction and operation of the Project in compliance with the Certificate where testing sediment in Little Bay was incomplete; wind factors and tide impact on sediment dispersion were not evaluated; sediment testing data provided in the original Applicant was inaccurate; jet plowing has never been performed in estuary; the Applicant modified its construction plans after it filed the Application; concrete mattresses were mischaracterized; ledge testing has never been performed; formal notification of the abutters was not performed; visual assessment prepared by the Applicant expert is inadequate; impact on all historic sites was not evaluated; and Durham's Master Plan was not provided with the Application. *See Post-Hearing Brief*, at 1-2.

Mr. Fitch asserts that neither the Applicant nor NHDES has experience with jet plowing. *See Post Hearing Brief*, at 3-4. He concludes that the determination of whether the Applicant has required technical capability should be based on whether its contractors and subcontractors have

a level of expertise required to construct the Project, including jet plowing. *See* Post Hearing Brief, at 3-4.

b. Deliberations

The Intervenor's expressed concerns about the Applicant's technical and managerial capability to construct and operate the Project. The Intervenor's requested that the Subcommittee appoint independent historic and environmental monitors to ensure that construction and operation of the Project will comply with the terms and conditions of the Certificate.

The Intervenor's concerns, however, are based on errors and inconsistencies in maps and disagreements with the accuracy of the Applicant's evaluation methods. The Applicant's experts appropriately address the Intervenor's concerns by amending or agreeing to amend maps to eliminate inaccuracies identified by the Intervenor's. The Applicant also indicates that the Intervenor's may contact the Applicant to identify any construction related issues during construction that will be addressed by the Applicant. The Intervenor's and other parties that may be impacted by construction of the Project also may utilize the Dispute Resolution Procedure described in the Section V.E.3.b., below. Finally, the Applicant's potential noncompliance with the conditions of the Certificate and other permits may be addressed through implementation of the enforcement procedures.

The Intervenor's request to retain independent environmental and historic monitors is addressed in Sections V.D.4.b. (impact on natural environment) and V.D.2.b. (impact on historic sites), below.

The evidence demonstrates that the Applicant and its contractors have the technical and managerial capability required for construction and operation of the Project. No testimony credibly indicated that the Applicant is not capable or is not willing to address construction

concerns as they arise. Counsel for the Public agrees that the Applicant has the technical and managerial capability to construct the Project in compliance with the Certificate. The testimony and evidence presented demonstrate that the Applicant engaged contractors who have extensive experience in constructing projects with similar characteristics and magnitude. Although jet plowing has not been performed in New Hampshire waters, the Applicant's experts testified that they conducted successful jet plows at other locations, including Martha's Vineyard and Cape Cod. The Applicant itself has a significant level of experience with construction of transmission projects. The Applicant also has the financial ability to hire additional qualified contractors, if needed. The Applicant has significant experience with the operation and maintenance of transmission lines and New Hampshire and New England.

The Subcommittee agrees with Counsel for the Public that the Applicant should be required to comply with best management practices. The Certificate is conditioned upon the following:

Further Ordered that, prior to any construction activity, the Applicant shall file with the New Hampshire Site Evaluation Committee ("SEC") **and all relevant state agencies**¹⁵ a copy of all Best Management Practices ("BMPs") to be utilized for the Project for all construction activity, to the extent they have not already been provided to the SEC; including, without limitation BMPs for entering and exiting the ROW or any construction site; sweeping paved roads at access points; BMPs relating to Applicants' Storm Water Pollution Prevention Plan; BMPs for specific locations such as steep slopes near water bodies; BMPs for submarine and shoreland cable installation; and BMPs for work near archaeological and historic sites. During construction, the Applicant shall adhere to the BMPs consistent with all state and federal permit requirements.

¹⁵ See analysis in Section D.5.b., below for modification of this condition.

The Subcommittee finds by a preponderance of evidence that the Applicant has sufficient technical and managerial capability to construct and operate the Project in compliance with the Certificate.

2. Financial Capability

Site 301.13(a)(1)-(4), provides that when determining whether an applicant has the financial capability to construct and operate the Project, the Subcommittee is required to consider the following:

- (1) the applicant's experience in securing funding to construct and operate energy facilities similar to the proposed facility;
- (2) the experience and expertise of the applicant and its advisors, to the extent the applicant is relying on advisors;
- (3) the applicant's statements of current and pro forma assets and liabilities; and
- (4) financial commitments the applicant has obtained or made in support of the construction and operation of the proposed facility.

a. Positions of the Parties

(1) Applicant

The Applicant contends that it has sufficient financial capability to construct and operate the Project in accordance with conditions of the Certificate. App. 1, at 62-63; App. 71, at 1.

The Applicant's business consists of the generation, delivery, and sale of electricity to its customers. App. 1, at 62. The Applicant asserts that its ability to finance construction and operation of the Project is evidenced by its successful track record in financing similar projects. App. 1, at 62. Specifically, the Applicant states that, from 2012 to 2015, it invested \$750 million in new energy infrastructure. App. 1, at 62; App. 5, at 3. Its corporate credit rating is A (positive) from Standard & Poor's, A3 (stable) from Moody's Investors Service, and A-

(stable) from Fitch Ratings. Tr., Day 6, 09/21/2018, Afternoon Session, at 5. To corroborate its financial capability, the Applicant filed a table titled as “PSNH Selected Consolidated Cash Flows Data – Funds from Operations, Debt Issuance, and Capital Contributions” for 2015-2017 with the Subcommittee. App. 192.

The Applicant also relies on its principal, Eversource, to demonstrate its financial capability to construct and operate the Project. App. 1, at 62. The Applicant points out that Eversource was listed as number 367 on the 2015 Fortune 500 list of largest U.S. companies with an equity market capitalization of approximately \$16 billion. App. 5, at 4. The Applicant declares that Eversource is the highest ranked U.S. utility holding company by Standard & Poor’s. App. 1, at 62; App. 5, at 4. Corroborating its argument, the Applicant provided a pro forma consolidated balance sheet. App. 49, 94.

Specific to the Project, the Applicant calculates the overall cost of the Project to be approximately \$84 million. App. 68, at 13; App. 71, at 1; Tr., Day 1, 08/29/2018, Afternoon Session, at 4; Tr., Day 6, 09/21/208, Afternoon Session, at 18. Initially, the Applicant intends to finance construction of the Project with internally generated cash and short-term borrowings from its principal, Eversource. App. 1, at 63; App. 5, at 4. As short-term debt accumulates, it will be refinanced with long-term debt issued in the credit markets. App. 1, at 63; App. 5, at 4-5; Tr., Day 6, 09/21/208, Afternoon Session, at 12. Eversource may provide capital contributions to ensure that the Applicant maintains an appropriate level of common equity to total capitalization. App. 1, at 63; App. 5, at 5.

Maintenance and operations costs are not budgeted on a project-level basis. App. 5, at 5. Maintenance costs are not expected to be significant and will be covered by internally generated

cash, short-term borrowings from Eversource, long-term debt issued to refinance short-term debt, and capital contributions from Eversource. App. 1, at 63; App. 5, at 5.

(2) Counsel for the Public

Counsel for the Public stipulates that the Applicant has experience securing funding for and financing the construction, operation, and maintenance of similar transmission line projects. App. 184, ¶7. Counsel for the Public agrees that the Applicant has sufficient financial capability to construct and operate the Project in compliance with the Certificate. *See* Post-Hearing Brief, at 8.

b. Deliberations

The Applicant possesses the financial capability required to construct and operate the Project in compliance with the Certificate. Its corporate credit rating is A (positive) from Standard & Poor's, A3 (stable) from Moody's Investors Service, and A- (stable) from Fitch Ratings. The Applicant's cash flow data verifies the Applicant's financial strength. The Applicant's principal, Eversource, is the highest ranked U.S. utility holding company by Standard & Poor's.

The Applicant has experience financing and constructing similar transmission projects that enhance the reliability of the electric grid. App. 1 at 64-65. There was no evidence or testimony introduced demonstrating that the Applicant does not have sufficient financial capability.

The Subcommittee finds that the Applicant has sufficient financial capability to ensure construction and operation of the Project in accordance with the Certificate.

To ensure that the Applicant continues to have sufficient financial capability to operate and construct the Project in compliance with the Certificate, the Applicant is ordered to

immediately notify the Committee of any change in ownership or ownership structure of the Applicant or its affiliated entities and shall seek approval of the Committee of such change. The Applicant shall provide immediate notice to the Committee if the Applicant or any of its parent companies file a bankruptcy or insolvency petition in any jurisdiction, foreign or domestic, or be forced into involuntary bankruptcy or any other proceeding pertaining to debt restructuring or the liquidation of assets. The Certificate is not transferable to any other person or entity without prior approval of the Committee.

To demonstrate that the Applicant's estimated cost to construct the Project is accurate, within 45-days of an ISO-NE filing, the Applicant shall notify the Committee if the Applicant's forecasted actual expenditures for the entire Project, between Madbury and Portsmouth, as filed by the Applicant with its ISO-NE Regional System Planning forecast updates, exceed the projected costs for the entire Project by an amount equal to or greater than 25 percent.

In addition, in order to demonstrate the actual costs of the Project, within 30-days of commercial operation of the Project, the Applicant shall submit to the Committee its forecasted and actual expenditures for the entire Project.

D. Adverse Effects

The Subcommittee may only issue a Certificate if it finds that the Project will not have an unreasonable adverse effect on: (1) aesthetics; (2) historic sites; (3) air and water quality; (4) the natural environment; and (5) public health and safety. *See* RSA 162-H:16, IV(c). If the

Subcommittee finds that the proposed Project will have an unreasonable adverse effect on any one of the statutory criteria, the Subcommittee must deny issuance of Certificate.

1. Aesthetics

In determining whether the Project will have an unreasonable adverse effect on aesthetics, the Subcommittee is required to consider the following factors:

- (1) the existing character of the area of potential visual impact;
- (2) the significance of affected scenic resources and their distance from the proposed facility;
- (3) the extent, nature, and duration of public uses of affected scenic resources;
- (4) the scope and scale of the change in the landscape visible from affected scenic resources;
- (5) the evaluation of the overall daytime and nighttime visual impacts of the facility as described in the visual impact assessment submitted by the applicant and other relevant evidence submitted pursuant to Site 202.24;
- (6) the extent to which the proposed facility would be a dominant and prominent feature within a natural or cultural landscape of high scenic quality or as viewed from scenic resources of high value or sensitivity; and
- (7) the effectiveness of the measures proposed by the applicant to avoid, minimize, or mitigate unreasonable adverse effects on aesthetics, and the extent to which such measures represent best practical measures.

Site 301.14(a)(1)-(7).

“Scenic resources” are defined as:

resources to which the public has a legal right of access that are:

- (a) Designated pursuant to applicable statutory authority by national, state, or municipal authorities for their scenic quality;
- (b) Conservation lands or easement areas that possess a scenic quality;

- (c) Lakes, ponds, rivers, parks, scenic drives and rides, and other tourism destinations that possess a scenic quality;
- (d) Recreational trails, parks, or areas established, protected or maintained in whole or in part with public funds;
- (e) Historic sites that possess a scenic quality; or
- (f) Town and village centers that possess a scenic quality.

Site 102.45.

“Scenic quality” is defined as “a reasonable person’s perception of the intrinsic beauty of landforms, water features, or vegetation in the landscape, as well as any visible human additions or alterations to the landscape.” Site 102.44.

The term “historic sites” is defined as “historic property,” as defined in RSA 227-C:1, VI, namely “any building, structure, object, district, area or site that is significant in the history, architecture, archaeology or culture of this state, its communities, or the nation.” Site 102.23. It includes “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior,” pursuant to 36 C.F.R. §800.16(l)(1). Site 102.23.

The area of potential visual impact is defined in Site 102.10 as “a geographic area from which a proposed facility would be visible, and would result in potential visual impacts, subject to the areal limitations specified in Site 301.05(b)(4).” Site 301.05(b)(4) further requires the computer-based visibility analysis to determine the area of potential visual impact for proposed transmission lines that will be located in a new transmission corridor or in an existing transmission corridor if either or both the width of the corridor or the height of the towers, poles, or other supporting structures will be increased to extend a minimum of a 10-mile radius. *See* Site 301.05(b)(4)d.2., and (b)(4)c.

a. Positions of the Parties

(1) Applicant

The Applicant argues that the Project will not have an unreasonable adverse effect on aesthetics. In support, the Applicant filed a visual impact assessment (VIA) prepared by LandWorks (original and amended). App. 51, 96. The Applicant also pre-filed the testimony of David Raphael (original, amended, and supplemental). App. 17, 75, 142.

The VIA analyzes the visual impact of the Project within the visual study area defined as a 10-mile linear corridor on either side of the Project's center line. App. 17, at 4. Mr. Raphael testifies that he determined that the area with the greatest potential for visual impact was within three miles on each side of the center line of the Project. App. 17, at 5-6. Consistent with this determination, Mr. Raphael identified all scenic resources within three miles of the right-of-way. App. 17, at 6; Tr., Day 9, 10/15/2018, Afternoon Session, at 71. Beyond three miles of either side of the center line, Mr. Raphael identified only resources with potential Project visibility. App. 17, at 6; Tr., Day 9, 10/15/2018, Afternoon Session, at 71. Mr. Raphael asserts that the scenic resources that were inventoried for the VIA are resources that: (i) were designated by local, regional, state and/or national authorities or inventories; (ii) have a scenic value or purposes associated with them; and (iii) have established public access. App. 17, at 6. In order to identify scenic resources, Mr. Raphael and his team reviewed data received from local town plans and regional documents, online media sources, local, state, national, and organizational websites, reference books on geology/physiography/ecology, topographic maps, aerial photography, road atlases, tourism brochures and guidebooks, and field observations. App. 17, at 6; App. 51, at 44.

Private commercial businesses and residences were not identified and analyzed in the VIA because admission or access to these locations is prohibited, fee-based, or not readily accessible to the public. App. 51, at 9. Only historic sites that possess scenic qualities and are listed in the national register or the state register were identified and evaluated by Mr. Raphael. Tr., Day 9, 10/15/2018, Afternoon Session, at 73-75, 144-145. Mr. Raphael identified and analyzed the Project's impact only on trails with scenic qualities. Tr., Day 9, 10/15/2018, Afternoon Session, at 77-82.

One hundred eighty-one (181) scenic resources were identified within the area of potential impact. App. 51, at 45-53.

After identifying the scenic resources, Mr. Raphael and his team conducted field visits to discover information about access to the sites and to orient and determine visibility in the field. App. 17, at 10. Following the field trips and the viewshed analyses (based on bare earth condition with application of 40-foot height of tree cover), 3D modeling (incorporating real heights of trees if such information was available) and simulations were prepared and reviewed to determine which scenic resources will have potential visibility of the Project. App. 51, at 14-15; Tr., Day 9, 10/15/2018, Afternoon Session, at 82-83. Thirty (30) scenic resources were identified as having potential visibility of the Project. App. 17, at 10; App. 51, at 53-54.

The resources' significance and visual sensitivity were determined based on these characteristics: (i) cultural designation – how a resource has been valued by the public through official designation (conserved) or advertisement; and (ii) scenic quality – the character and feature of a resource that makes it scenic. App. 51, at 15, 54-62. Consistent with this approach, the resources were rated and assigned the following cultural designation ratings: (i) low – local, quasi-public, and private conserved or designated resources identified primarily for values other

than purely scenic; (ii) moderate – state or federal resources that have been conserved or designated primarily for purposes or values other than purely scenic; or (iii) high – resources that have been conserved or designated because scenery and scenic quality are primary to their value. App. 51, at 16, 54-61. The resources’ scenic qualities were determined after evaluating and scoring their landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications. App. 51, at 17-18, 61-62. The resources’ scenic qualities were further rated based on their scores and were assigned these ratings: (i) low - resource has features fairly common to the physiographic region; (ii) moderate - resource has a combination of some outstanding features and some that are fairly common to the physiographic region; and (iii) high - resource combines the most outstanding characteristics of each rating factor. App. 51, at 18. The overall visual sensitivity of each resource was determined by combining cultural designation ratings and scenic qualities ratings. App. 51, at 18, 63-64. The following overall sensitivity ratings were assigned to the evaluated resources: (i) low – “having little value or quality; below an average or a standard”; (ii) moderate – “within due or reasonable limits; of average quality or extent; having average or less than average quality”; or (iii) high – “very important; of relatively great importance; of greater value than average, usual, or expected.” App. 51, at 18.

Mr. Raphael confirms that he determined that scenic qualities of Little Bay, the Newington Center Historic District, Bennett Road, Durham Point Road, and Newmarket Road were not sufficiently high to result in a “moderate-high” or “high” overall sensitivity rating. Tr., Day 9, 10/15/2018, Afternoon Session, at 27-31, 87. Out of 30 evaluated resources, the following nine resources were identified as having “moderate-high” or “high” overall sensitivity ratings: (i) Great Bay National Wildlife Refuge - moderate-high; (ii) Little Bay Road - moderate-

high; (iii) views at Cedar Point/Black River Roads from Route 4 - moderate-high; (iv) views from Scammell Bridge from Route 4 - moderate-high; (v) Fox Point – high; (vi) Wagon Hill Farm - moderate-high; (vii) UNH Campus - moderate-high; (viii) Garrison Hill Park & Tower - moderate-high; and (ix) Stratham Hill Fire Tower - moderate-high. App. 51, at 63-64; Table 7. Only scenic resources with “moderate-high” and “high” overall sensitivity ratings were further evaluated. App. 51, at 19, 64.

Visual effect on sensitive scenic resources was determined by analyzing and scoring these factors: (i) scale and spatial presence - is the Project a dominant element in the view; (ii) prominence - does the Project stand out and draw attention; and (iii) compatibility - is the Project consistent or inconsistent with the built or natural elements currently visible in the landscape. App. 51, at 19., 80-85. After combining these ratings, the Project’s overall visual effect was determined and rated as: (i) low - the Project is not readily visible within the view due to the level of visibility, proximity, spatial presence, contrast, prominence, compatibility, or a combination of these factors; the Project causes a low alteration to the landscape character, and the landscape remains clearly dominant; (ii) moderate - the Project is visible within the view and may attract attention due to the level of visibility, proximity, spatial presence, contrast, prominence, compatibility, or a combination of these factors; the Project causes a moderate alteration to the landscape character, but the change is limited and other features of the landscape remain the primary focus; or (iii) high - the Project commands or controls the view due to the level of visibility, proximity, spatial presence, contrast, prominence, compatibility, or a combination of these factors; the Project causes a fundamental alteration to the landscape character, and the Project becomes a primary feature in the landscape. App. 51, at 26, 86. Mr.

Raphael determined that the Project may have a “Moderate-High” visual impact only on one scenic resource - Little Bay Road. App. 51, at 86.

The effect of the Project’s visibility on a typical viewer at Little Bay Road was determined by analyzing and scoring: (i) activity; (ii) extent of use; (iii) duration of view; and (iv) remoteness. App. 51, at 26-30, 87-89. The overall viewer effect was determined based on assigned ratings. App. 51, at 30, 87-89. Mr. Raphael admits that only very limited scenic resources may score high both for remoteness and extent of use. Tr., Day 9, 10/15/2018, Afternoon Session, at 95-99. He also acknowledges there are not a lot of resources within the vicinity of the Project that could score “high” for remoteness. Tr., Day 9, 10/15/2018, Afternoon Session, at 151-152. Mr. Raphael acknowledges that no viewer surveys were conducted for the Project and a determination as to the qualities and expectations of a typical viewer was made by Mr. Raphael and his colleagues based on their knowledge about the studied area and on site observations. Tr., Day 9, 10/15/2018, Afternoon Session, at 155-158. Mr. Raphael opines that only resources with a “moderate-high” and “high” overall viewer effect rating will have a “significant change” if the Project is constructed. App. 51, at 30. Mr. Raphael further opines that the Project may affect future use and enjoyment only at resources with a “moderate-high” and “high” overall viewer effect rating. App. 51, at 30. It was originally determined that the Project’s effect on a typical viewer at Little Bay Road will be “low-moderate.” App. 51, at 89, Table 19. Following the revision of the Project’s plans at this location, Mr. Raphael re-evaluated the Project’s effect at Little Bay Road and determined that it will be “low.” App. 96, at 8.

Following criticism from the Intervenors, Mr. Raphael addressed the effect on aesthetics of Little Bay from installation of concrete mattresses. App. 142. He testified that, on the Durham side, the area of mattress visibility will be limited to an expanse of approximately

24-28' wide and 34-feet long. App. 142, Att. C, at 1. He opines that at that size and with the typical viewing distance in the middle of the channel at almost 2/3 of a mile during low tide, these mattresses will be an unobstructing element and will be difficult to discern. App. 142, Att. C, at 1; Tr., Day 9, 10/15/2018, Morning Session, at 131. On the Newington side, the area of visibility of mattresses will be approximately 16-18' by 60-feet. App. 142, Att. C, at 1. The center of the channel, where the most boat traffic occurs at low tide, is under ½ mile from shore at 2060'. App. 142, Att. C, at 1. Mr. Raphael opines that, considering that the color of the mattresses may be naturally and artificially altered to better match the surrounding colors, the view of the mattresses from this distance will not result in an intrusion or visible element that will draw the eye and be prominent within that view. App. 142, Att. C, at 1; Tr., Day 9, 10/15/2018, Morning Session, at 25-27. Based on site visits, consultations with engineers, visual simulations, and additional research, Mr. Raphael concludes that "the proposed concrete mattresses will not 'draw the eye' to any great extent, and they will not be a substantive intrusion into the visual landscape." App. 142, at 2; App. 142, Att. C, at 3.

Mr. Raphael acknowledges that the estimated square footage of the mattresses increased after he performed his evaluation. Tr., Day 9, 10/15/2018, Morning Session, at 19. He testifies, however, that it does not impact his conclusion about the effect of the mattresses on aesthetics. Tr., Day 9, 10/15/2018, Morning Session, at 19. He avers that, even if the number of mattresses increased it would not change his conclusion considering that additional mattresses would be covered by water most of the time and their view from the water of Little Bay would remain substantially the same. Tr., Day 9, 10/15/2018, Morning Session, at 113-114.

Mr. Raphael prepared a photosimulation of the concrete mattresses from the midpoint of Little Bay looking toward the Durham shore. App. 186. Mr. Raphael confirms that he did not

prepare a photosimulation depicting views of concrete mattresses from the shoreline. Tr., Day 9, 10/15/2018, Morning Session, at 40-41. He argues that the Applicant did not have to prepare such photosimulation because the majority of shoreline is privately owned and, therefore, does not constitute a “scenic resource” as defined by the rules. Tr., Day 9, 10/15/2018, Morning Session, at 40-41. According to Mr. Raphael, the only scenic resource impact from the concrete mattresses that could be ascertained in Little Bay is at the general location for which the simulation was prepared. Tr., Day 9, 10/15/2018, Morning Session, at 40-41.

Mr. Raphael confirms that the photosimulation for the views of the Durham shoreline does not depict the lowest tide. Tr., Day 9, 10/15/2018, Afternoon Session, at 6-8. Mr. Raphael did not prepare a photosimulation depicting the view of the mattresses on the Newington side. Tr., Day 9, 10/15/2018, Afternoon Session, at 116-117, 171-172. He explains that he did not prepare this photosimulation because he concluded that the photosimulation of the mattresses on the Durham side represents the worst case scenario. Tr., Day 9, 10/15/2018, Afternoon Session, at 116-117, 171-172. At the Subcommittee’s request, Mr. Raphael then prepared and provided a photosimulation of the view of the Newington shoreline. App. 269.

Mr. Raphael acknowledges that he originally failed to evaluate the effect of the Project on Nimble Hill Road in Newington. App. 142, at 3. He agrees that Nimble Hill Road is a “scenic resource,” as defined by the rules because it is a locally designated scenic road. App. 142, at 3. He further acknowledges that due to its location within a historic district, it has the highest possible cultural designation. App. 142, at 3. He testifies, however, that, based on his observations and expertise, it is not a unique road that possesses long distant views or outstanding scenery that draws attention and stands out as a high value scenery resource. App. 142, at 4; Tr., Day 9, 10/15/2018, Afternoon Session, at 168. Mr. Raphael determined that its

scenic quality is “Low.” App. 142, at 4. Considering the cultural designation of the road as “High” and scenic quality as “Low,” Mr. Raphael determined that its overall sensitivity is “Moderate.” App. 142, at 4. Mr. Raphael concludes that, because Nimble Hill Road has “Moderate” overall sensitivity, the Project’s effect on its scenic qualities cannot rise to a level of having a significant adverse effect. App. 142, at 4.

Mr. Raphael admits that the photosimulation prepared to reflect the visual impact on the Darius Frink Farm depicts an incorrect design of the transition station. Tr., Day 9, 10/15/2018, Afternoon Session, at 59-60. He also admits that the proposed vegetation will not completely obstruct the view of the transition tower and the tower might be visible from the house. Tr., Day 9, 10/15/2018, Afternoon Session, at 68-69, 117-118.

In making his ultimate determination about the effect on aesthetics, Mr. Raphael considered the following avoidance, mitigation and minimization measures utilized by the Applicant:

- Burying the line in the vicinity of Main Street in Durham and the new UNH football stadium;
- Using dark colored weatherized steel structures instead of galvanized steel structures on either side of Main Street where the line re-emerges above ground;
- Revision of the structures’ design and heights and the Project’s configuration in Durham;
- Relocating the transition structure on the Durham side of the Little Bay Crossing and undergrounding of the cable in Gundalow Landing;¹⁶
- In Newington, in the vicinity of Nimble Hill Road, the Pickering and Darius Frink Farms, and the Hannah Lane residential neighborhood, mitigation measures included: increasing the spacing between the towers; undergrounding a portion of the transmission line; and removing an existing distribution line;

¹⁶ Mr. Raphael states that vegetation at the Gundalow Landing location may further mitigate the impact of the Project on aesthetics. App. 17, at 13. He also asserts, however, that there may be some technical limitations of the size, type, and location of vegetation that may be planted at this location. App. 17, at 13.

- Using dark weathering steel structures for the section of the Project between Woodbury Road and Spaulding Turnpike in Newington; and
- Constructing the Project primarily within the existing utility right-of-way.

App. 17, at 12-14; App. 51, at 104-105.

The Applicant's construction experts address Counsel for the Public's recommendation to decrease the visual impact of concrete mattresses by using split pipes. Tr., Day 1, 08/29/2018, Afternoon Session, at 116. They testified that split pipes cannot be used because they will affect the Project's ampacity. Tr., Day 1, 08/29/2018, Afternoon Session, at 116; Tr., Day 3, 09/17/2018, Afternoon Session, at 87. They further testify that they cannot avoid shallow areas by excavating further into the Bay because NHDES' rules do not permit taking an excavator into the water. Tr., Day 3, 09/17/2018, Afternoon Session, at 87-88. As to the recommendation to tint the mattresses, the Applicant agrees to tint the mattresses in a dark brown-green-gray color to minimize the visual impacts. Tr., Day 3, 09/17/2018, Afternoon Session, at 132.

After considering the potential impact of the Project on scenic resources and the avoidance, mitigation, and minimization measures that have been used and will be used by the Applicant, Mr. Raphael concludes that the Project, as proposed, "will not result in an unreasonable effect on aesthetics resources in the Project area." App. 51, at 106.

Mr. Raphael criticizes the assessment prepared by Counsel for the Public's expert, Michael C. Lawrence. App. 142, at 4-5, 8-9. He testifies that, out of 13 key observation points identified by Counsel for the Public's expert, only two (Fox Point Road and Durham Point Road) qualify as "scenic resources" under the rules. App. 142, at 4-5, 8-9. Following his initial criticism, Mr. Raphael agreed that one more location, Route 108, is a "scenic resource" as defined by the rules. Tr., Day 9, 10/15/2018, Afternoon Session, at 107. He argues that the 13 observation points do not rise to the level of being overly sensitive or requiring specific

mitigation. App. 142, at 4-5, 8-9. Mr. Raphael testified that, while he maintains his position that the effect of the Project on these points should not be considered, the Applicant and Counsel for the Public entered into a Stipulation addressing Mr. Lawrence's concerns. Tr., Day 9, 10/15/2018, Afternoon Session, at 193. Based on the Stipulation, Mr. Raphael opines that the Applicant addressed all concerns regarding the Project's potential visual impact on 13 locations identified by Counsel for the Public's expert. Tr., Day 9, 10/15/2018, Afternoon Session, at 193-194.

(2) Counsel for the Public

Counsel for the Public pre-filed the testimony and a report prepared by Michael C. Lawrence. CFP 4, 4-a.

Mr. Lawrence criticizes the report prepared by Mr. Raphael. CFP 4, at 4. He argues that Mr. Raphael's methodology "appears to under-represent scenic resources and minimizes the visual impacts of those resources identified." CFP 4, at 4. Counsel for the Public argues that Mr. Raphael eliminated several scenic resources from his analysis by determining that the Project will not be visible at some locations after applying normalized forty-foot opaque tree cover for forested areas as opposed to using a bare earth viewshed model as required by the rules. *See* Post-Hearing Brief, at 33-34. Counsel for the Public also argues that Mr. Raphael failed to assess the impact of the Project on publicly funded trails with a primary purpose other than scenic views, snowmobile and ATV trails. *See* Post-Hearing Brief, at 33. Counsel for the Public argues that Mr. Raphael failed to assess the impact on the UNH Historic District, the Newmarket & Bennett Roads Farms Historic District, and the Durham Point Historic District, that are eligible to be listed in the National Register of Historic Places. *See* Post-Hearing Brief, at 35-36; Supp. Post-Hearing Brief, at 3; App. 271, Att. 1.

Counsel for the Public further argues that the Applicant failed to ascertain the Project's impact on identified scenic resources but applied a screening process designed to eliminate resources from consideration under Site 301.05(b)(6). *See* Post-Hearing Brief, at 34-35.

Mr. Lawrence opines that Mr. Raphael failed to identify key observation points and failed to ascertain the Project's impact at these points. CFP 4, at 4.

Mr. Lawrence assessed the Project's impact on aesthetics by conducting site visits along the Project route. CFP 4, at 3. While traveling along the proposed route, Mr. Lawrence looked at specific places along the corridor, measured the heights of trees, noted vegetation to be cleared, and reviewed proposed pole locations and heights. CFP 4-a, at 9. At each key observation point, he compared existing conditions to the proposed Project conditions and developed illustrative photos and maps. CFP 4, at 3. Based on site visits, his observations, and information provided by the Applicant, Mr. Lawrence identified thirteen places where the Project, due to increase in heights of the structures and associated vegetative clearing, will have a negative impact on aesthetics: (i) Fox Point Road crossing; (ii) Durham Point Road crossing; (iii) Sandy Brook Drive (east) crossing; (iv) Sandy Brook Drive (west) crossing; (v) Frost Drive crossing; (vi) Cutts Road crossing; (vii) Route 108 crossing; (viii) Mill Road crossing; (ix) UNH – Gregg Hall vicinity; (x) UNH – Main Street overpass; (xi) UNH – Gables apartment complex; (xii) UNH – Gables North parking; and (xiii) Route 4 crossing. CFP 4, at 3; CFP 4-a, at 9-67.

Mr. Lawrence asserts that the Fox Point Road crossing, Durham Point Road Crossing, and Route 108 crossing are “scenic resources” as defined Site 102.45(a) and/or (b) because they are road crossings at designated scenic roads and byways. CFP 4, at 2. The Gregg Hall Vicinity, Main Street overpass, Gables apartment complex, and Gables North are scenic resources under Site 102.45(d) (recreational trails, parks, or areas established, protected or maintained in whole

or in part with public funds), Site 102.45(c) (lakes, ponds, rivers, parks, scenic drives and rides, and other tourism destinations that possess a scenic quality), and/or Site 102.45(f) (town and village centers that possess a scenic quality). CFP 4, at 2-3. Mr. Lawrence admits that the rest of the observation points identified and evaluated by him are not “scenic resources” as defined by the rules. CFP 4, at 3. Mr. Lawrence argues that the Subcommittee should consider the Project’s impact on these locations to ascertain the Project’s impact on aesthetics. CFP 4, at 3.

Counsel for the Public and the Applicant agreed on mitigation measures for 13 locations identified by Mr. Lawrence and requests that the Subcommittee approve the following conditions as part of the Certificate reflecting their agreement:

the Applicant shall develop vegetation planting plans for the 13 locations identified by Counsel for the Public’s expert Michael Lawrence to mitigate potential visual effects from the Project. Those locations are: Fox Point Road Crossing, Durham Point Road Crossing, Sandy Brook Drive (east), Sandy Brook Drive (west), Frost Drive Crossing, Cutts Road Crossing, NH Route 108 Crossing, Mill Road Crossing, UNH-Gregg Hall Vicinity, UNH-Main Street Overpass, UNH-Gable Apartment Complex, UNH-Gables North parking, NH Route 4 Crossing. The Applicant shall work in good faith with the underlying landowners at each of these 13 locations to reach agreement on the vegetation planting plans that do not interfere with the safe operation and maintenance of the new line. The Applicant further agrees to provide the planting plans to Michael Lawrence for review and comment prior to finalizing the planting plans at each location. The underlying property owners shall have final approval authority for any plantings proposed on their property.

App. 193, ¶32.

Counsel for the Public’s construction experts addressed the Intervenor’s concerns about the visual appearance of concrete mattresses. CFP 3, at 3-4. They confirm that the mattresses may be visible in shallow inter- and sub-tidal areas at low tide. CFP 3, at 3. They opine that it may be possible to reuse the excavated material as cable protection material at the surface or to

place it on top of the mattresses to provide a more natural look. CFP 3, at 3. They confirm that the Applicant advised them that the excavated rock cannot be reused for this Project. Tr., Day 12, 10/22/2018, Afternoon Session, at 24-25. They also state that the Applicant should consider minimizing the visual effect of concrete mattresses by using split pipes in intertidal areas and concrete mattresses in subtidal areas. CFP 3, at 3-4. They confirm, however, that the Applicant advised them that such usage is impossible because it will affect ampacity. Tr., Day 12, 10/22/2018, Afternoon Session, at 27. They testify that they have no reason to dispute the Applicant's assessment. Tr., Day 12, 10/22/2018, Afternoon Session, at 27, 113.

Counsel for the Public argues that Mr. Raphael underrepresented the impact of the mattresses by preparing the photosimulation that did not represent the lowest tide, failing to prepare a photosimulation for the Newington side of the Bay, and failing to consider that recreational use of Little Bay in the tidal flats along the shore. *See* Post-Hearing Brief, at 36-37. However, Mr. Lawrence testified that the mattresses will not have a significant visual impact on the views from Little Bay. Tr., Day 14, 10/25/2018, Afternoon Session, at 50-51.

Counsel for the Public agrees that the Applicant's mitigation commitments alleviate the impact of the Project on the viewing public. *See* Post-Hearing Brief, at 39. He argues, however, that the Subcommittee or its representative should review final vegetation plans to make sure that they are adequate to address the Project's effect on aesthetics. *See* Post-Hearing Brief, at 39.

(3) Town of Newington

Newington's Master Plan expresses the Town's position about the Project's impact on aesthetics of the Town by stating that the Project "would interject a significant visual blight upon Newington's small residential district . . . [and] . . . would have considerable negative view

impacts from many homes and upon the view shed of the Town's Historic District." NEW 1, at 21.

Newington criticizes Mr. Raphael's report and methodology. *See* Post-Hearing Brief, at 34-35. It argues that Mr. Raphael has failed to identify all scenic resources. *See* Post-Hearing Brief, at 34. Site 301.05(b)(4) requires Mr. Raphael to assess the Project's impact on aesthetics within 10 miles. *See* Post-Hearing Brief, at 34. Mr. Raphael, however, analyzed the Project's impact only on scenic resources that are located within three miles of the right-of-way (each side). *See* Post-Hearing Brief, at 34. Mr. Raphael also failed to consider that, in New Hampshire, the public has access to all lands for viatic purposes and hunting, unless the owner precludes such access. *See* Post-Hearing Brief, at 37. Newington also asserts that the public has access to private lands in current use. *See* Post-Hearing Brief, at 38.

Newington argues that Mr. Raphael failed to identify all scenic resources and failed to assess the Project's impact on the identified resources. *See* Post-Hearing Brief, at 33-35. The Town opines that, instead of assessing the Project's impact on the identified resources, Mr. Raphael, under various criterion, eliminated scenic resources from such consideration. *See* Post-Hearing Brief, at 33-35. That resulted in an elimination and failure to consider such significant scenic resources as the Newington Historic District, Little Bay, Nimble Hill Road, the Darius Frink Farm, the Pickering Farm, and the Knight's Brook Corridor. *See* Post-Hearing Brief, at 33-35.

Newington also opines that Mr. Raphael inappropriately minimized the impact of the Project by considering existing infrastructure, including the distribution line. *See* Post-Hearing Brief, at 35.

Newington's witness, Mr. Hebert, argues that Mr. Raphael failed to evaluate the impact of concrete mattresses. NEW 1, at 22-23. Mr. Hebert acknowledges that Mr. Raphael supplemented the VIA and addressed the impact of concrete mattresses on aesthetics. NEW 2, at 8. He argues, however, that such supplement is inadequate because it does not contain pictures of mattresses on the Newington shore of Little Bay as viewed from the middle of Little Bay at low tide. NEW 2, at 8. It also does not contain pictures of mattresses as they will be viewed from the abutting properties. NEW 2, at 8.

Mr. Hebert claims that the Applicant failed to assess the effect of the 34.5 kV distribution line that will be relocated. NEW 1, at 23-24. Mr. Hebert acknowledges that the Subcommittee has no jurisdiction over the distribution line and the poles of the line are owned by FairPoint. NEW 1, at 24-25. He requests that the Subcommittee order the Applicant to seek the Town's permission to relocate the line. NEW 1, at 24-25; NEW 2, at 10.

As to the mitigation measures, Mr. Hebert argues that the Applicant failed to decrease the number of the mattresses it will use by failing to determine actual depth of the mud flats. Tr., Day 11, 10/17/2018, Morning Session, at 113-116. He also argues that the Applicant failed to consider all available techniques, including removal of obstructing rock, to minimize the number of concrete mattresses. Tr., Day 11, 10/17/2018, Morning Session, at 118-119.

Mr. Hebert argues that the Subcommittee should request that the Applicant, prior to construction, provide the Subcommittee and all parties with photosimulations that depict the concrete mattresses on the Newington shore of Little Bay as viewed from the middle of Little Bay at low tide and from abutting properties at low tide. NEW 2, at 10. He also requests that the Subcommittee order the Applicant to develop a plan mitigating the visual impact of concrete

mattresses in cooperation with interested parties and file it with the Committee for the Committee's approval before construction of the Project. NEW 2, at 10.

Mr. Hebert requests that the Subcommittee, if it decides to issue the Certificate, require the Applicant to bury the Project along the entire length of Eversource's distribution line easement in Newington's residential and historic districts. NEW 1, at 40.

(4) Town of Durham

Durham, through the testimony of Todd Selig, argues that the Applicant failed to address the impact on aesthetics by the concrete mattresses. TD/UNH 1, at 7-8. Mr. Selig opines that, based on topography of Little Bay and his observations of the shore, Mr. Raphael underestimates the amount of mattresses that will be installed. Day 10, 10/16/2018, Afternoon Session, at 112.

The Town also argues that Mr. Raphael used overly complicated and insufficient methodology to ascertain the Project's impacts on aesthetics. *See* Post-Hearing Brief, at 20. He erroneously used a "reasonable person" standard while determining the Project's impact on aesthetics instead of considering the impacts as perceived by the residents who will experience it. *See* Post-Hearing Brief, at 22. The Town also argues that the Stipulation signed by the Applicant and Counsel for the Public does not eliminate concerns associated with the Project's impact on locations identified by Mr. Lawrence where the Project will remain highly visible. *See* Post-Hearing Brief, at 21.

The Town concludes that the Applicant failed to carry its burden of proof and failed to demonstrate that the Project will not have an unreasonable adverse effect on aesthetics. *See* Post-Hearing Brief, at 21-22.

(5) University of New Hampshire

The Applicant filed a Memorandum of Understanding addressing, in part, the impact of the Project on the aesthetics of UNH. App. 216. The Applicant agreed to work with UNH Campus Planning staff to establish a “reasonable and mutually agreeable vegetation screening plan (including gates and/or fencing).” App. 216, §IV, A. The plan will be reviewed and approved by UNH before the start of construction. App. 216, §IV, A. UNH reserved the right to add and or modify the plan after construction to insure the restoration effort meets the expectations of UNH. App. 216, §IV, A.

(6) Durham Historic Association

DHA argues that the methodology used by Mr. Raphael did not address the Project’s impact on all scenic sites, but addressed the Project’s impact only on limited scenic sites that were not eliminated as a result of Mr. Raphael’s rating system. *See* Post-Hearing Brief, at 10. DHA claims Mr. Raphael failed to identify all scenic historic resources, but identified and evaluated the impact of the Project only on scenic historic sites that are eligible to be listed or listed in the National Register of Historic Places. *See* Post-Hearing Brief, at 8-9. DHA also argues that Mr. Raphael failed to assess the Project’s impact on scenic recreational trails and conservation areas within three historic districts. *See* Post-Hearing Brief, at 12. Finally, DHA states that mitigation measures agreed to by the Applicant and Counsel for the Public are inadequate where they address the Project’s impact on limited sites to a limited degree. *See* Post-Hearing Brief, at 12.

(7) Conservation Law Foundation

CLF submits that the Applicant failed to carry its burden of proof and failed to demonstrate that concrete mattresses will not have an unreasonable adverse effect on aesthetics.

See Post-Hearing Brief, at 18-20. Specifically, CLF avers that Mr. Raphael’s assessment of the impact of concrete mattresses is inadequate because: (i) Mr. Raphael did not know how many mattresses would be installed when he determined that the Project will have a “moderate” impact on the aesthetics of Little Bay; (ii) failed to consider a vantage point closer than the point selected by him; (iii) failed to provide a photosimulation of concrete mattresses at low tide; and (iv) failed to consider the impact of mattresses on the views from the shorelines. *See* Post-Hearing Brief, at 18-20.

(8) Individual Intervenors

Jeff and Vivian Miller opine that the Project’s structures, concrete mattresses, and damage caused by construction equipment will have an adverse impact on aesthetics. DR 8, at 6. They argue that Mr. Raphael failed to assess the Project’s impact on all scenic resources, including historic sites and town villages, failed to conduct bare earth visibility analysis, and failed to account for the fact that concrete mattresses will be fully exposed during low tide. *See* Post-Hearing Brief, at 3.

Ms. Frink expressed her concerns about the Project’s impact on historic Darius Frink Farm. Tr., Day 11, 10/17/2018, Afternoon Session, at 28. She opines that the top of the transition structure will be visible from upstairs inside the house and vegetation proposed by the Applicant for screening will not be high enough to cover the views of the structure. Tr., Day 11, 10/17/2018, Afternoon Session, at 30, 85.

Mr. Fitch argues that the Applicant failed to demonstrate that the Project will not have unreasonable adverse effect on aesthetics because Mr. Raphael’s testimony and conclusions were not credible. *See* Post-Hearing Brief, at 4.

b. Deliberations

Some parties argue that Mr. Raphael's assessment is inadequate because it is based on subjective judgment that cannot be empirically verified. There is no scientific formula, however, that can determine and verify aesthetic qualities of different landscapes. Determining scenic qualities and the impact on such qualities involves and requires subjective judgments. Mr. Raphael has extensive experience in assessing scenic qualities of various landscapes and the impacts of various types of infrastructure on such landscapes. The Subcommittee received no evidence indicating Mr. Raphael's judgment of scenic qualities cannot be relied upon. Mr. Raphael demonstrated that he has the required level of experience to make such judgments. His report cannot be disregarded simply because it has been criticized as subjective. The methodology employed by Mr. Raphael, although containing some subjective elements, was employed objectively. Nothing in the record requires us to reject Mr. Raphael's judgment, opinions, and assessments.

Some parties also argue that Mr. Raphael's methodology is over-restrictive and is designed to eliminate scenic resources. Both Mr. Raphael and Counsel for the Public's expert testified that the methodology used by Mr. Raphael is common and widely accepted in the industry. Counsel for the Public's expert confirmed that Mr. Raphael accurately applied such methodology. The analysis employed by Mr. Raphael was thorough and logical. It is consistent with the Committee's rules that require visual assessments to be prepared "in a manner consistent with generally accepted professional standards by a professional trained or having experience in visual impact assessment procedures, regarding the effects of, and plans for avoiding, minimizing, or mitigating potential adverse effects of, the proposed facility on aesthetics." Site 301.05(a).

Some parties also argue that Mr. Raphael’s assessment does not comply with the Committee’s rules because Mr. Raphael failed to identify and evaluate the Project’s impact on scenic resources within 10 miles of the Project. Under Site 301.05(b)(4)d, a visual assessment should contain a “computer-based visibility analysis to determine the area of potential visual impact, which, for proposed . . . electric transmission lines longer than 1 mile if located within any rural area shall extend to . . . [a] radius of 10 miles if the line would be located in a new transmission corridor or in an existing transmission corridor if either or both the width of the corridor or the height of the towers, poles, or other supporting structures would be increased.” Mr. Raphael filed a computer-based visibility analysis depicting the Project’s visibility within 10 miles of the Project. App. 52, at 1. Site 301.05(b)(5) requires a visual assessment to identify “all scenic resources within the area of potential visual impact and [to describe] those scenic resources from which the proposed facility would be visible.” Based on computer-based visibility analysis, Mr. Raphael determined that the area with the greatest potential for visual impact is three miles on each side of the center line of the Project. App. 17, at 5-6. He identified and analyzed the Project’s effect on all scenic resources within three miles of the right-of-way. App. 17, at 6; Tr., Day 9, 10/15/2018, Afternoon Session, at 71. In addition, beyond three miles of either side of the center line, Mr. Raphael identified and analyzed the Project’s effect on resources with potential Project visibility. App. 17, at 6; Tr., Day 9, 10/15/2018, Afternoon Session, at 71. Mr. Raphael’s analysis is consistent with the Committee’s rules that require: (i) a 10-mile computer-based visibility analysis; (ii) determination of the area of potential visual impact; (iii) identification of scenic resources within the area of potential visual impact; and (iv) description of scenic resources from with the Project will be visible.

The Intervenor argues that Mr. Raphael failed to identify all scenic resources because he did not ascertain the Project's visibility based on a bare ground condition. Mr. Raphael, however, was not required to assess the Project's visibility based on bare ground conditions. He was required to submit a map "depicting the locations of the proposed facility and all associated buildings, structures, roads, and other ancillary components, and all areas to be cleared and graded, that would be visible from any scenic resources, based on both bare ground conditions using topographic screening only and with consideration of screening by vegetation or other factors." Site 301.05(b)(1). He complied with such requirement by providing a map identifying the Project and scenic resources based on bare ground conditions. *See App. 266.*

Opponents also argue that Mr. Raphael failed to identify and evaluate the Project's impact on all "resources to which the public has a legal right of access" that are: (i) conservation lands or easement areas that possess a scenic quality; (ii) scenic drives and rides, and other tourism destinations that possess a scenic quality; (iii) recreational trails, parks, or areas established, protected, or maintained in whole or in part with public funds; and (iv) historic sites that possess a scenic quality.

The review of the VA demonstrates that Mr. Raphael appropriately identified conservation lands or easements. Mr. Raphael's report specifically identifies "state and local conserved lands with a specific public use or scenic quality." App. 51, Table 2. The rule does not require Mr. Raphael to address the impact of the Project on all conservation land or easements. It is restricted to conservation lands or easement areas that possess a scenic quality. *See Site 102.45(b)* (defining "scenic resources" as "[c]onservation lands or easement areas that possess a scenic quality."). Mr. Raphael identified and evaluated the Project's impact on such lands. He appropriately identified only lands or easements to which the public has access. It is

true that the public may enter if not stopped on a variety of lands and easements. The rule, however, defines scenic resources as resources to which “public has a legal right of access.” *See* Site 102.45. The public has no legal right to access and use private property. While a member of the public may enter onto unposted public property she must leave if requested to do so by a landowner. *See* generally RSA 635:2.

Mr. Raphael appropriately identified scenic drives and rides, and other tourism destinations that possess a scenic quality where he included “scenic drives or locally identified scenic roads” in his analysis. App. 51, Table 2. Mr. Raphael appropriately limited his analysis to the drives and rides to which: (i) the public has public access; (ii) possess scenic qualities; and (iii) constitute tourism destinations. Site 102.45(c) defines “scenic resources” as “lakes, ponds, rivers, parks, scenic drives and rides, and other tourism destinations that possess a scenic quality.” A plain reading of the rule demonstrates that the terms “other tourism destinations” and “that possess a scenic quality” both modify “lakes, ponds, rivers, parks, scenic drives and rides.” In modifying those terms, they limit the terms to lakes, ponds, rivers, parks, scenic drives and rides that are tourism destinations and that possess a scenic quality. Thus a “scenic drive or ride” that is not a tourism destination or does not possess a scenic quality is not included in the definition of scenic resource.

Mr. Raphael also appropriately identified recreational trails, parks, or areas established, protected or maintained in whole or in part with public funds by including the following resources in his assessment: (i) state parks; (ii) public parks and recreational and gathering areas (such as village greens, local parks, picnic areas, or day use areas); (iii) non-motorized trails in New Hampshire state parks, forests, and recreational rail trails; and (iv) non-motorized trails in conserved or public lands or as locally identified. App. 51, Table 2. Mr. Raphael’s

identification of scenic resources is consistent with the rules where he identified all recreational trails, parks and areas established, protected or maintained in whole or in part with public funds to which the public has access regardless of whether they possess scenic qualities. Mr. Raphael also appropriately excluded from his analysis, land in current use where public funds are not required and are not used for placement of the land in current use, its protection or maintenance. The protection and maintenance of the land resides with the landowner. Current use parcels do not fall within the definition of scenic resources merely because of current use tax status.

As to identification of historic sites that possess a scenic quality, Mr. Raphael testified that he assessed the impact on scenic historic properties and that his analysis was not limited to historic properties that are listed or eligible to be listed in the Register. Although not separately labeled as “historic,” the VA identifies and assesses the impact on a variety of scenic buildings, structures, objects, districts, areas, and sites that are significant in the history, architecture, archaeology or culture of the State and the communities.

As to Counsel for the Public’s argument that Mr. Raphael failed to consider the Project’s impact on historic districts, Counsel for the Public accurately states that the VA does not have a separate section analyzing the Project’s impact on Durham Point Historic District, Cable Terminal Historic District, and UNH Historic District. The VA, however, assesses the Project’s impact on all scenic historic properties within these districts.

Mr. Raphael considered the existing character of the area while determining the effect on aesthetics. Site 301.14(a)(1) requires the Subcommittee to consider “[t]he existing character of the area of potential visual impact.” Site 301.14(a)(4) further states that, while deciding whether the Project will have an unreasonable impact on aesthetics, the Subcommittee shall consider the “scope and scale of the *change* in the landscape visible from affected scenic resources.” The

rules also specifically require the Subcommittee to consider “[t]he existing character of the area of potential visual impact.” Mr. Raphael considered the existing characteristics of the affected resources and assessed the change in aesthetics caused by the Project.

Originally, Mr. Raphael failed to address the impact of the Project on Little Bay. Following the criticism from various parties, Mr. Raphael supplemented his assessment and evaluated the impact of the Project on Little Bay. Mr. Raphael failed, however, to prepare photosimulations depicting the appearance of concrete mattresses at the Newington side of the Bay. Such photosimulations were prepared only upon the request of the Subcommittee. The photosimulations for Little Bay, however, do not depict the appearance of the mattresses at the lowest tide nor do they show their view at the locations used by many recreational users. It also remains unclear how many mattresses will be used and how many square feet they will cover. However, the Project’s environmental permits impose a maximum square footage for the mattresses. The Applicant’s witnesses testified that they estimated the worst case scenario for the amount of concrete mattresses and anticipate that less will be needed. They also testified that the mattresses will be tinted to reduce their visibility until they naturally settle in the surroundings.

Concrete mattresses will be visible from some private properties. The impact on aesthetics, however, is determined from scenic resources to which the public has a legal right of access. Site 102.45. Considering the limited area that will be covered by mattresses as compared to the entire Little Bay and the mitigation measure proposed by the Applicant, the Subcommittee finds that concrete mattresses will not have an unreasonable adverse effect on aesthetics of Little Bay. The photosimulations demonstrated, however, that, besides concrete mattresses, the vegetative clearing on the Durham and Newington sides of Little Bay will have a

negative impact on the views of Little Bay. App. 96, at 2-3; App. 186, at 5; App. 142, at 24; App. 269. Additional vegetation to mitigate the Project's impact on aesthetics at these locations is required. Considering the limited area of the impact and additional vegetation that will be implemented by the Applicant, the Subcommittee finds that the Project's impact on aesthetics at these locations will not be unreasonable.

As to the impact on the UNH Dairy Bar, there are several utility poles currently at this site together with the railroad infrastructure. The impact of the Project on aesthetics at this location was already mitigated by the Applicant by undergrounding the Project immediately after the railroad, agreeing to utilize weathering steel towers and agreeing to develop a vegetation planting plan for this location. Considering existing infrastructure and mitigation plans agreed to by the Applicant, the Subcommittee finds that the Project will not have an unreasonable adverse effect on aesthetics at this location.

The Applicant will construct a single transition structure at the Darius Frink Farm that will be taller than the existing structures. The Applicant mitigated the Project's impact on aesthetics of the Darius Frink Farm by undergrounding the Project across the Farm and agreeing to remove multiple existing structures and conductors. Views of the new transition structure should be mitigated through additional vegetative screening. The vegetative screening, however, should be compatible with the historic setting of the Farm and therefore, any vegetation planting plans developed for this or other historic properties are to be reviewed by DHR. Considering the mitigation requirements that must be implemented under the Subcommittee's Order, the Subcommittee finds that the Project will not have an adverse effect on aesthetics at this location.

Newington argued that the Project will have an unreasonable adverse effect on the aesthetics of Nimble Hill Road, a road that traverses through Newington Center and open fields.

Mr. Raphael, at first, failed to consider the Project's impact on the road. Following the Town's comments, he assessed the Project's impact on Nimble Hill Road and submitted photosimulations depicting the impact. App. 52, at 46-47. The Applicant agreed to mitigate the impact of the Project at this location by increasing the spacing between the structures and removing the existing distribution line near Nimble Hill Road. Mr. Raphael filed the revised simulations that included the mitigation measures agreed to by the Applicant. App. 186, at 1-3. New structures and associated infrastructure will be more visible than the existing line. However, Mr. Raphael concluded that the Project will not have an adverse effect on the aesthetics of the road. Counsel for the Public's expert, Mr. Lawrence, did not dispute Mr. Raphael's conclusion.

Newington requests that the Subcommittee order the Applicant to bury the Project under the road and at all locations where it crosses the residential and historic districts. The Subcommittee received no information indicating the effects such undergrounding would have on water quality, the natural environment, historic sites, public health and safety, or construction costs or related impacts. The Subcommittee cannot authorize construction of a project without knowing its construction details and potential impacts. The Project, as proposed, will have an adverse impact on the aesthetics of the road. Such impact should be further mitigated by the Applicant through implementation of vegetation planting plans. Considering the mitigation measures that the Applicant agreed to implement and additional vegetation that will be planted pursuant to the Subcommittee's Order, the Subcommittee finds that the Project will not have an unreasonable adverse effect on aesthetics of Nimble Hill Road.

The photosimulation prepared for Kingsbury Hall at UNH demonstrates that the Project will be located in an urban setting with less scenic features. App. 52, at 16-17. Considering

existing buildings and infrastructure at this location, the Project will be more prominent, but not a dominant feature at this location. It will not have an unreasonable adverse effect on aesthetics at Kingsbury Hall.

At the Frost Drive Crossing, currently existing wooden poles will be replaced with larger steel poles. App. 52, at 39-41. The Applicant agreed to minimize the Project's impact on aesthetics at this location by developing and implementing vegetation planting plans. The Project will not have an unreasonable adverse effect on aesthetics at the crossing.

Mr. Raphael prepared photosimulations depicting the Project's impact on aesthetics of Stratham Hill Park, Old Post Road, Garrison Hill Tower, Scammell Bridge, Route 4/Cedar Point, Wagon Hill Park, Fox Point, and Great Bay National Wildlife Sanctuary. App. 52, at 4-8, 13-14, 22-29. Our review of the photosimulations indicates that the Project will have minimal visibility at these locations and will not have an adverse impact on their aesthetics. App. 52, at 4-8, 13-14, 22-29.

The Applicant also submitted several simulations for privately owned properties, including Fairchild Drive and the Crossings at Fox Run. App. 52, at 36-38, 42-44. Although the Subcommittee is not required to evaluate the impact of the Project on aesthetics of private properties, the Subcommittee finds that, considering the existing infrastructure and change in appearance of the line, the impact of the Project on aesthetics at these locations will not be unreasonably adverse.

With regard to scenic locations identified by Counsel for the Public, the Applicant and Counsel for the Public entered into the Stipulation addressing mitigation measures the Applicant will have to implement. The Stipulation requires the Applicant to work in "good faith" with the property owners to agree on vegetation planting plans. It also requires the Applicant to submit

such plans to Mr. Lawrence for his review and comments. The Subcommittee finds that it is prudent to require the Applicant to consider the comments of Mr. Lawrence. The Subcommittee also finds that the mitigation process agreed to by the Applicant will effectively mitigate the impact of the Project on aesthetics at the identified locations. It should also be implemented for other locations where additional vegetation for mitigation of the Project's impact is required, including the Newington and Durham sides of Little Bay, Darius Frink Farm, and Nimble Hill Road. As stated above, at the locations where vegetation is proposed for historic properties, the Applicant shall consult with DHR before implementing the planting plans. The Certificate is conditioned upon:

Further Ordered that, the Applicant shall develop vegetation planting plans for the 13 locations identified by Counsel for the Public's expert Michael Lawrence to mitigate potential visual effects from the Project. Those locations are: Fox Point Road Crossing, Durham Point Road Crossing, Sandy Brook Drive (east), Sandy Brook Drive (west), Ffrost Drive Crossing, Cutts Road Crossing, NH Route 108 Crossing, Mill Road Crossing, UNH-Gregg Hall Vicinity, UNH-Main Street Overpass, UNH-Gable Apartment Complex, UNH-Gables North parking, NH Route 4 Crossing. The Subcommittee also identified four (4) locations where the Project's effect on aesthetics should be mitigated. Those locations are: Newington side of Little Bay, Durham side of Little Bay, Frink Farm, and Nimble Hill Road at the locations depicted at the photosimulations prepared by the Applicant's expert. The Applicant shall work in good faith with the underlying landowners at each of these 17 locations to reach agreement on the vegetation planting plans that do not interfere with the safe operation and maintenance of the new line. The Applicant shall provide the planting plans to Michael Lawrence for review and comment prior to finalizing the planting plans at each location. The Applicant and property owners shall give due consideration to Mr. Lawrence's comments. To the extent vegetation planting plans are needed or developed for historic resources, the Applicant shall submit such plans to the SHPO for review and comments. The underlying property owners shall have final approval authority for any plantings proposed on their property;

Considering that both aesthetics experts testified that the Project will not have an unreasonable adverse effect on aesthetics and after independently reviewing reports and the testimony submitted, subject to the identified mitigation measures, the Subcommittee finds that the Project will not have an unreasonable adverse effect on aesthetics.

2. Historic Sites

In determining whether a proposed energy facility will have an unreasonable adverse effect on historic sites, the Subcommittee is required to consider the following factors:

- (1) all of the historic sites and archaeological resources potentially affected by the proposed facility and any anticipated potential adverse effects on such sites and resources;
- (2) the number and significance of any adversely affected historic sites and archaeological resources, taking into consideration the size, scale, and nature of the proposed facility;
- (3) the extent, nature, and duration of the potential adverse effects on historic sites and archaeological resources;
- (4) findings and determinations by the New Hampshire division of historical resources of the department of cultural resources and, if applicable, the lead federal agency, of the proposed facility's effects on historic sites as determined under Section 106 of the National Historic Preservation Act, 54 U.S.C. §306108, or RSA 227-C:9; and
- (5) the effectiveness of the measures proposed by the applicant to avoid, minimize, or mitigate unreasonable adverse effects on historic sites and archaeological resources, and the extent to which such measures represent best practical measures.

Site 301.14(b)(1)-(5).

Site 102.23 defines “historic sites” as “historic property,” as defined in RSA 227-C:1, VI, namely “any building, structure, object, district, area or site that is significant in the history, architecture, archeology or culture of this state, its communities, or the nation.” The term includes “any prehistoric or historic district, site, building, structure, or object included in, or

eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior,” pursuant to 36 C.F.R. §800.16(l)(1).

a. Positions of the Parties

(1) Applicant

The Applicant asserts that the Project will not have an unreasonable adverse effect on archaeological and above-ground historical resources. App. 1, at 82.

As to the archaeological resources, the Applicant’s expert, Dr. Victoria Bunker, conducted a desk review within a 100-foot wide strip along the right-of-way. Tr., Day 2, 08/30/2018, Morning Session, at 44. She also conducted desk reviews for laydown areas in Lee and Durham. App. 144, at 1, App. 27, App. 171. She conducted a Phase I-A archaeological survey within the width of the corridor. App. 18, at 2-3; App. 28. A Phase I-A survey was also conducted for the access roads not previously impacted and disturbed. Tr., Day 2, 08/30/2018, Morning Session, at 115.

Dr. Bunker testified that twenty-two sensitivity areas were identified in Durham, including two recorded sites and one cemetery. App. 18, at 4-5; Tr., Day 2, 08/30/2018, Morning Session, at 50. Eight sensitivity areas were identified in Newington, including one cemetery. App. 18, at 4-5.

The Phase I-B archaeological survey was conducted at these sensitivity areas. App. 68, at 17; Tr., Day 2, 08/30/2018, Morning Session, at 50-51. As a result of the Phase I-B archaeological survey, Dr. Bunker determined that the LaRoche Brook Wetlands Cellar Hole site in Durham (27-ST-105) is potentially eligible for listing in the National Register of Historic Places. App. 68, at 17. Dr. Bunker confirms that a cellar hole at the site is within the right-of-way and archaeological artifacts are distributed across the right-of-way with concentration and

clustering within the cellar hole foundation feature and in close proximity to it. Tr., Day 2, 08/30/2018, Morning Session, at 53-55. She recommends avoidance of the Project's impact on this site. App. 68, at 17. The Applicant will avoid impacting the cellar hole by flagging it and conducting construction activities at least twenty feet away. App. 68, at 17; App. 144, at 3; Tr., Day 2, 08/30/2018, Morning Session, at 54-55, 57, 109-10. Dr. Bunker acknowledges that she did not consider the potential impact of vibration associated with construction of the Project on the integrity of the cellar hole. Tr., Day 2, 08/30/2018, Morning Session, at 62. She noted, however, that she has never observed such effects on archaeological resources. Tr., Day 2, 08/30/2018, Morning Session, at 113-14.

Dr. Bunker also addressed the impact of the Project on archaeological resources identified by DHA. App. 144, at 4-5. Dr. Bunker completed Phase I-A and Phase I-B surveys at Valentine Hill Canal, Norton Cellar Hole, and Edgerly Farm. App. 144, at 4; Tr., Day 2, 08/30/2018, Morning Session, at 5-6. At all of these locations, no evidence of archaeological artifacts, features, or components was discovered. App. 144, at 4; Tr., Day 2, 08/30/2018, Morning Session, at 5-6. Dr. Bunker also completed the Phase I-A survey in the zone identified by DHA as the Samuel Hill grave area. App. 144, at 4. An isolated headstone was observed set in concrete over 600 feet from the right-of-way. App. 144, at 4. Dr. Bunker testifies that the Mooney graveyard in Durham is outside the right-of-way and the Davis-Thompson graveyard and the Ryan and Stevens memorials in Durham are outside an access road extending from Foss Farm Road. App. 144, at 5.

Dr. Bunker testified that, considering the strong current flood event, erosion, displacement, configuration of the channel, and changes through time, it is unlikely that archaeological resources can be discovered as a result of construction in Little Bay. Tr., Day 2,

08/30/2018, Morning Session, at 12, 98-99. She acknowledges, however, that some resources may be discovered because of removal of the existing cable. Tr., Day 2, 08/30/2018, Morning Session, at 12-13.

Dr. Bunker recommends that the Subcommittee condition the Certificate and require the Applicant to continue to consult with DHR regarding effects on archaeological resources, to comply with any agreements and memoranda of understanding with DHR, and to report to the Committee and DHR any new information or evidence about archaeological resources in the Project area. App. 18, at 9. She also recommends that the Subcommittee delegate to DHR monitoring and compliance authority regarding historic and cultural resources. App. 18, at 9-10.

Considering the results of the archaeological survey work and subject to the recommended conditions, Dr. Bunker opines that the Project will not have an unreasonable adverse effect on archaeological resources. App. 18, at 7; App. 77, at 2.

The Applicant retained Preservation Company to identify aboveground historic resources that may be impacted by the Project within the area of potential effect. The area of potential effect was defined to be 100-feet of either side of the corridor for direct and indirect effects and half a mile on either side of the corridor for indirect effects. App. 19, at 3; Tr., Day 10, 10/16/2018, Morning Session, at 115; Tr., Day 10, 10/16/2018, Afternoon Session, at 4-5. As a result of its review, Preservation Company identified 162 historic resources within the area of potential effect. App. 19, at 6. Out of these properties, four historic districts and seven individual properties, as well as one former historic district, are either listed or are eligible for listing in the National Register of Historic Places. App. 19, at 6.

The Applicant's expert, Cherilyn Widell, ascertained the Project's effect on historic resources. App. 19, at 6-7. Ms. Widell originally concluded that the Project will have an

indirect (visual) adverse effect on these historic resources: (i) the Newington Center Historic District listed in the National Register in 1987; (ii) the Pickering-Rowe House at 50 Old Post Road in Newington; and (iii) the Pickering Farm on 339 Little Bay Road in Newington. App. 19, at 6-7. Ms. Widell opined that the Project's indirect impact on these properties will not prevent them from being eligible for listing in the National Register and, if already listed, will not cause their removal from the Register. App. 19, at 9; Tr., Day 10, 10/16/2018, Morning Session, at 106-107.

Ms. Widell acknowledges that DHR determined that the Project will have an adverse effect on the Alfred Pickering Farm, the Durham Point Historic District, and the Newmarket & Bennett Road Farms Historic District. App. 143, at 3-4. She agreed that the Project will adversely affect the Alfred Pickering Farm but disagreed with DHR's determination that the Project will have an adverse effect on the Durham Point Historic District and the Newmarket & Bennett Roads Farms Historic District. Day 10, 10/16/2018, Afternoon Session, at 22-29. The Applicant, however, does not press this point and does not dispute DHR's findings. Day 10, 10/16/2018, Afternoon Session, at 28-29.

The Applicant entered into the Memorandum of Understanding with DHR addressing mitigation measures of the impact on the Alfred Pickering Farm, the Durham Point Historic District, and the Newmarket & Bennett Roads Farms Historic District. App. 200. The Memorandum of Understanding reflects the Applicant's agreement to minimize the visual impact of the Project on the Alfred Pickering Farm by using a weathering steel H-frame structure and by publishing a publicly oriented booklet that will provide a brief history of agriculture in Newington from its founding to the present. App. 200, at 2; Tr., Day 10, 10/16/2018, Morning Session, at 5; Day 10, 10/16/2018, Afternoon Session, at 33-34. The Applicant agreed to

minimize the impact on stone walls within Durham Point and the Newmarket & Bennett Roads Farms Historic Districts by: (i) not traversing the walls; (ii) traversing the walls through existing breaches; (iii) traversing the walls using timber matting; or (iv) placing the work pads on top of timber matting to elevate work pads above the walls. App. 200, at 3-4.

The Applicant agrees to minimize the impact of the Project on the granite quarry in the Durham Point Historic District by adjusting access routes around the quarry features and using timber matting where avoidance is not possible. App. 143, at 4; App. 165, at 358; Tr., Day 10, 10/16/2018, Morning Session, at 20-21.

Ms. Widell confirms that the quarryman's granite slab bench should have been identified as a part of sensitive areas of the Durham Point Historic District. Tr., Day 10, 10/16/2018, Morning Session, at 20-21, 83-84. The maps should also identify the Darius Frink Farm as located within a historic district. Day 10, 10/16/2018, Afternoon Session, at 99-100. Ms. Widell confirms that the Applicant will ensure that, prior to construction, all historic sensitive areas will be accurately and clearly identified on the Project maps. Day 10, 10/16/2018, Afternoon Session, at 84-86. Ms. Widell recommends placing additional vegetation on some portions of Nimble Hill Road to minimize the Project's effect on the Darius Frink Farm. Day 10, 10/16/2018, Afternoon Session, at 87-88.

Ms. Widell confirms that the Project will directly affect the Little Bay Underwater Cable Terminal Historic District in Durham. App. 19, at 7. The Applicant entered into a Memorandum of Agreement with USACE addressing the Project's effect on the Cable Terminal House. App. 200, Appx. A. According to the Memorandum of Agreement, the Applicant will move the Cable Terminal House on the Durham side of Little Bay during construction of the Project. App. 200, Appx. A, at 2. It will be permanently relocated twelve feet to the west of, and fifteen feet to the

north of, its historic location. App. 200, Appx. A, at 2. The Applicant will complete Historic American Engineering Records of the Little Bay Underwater Cable Terminal Houses Historic District before starting construction, will develop interpretive signage that will be displayed in the Fox Point area of Newington, and will develop identical interpretive displays for the Towns of Durham and Newington to convey the historical and engineering significance of the Little Bay Underwater Cable Terminal Houses Historic District. App. 200, Appx. A, at 2-3.

Ms. Widell criticized the testimony of Counsel for the Public's witness, Ms. O'Donnell. App. 143, at 6. She states that Ms. O'Donnell did not provide any basis for her conclusion of an unreasonable adverse effect. App. 143, at 6. Ms. O'Donnell identified historic sites that may be impacted by the Project, but did not discuss the degree and nature of potential impacts. App. 143, at 6-7. Ms. Widell further disagrees with Ms. O'Donnell's argument that the area of potential impact should be 6-miles. App. 143, at 7; Day 10, 10/16/2018, Afternoon Session, at 9. She disagrees with Ms. O'Donnell's interpretation of the term "historic site" as defined by the Committee's rules. App. 143, at 7-9; Day 10, 10/16/2018, Afternoon Session, at 9-10.

Ms. Widell addressed the impact of the Project on historic resources claimed by DHA. App. 143, Att. A. Ms. Widell determined that some historic sites identified by DHA were outside of the area of potential impact or were not present at identified locations. App. 143, Att. A. She testified that DHR determined that the Beech Hill Road did not warrant further studies because it is not historic. Tr., Day 10, 10/16/2018, Morning Session, at 41-42, 59-62. As to the stone walls that will be impacted by the Project, Ms. Widell testified that the effect of the Project on the stone walls within the Durham Point Historic District and the Newmarket & Bennett Road Historic District was addressed through mitigation and avoidance measures agreed to by the Applicant and DHR. App. 143, Att. A; Tr., Day 10, 10/16/2018, Morning Session, at 16-17.

Ms. Widell recommends that the Subcommittee condition the Certificate and require the Applicant to continue to consult with DHR regarding effects on historic sites, to comply with any agreements and memoranda of understanding with DHR, and to report to the Committee and DHR any new information or evidence about aboveground historic resources in the area of potential effect. App. 19, at 10. She also recommends that the Subcommittee delegate to DHR monitoring and compliance authority regarding historic resources. App. 19, at 10.

Subject to these conditions, Ms. Widell concludes that the Project will not have unreasonable adverse effect on aboveground historic resources. App. 19, at 8-11; App. 143, at 10.

(2) Counsel for the Public

Counsel for the Public's expert, Patricia O'Donnell, opines that the Project will have an unreasonable adverse effect on aboveground historic resources in Madbury, Durham, and Newington. CFP 5, 6. In support, Ms. O'Donnell pre-filed her testimony and filed a report entitled "Assessment Report on Potential Impacts to Above-Ground Historic Sites for the New Hampshire Seacoast Reliability Project." CFP 5-a.

Ms. O'Donnell opined that the Applicant failed to identify all aboveground historic resources that will be impacted by the Project and failed to correctly ascertain the degree of such impact. CFP 5, at 4. She argues that the Applicant narrowly construed the meaning of "historic resources," as defined by the Committee's rules, and identified and ascertained the Project's impact only on the resources listed or are eligible for listing in the National Register of Historic Places. CFP 5, at 2. As a result, the Applicant failed to identify and evaluate the Project's impact on trails, recreation and conservation lands, public waters, access points, rivers and roads designated at local, state, and national levels, and historic sites that are not 50 years old or older.

CFP 5-a, at 8-10, 18. She states that “[t]he focus of architecture and exclusive adherence to National Register eligible properties limited the identification of historic sites and the assessment of the potential effect to the historic character of landscape level sites.” CFP 5-a, at 15.

Ms. O’Donnell opines that Ms. Widell should have addressed the impact of the Project on the following historic sites: (i) historic graveyards; (ii) conservation lands; (iii) current use properties; (iv) recreation lands and sites; (v) scenic and cultural byways and scenic roads; (vi) trails; (vii) public waters and designated rivers; (viii) town identified, other historic sites; and (ix) stone walls and fences. CFP 5-a, at 21.

Ms. O’Donnell also argues that the Applicant should have considered the effect of the Project on historic sites within a 6-mile corridor parallel to the Project center line as opposed to one mile. CFP 5-a, at 8, 18. Based on Mr. Raphael’s VIA, she opined that the Project will be visible in this area and its visibility may impact historic qualities of properties located at this area. CFP 5-a, at 8-9.

Counsel for the Public also argues that vibration associated with constructing of the Project may extend beyond a 60 to 100-foot area of direct potential impact analyzed by Ms. Widell. *See* Post-Hearing Brief, at 49. Ms. Widell, however, failed to consider potential impacts of vibration on aboveground historic resources. *See* Post-Hearing Brief, at 49.

Ms. O’Donnell argues that the Applicant failed to document and accurately describe the Project’s impact on all historic resources that it identified. CFP 6, at 3-4. She argues that it is evidenced by the fact that the Applicant failed to ascertain the Project’s impact on historic stone walls and features that contribute to the rural character of the Durham Point Historic District and Newmarket and Bennett Roads Farm Historic District. CFP 6, at 3. She acknowledges that, following DHR’s communication, the Applicant addressed the Project’s impact on the stone

walls and provided proposed mitigation, minimization, and avoidance measures. CFP 6, at 3. She argues, however, that the Applicant failed to provide an inventory of stone walls impacted by the Project and offered measures that are not sufficiently specific. CFP 6, at 3.

Ms. O'Donnell concludes that the Project may be visible at: (i) National Register/State listed sites (26); (ii) local, DOE, and other non-listed historic sites (8); (iii) GNIS identified historic sites (9); (iv) historic graveyards (50); (v) conservation lands (87); (vi) recreation lands – sites (12); (vii) recreation lands – areas (13); (viii) scenic roads (15.4 miles); (ix) trails (3.5 miles); (x) public waters – lakes and ponds (12); (xi) designated rivers (4.3 miles); and (xii) public waters access points (5). CFP 5-a, at 33.

Ms. O'Donnell identifies historic sites that may be effected by the Project in Madbury: (i) direct impact¹⁷ – stone walls and fences (71) and the Applicant identified historic sites (3); and (ii) indirect impact¹⁸ – other local non-listed historic sites (2), historic graveyards (6), conservation lands (tracts) (6), designated roads (0.8 miles), and trails (0.9 miles). CFP 5-a, at 39. Ms. O'Donnell acknowledges that the Applicant reduced the heights and number of structures to minimize the visual effect of the Project on historic resources. CFP 5-a, at 40. The Applicant also shifted the proposed structure alignment 10 feet west and changed the spacing to increase the distance from the bridge pursuant to DOT's request. CFP 5-a, at 40. Two H-frame structures at the Madbury Road crossing were redesigned as monopoles. CFP 5-a, at 40. Ms. O'Donnell opines, however, that no efforts to avoid, minimize or mitigate potential direct effects to Madbury aboveground historic sites “were found within the Applicant's materials.” CFP 5-a, at 40. Ms. O'Donnell provides the following conclusion as to the Project's effect on historic sites in Madbury:

¹⁷ Impact within 500-foot buffer of the Project structures.

¹⁸ Impact caused by the Project's visibility within one-mile radius.

Based on the above review and analysis, Heritage Landscapes finds that Madbury will be adversely affected by the proposed Project. This effect is driven by an overall change in historic landscape character, particularly within the open landscape of the W.H. Elliott Rose Company district and the UNH Kingman Farm, extending south along Evans and Perkins Roads, and the potential for irreparable loss of historic stone walls within the Project ROW. Views along Madbury Road and expansive views from Knox Marsh Road, which mark important arrival corridors to historic Madbury will also be further degraded, as will the experience of smaller historic roads east and west of the substation. The larger transmission structures are out of scale with the community and will adversely affect the historically small-scale, agricultural, rural character that Madbury continues to express.

CFP 5-a, at 42-43.

Ms. O'Donnell identifies the following historic resources that may be impacted by the Project in Durham: (i) direct impact – historic graveyards (2), stone walls and fences (475), conservation lands (tracts) (28), recreation lands – areas (7), designated roads (1.4 miles), trails (1.2 miles), public lakes or ponds (2), designated rivers (0.3 miles), and Applicant identified historic sites (22); and (ii) indirect impact – National and/or State Register listed sites (4), local other non-listed sites (5), historic graveyards (28), conservation lands (tracts) (60), recreation lands – sites (5), recreation lands – areas (5), designated roads (5.8 miles), trails (2.6 miles), public lakes or ponds (7), public water access points (3), and designated rivers (4 miles). CFP 5-a, at 46-47. Ms. O'Donnell claims that the Project will be visible outside a one-mile radius evaluated by the Applicant and will have an indirect impact on the National/State Register listed General John Sullivan House and Folsom's Tavern (also known as Odiorne Farm). CFP 5-a, at 47. The Project also will be visible and may impact locally recognized Wagon Hill Farm and Oyster River Bridge. CFP 5-a, at 47. The Project will affect such conserved lands and recreation areas as the Durham Memorial park, the Faculty Neighborhood Open Space and Tot Lot, and the Adams Point Wildlife Management Area. CFP 5-a, at 47. Ms. O'Donnell testifies

that the Project will have a direct adverse effect on the Cable Terminal House (it will be moved), stone walls, and graveyards, including Mooney Cemetery, Mathes-Stevens House, and the Meader Farm/Elmhurst Farm. CFP 5-a, at 49. Ms. O'Donnell acknowledges that, in order to mitigate and minimize the Project's impact in Durham, the Applicant agreed to construct a portion of the Project underground and agreed to utilize lower and less structures. CFP 5-a, at 48. She proffered the following conclusion:

The possibility of effect to Wagon Hill Farm and the National Register listed Folsom's Tavern as well as to additional sites along Newmarket Road indicates the widespread impact to historic sites within Durham. Due to the wide potential for effect and the significant visual intrusion likely within several specific areas, Heritage Landscapes finds the Project would have an adverse effect on the Town of Durham.

CFP 5-a, at 50

Ms. O'Donnell identifies these historic resources that may be impacted by the Project in Newington: (i) direct impact – historic graveyards (2), stone walls and fences (259), conservation lands (tracts) (2), recreation lands – areas (1), designated roads (0.5 miles), public lakes or ponds (1), and Applicant identified historic sites (31); and (ii) indirect impact – National and/or State Register listed sites (2), other local non-listed sites (3), historic graveyards (6), conservation lands (tracts) (5), recreation lands – sites (2), recreation lands – areas (1), designated roads (7.5 miles), public lakes or ponds (4), and designated rivers (0.1 miles). CFP 5-a, at 52-53. Outside a one-mile radius, she claims the Applicant failed to evaluate the Project's impact on the Fox Point area and landscape features such as Flynn Pit and Beane's Hill. CFP 5-a, at 53. Ms. O'Donnell opined that the Project's "design within the Town of Newington represents the most substantial efforts to minimize potential effect within the Project corridor" and includes an undergrounding section of the Project, relocation and lowering the number of structures, and partial funding of a

conservation easement purchase by the Newington Conservation Commission. CFP 5-a, at 54.

Ms. O'Donnell provides the following opinion about the Project's impact on historic sites in Newington:

Visual effect to the Newington Historic District appears to be fairly well resolved by undergrounding the line through Frink Farm and Hannah Lane. However, the potential remains for direct and indirect impacts to the Town of Newington. In addition to effects to Flynn Pit, the Applicant did not identify efforts to avoid, minimize or mitigate damage to the many stone walls located within the Project corridor. In addition, there remains potential for visual intrusions along Little Bay Road, Old Post Road and Fox Point Road due to increased structure heights and widened clearing. Most significant, is the potential visual intrusion to the historic intersection of Old Post Road and Nimble Hill Road. The 100-foot wide clearing and increased size of the 3-pole 65-foot structure visible at the west edge of the Frink Farm, disrupting the entry experience into the Historic District. For these unresolved reasons, Heritage Landscapes finds the Town of Newington will experience unreasonable adverse effects.

CFP 5-a, at 55.

Ms. O'Donnell testified that the Applicant's experts "generally" failed to identify properties of heritage value to the people of New Hampshire. CFP 5, at 2. The Applicant's experts also failed to consider the impact of the Project on larger historic areas or districts and concentrated, instead, on the impacts on individual properties. CFP 5, at 3. Ms. O'Donnell argues that her claims are supported by the fact that DHR determined that the Project will have an adverse effect on the Durham Historic District and the Newmarket & Bennett Road Farms Historic District, while Ms. Widell determined that there will be no adverse effect on these historic districts. CFP 6, at 3.

Ms. O'Donnell also opined that the Applicant's assessment of the Project's views on historic resources was inadequate. CFP 5-a, at 12. The Applicant relied on existing vegetation

to establish potential visibility of the Project and failed to account for the fact that such vegetation can be removed and can disappear. CFP 5-a, at 12.

As to DHR's determination of the Project's adverse effect on a few historic resources, she argues that it is not indicative of the Project's actual effect. CFP 6, at 2. DHR did not consider the Project's effect on all "historic sites" as defined by the rules and did not evaluate the Project's effect on all sites identified by the municipalities and interested parties. CFP 6, at 2.

Ms. O'Donnell states that "[t]he scale of the structures and width of clearing will impose 'prominent' or 'dominant' features within the landscape that will diminish the integrity of historic sites and significantly degrade the character of broad areas within three of the four Project host towns." CFP 5-a, at 62. Ms. O'Donnell ultimately concludes that, "[d]ue to the widespread counts and acreage of historic sites within the four host towns, and the long-term presence of the Project . . . there would be adverse effect." CFP 5-a, at 62.

Counsel for the Public asserts that it is up to the Subcommittee to determine whether the Project will have an unreasonable adverse effect on historic sites after considering experts' opinions and testimony, evidence presented, and the arguments about the scope and quality of the Applicant's evidence. *See* Post-Hearing Brief, at 49.

Counsel for the Public and the Applicant agreed to condition the Certificate and require the Applicant, prior to construction, to file with the Committee a copy of Best Management Practices for work near archaeological and historic sites. App. 193, ¶8.

(3) Town of Newington

Mr. Hebert, on behalf of the Town of Newington, argues that the Project will have an unreasonable adverse effect on historic sites in Newington. NEW 1, at 25.

Newington asserts that the Applicant failed to identify all historic sites because: (i) it identified only the sites listed or eligible to be listed in the National Register of Historic Places; and (ii) limits the area of potential effect to one mile. *See* Post-Hearing Brief, at 40-43.

Mr. Hebert concludes that the Applicant's argument that there will be no unreasonable adverse impact on historic sites is unreliable because it overlooks the Project's impact on all historic sites. NEW 1, at 26-27. Mr. Hebert also argues that DHR's final determination is also unreliable because it is based on incomplete information provided by the Applicant. NEW 1, at 27-28.

Mr. Hebert acknowledges that the Town provided to the Applicant the list of historic resources that the Applicant missed and that Ms. Widell addressed the Project's impacts on these resources. Tr., Day 11, 10/17/2018, Morning Session, at 86-87.

Newington also claims that the Applicant failed to ascertain the impacts that will be caused by the relocation of distribution lines. *See* Post-Hearing Brief, at 47.

To mitigate the effect of the Project on historic sites, Mr. Hebert requests that the Subcommittee, if it decides to issue a Certificate, require the Applicant to bury the Project along the entire length of Eversource's distribution line easement located in Newington's residential and historic district. NEW 1, at 40.

(4) Town of Durham

The Town of Durham submits that the Applicant failed to carry its burden of proof and failed to demonstrate that the Project will not have an unreasonable adverse effect on historic

sites. *See* Post-Hearing Brief, at 20. The Town argues that the Applicant failed to identify all historic resources and failed to consult with local communities while identifying said resources. *See* Post-Hearing Brief, at 20-21.

Durham entered into a Memorandum of Understanding with the Applicant that, in relevant part, addresses Durham's concerns about the Project's impact on historic sites. App. 270, §VIII. The Applicant agreed to take all necessary steps to avoid and/or minimize the Project's impact on historic sites in Durham and on historic stone walls and cellars specifically. App. 270, §VIII, A. The Applicant also agreed to advise the Town and DHA of newly discovered evidence of historic sites that it will report to DHR. App. 270, §VIII, B. The Applicant agreed to protect: (i) the stone walls listed in a letter from Mark Doperalski of Eversource to the Durham Historic Association dated May 17, 2018; and (ii) stone walls situated in wetlands in Durham. App. 270, §VIII, D. The Applicant agreed to avoid impacts to other historic stone walls or boundary stone walls within the right-of-way or along access roads by: (i) not traversing the walls; (ii) traversing the walls through existing breaches; or (iii) traversing the walls using timber matting to temporarily bridge over the walls. App. 270, §VIII, D. The Applicant also agreed to conduct a ground penetrating radar survey of the Samuel Hill family burial site. App. 270, §VIII, D.

Mr. Selig requested the Subcommittee, if it issues the Certificate, to condition the Certificate upon the Applicant's compliance with the Memorandum of Understanding between the Applicant and Durham. Tr., Day 10, 10/16/2018, Afternoon Session, at 148, 169.

(5) Durham Historic Association

DHA argues that the Applicant failed to identify all historic resources and identified only resources that are eligible to be listed or listed on National Register of Historic Places that are located within a too narrowly defined area of potential effect. *See* Post-Hearing Brief, at 14-20.

DHA pre-filed the testimony of Nancy P. Sandberg and Janet A. Mackie. They argue that the Applicant failed to evaluate the impact of the Project on historic properties preceding the 1856 Chace map and the 1850 census. DHA 1, at 2. DHA's witnesses identified a number of historic sites that will be crossed by the Project or will be adjacent to the Project in the Town of Durham. DHA 1, at 4-45. These sites include, but are not limited to, the stone wall west to Durham Point Road acting as a boundary wall between the Edgerly Farm and Perkins-Wheeler Farm; the Edgerly gravestones; the first two stone walls north of Longmarsh Road; the Longmarsh Road Quarries Historic District; stones of a granite slab bridge used for crossing the Stevenson brook; the Quarrymen's granite bench; T-junction of stone walls west of the Quarrymen's Bench; the stone wall serving as the boundary wall for land granted to Stephen Jenkins in 1693; four stone walls to the west of the Longmarsh Road Quarries Historic District; a cellar that marks the site of a house built before the Revolutionary War by Nathaniel Norton; the stone wall that will be crossed at the site of pole 41; stone walls at Burnham Mooney Moriarty Farm; three stone boundary walls and one driftway at the Beaudet farmland north of Bennett Road east of LaRoche Brook; the stone wall that follows the east side of Beaudet Brook; the cellar of the Cornet Smith farmhouse; the Davis-Thompson family cemetery; the South Branch or the Mill Road; the Durham Farms Railroad Historic District; the Class VI section of the bypassed Mill Road; the Samuel Hill family cemetery; the Beech Hill Road; the site of the Marden graves; and the cattle driftway leading south from Beech Hill Road and continuing on

the south side of the bypass to the pastures. DHA 1, at 6-44. They also assert that the Project will have an adverse effect on the Durham Point Historic District by crossing and being visible at Longmarsh Road. DHA 4, at 6-7. They express doubt about the ability of the Applicant and its contractors to avoid and/or minimize the Project's impact on these sites. DHA 1, at 45; DHA 4, at 10-16.

They identified stone walls within Durham that were not identified by the Applicant in the project maps. DHA 4, at 2-5. They confirm, however, that the Applicant's proposed minimization, avoidance, and mitigation measures resolved their concerns about the impact on historic stone walls. Tr., Day 11, 10/17/2018, Afternoon Session, at 135.

DHA submits that Ms. Widell's evaluation of the Project's effect on the Durham Point Historic District, Newmarket & Bennett Roads Farms Historic District, the University of New Hampshire Historic District, and the Durham Farms Railroads Historic District was inadequate. *See Post-Hearing Memorandum*, at 20-30.

DHA also argues that the Applicant "photoshopped" certain Google Earth images to minimize the Project's impact on historic sites. *See Post-Hearing Memorandum*, at 23. However, upon request of the Subcommittee, this assertion was effectively rebutted by the Applicant as noted below.

DHA requests that the Subcommittee order the Applicant to use ground-penetrating radar to confirm there are no remains at the Samuel Hill burial site. Tr., Day 11, 10/17/2018, Afternoon Session, at 114-15.

They also opine that the Applicant should modify its maps so they clearly identify the quarrymen's granite slab bench and the quarry cut as part of the historic sensitive area. Tr., Day 11, 10/17/2018, Afternoon Session, at 116.

DHA also criticizes the Memorandum of Understanding between the Applicant and DHR because it fails to address the Project's impact on several historic sites identified by DHA, does not require the Applicant to retain an independent monitor, does not define "unanticipated effect" and "historic archaeological property," does not identify the procedure for addressing the effect if it occurs, does not require the Applicant to post bond, and does not contain a provision for remedial actions or compensation. DHA 4, at 19; Tr., Day 11, 10/17/2018, Afternoon Session, at 132, 151-152.

They request that the Applicant provide more specific information about the laydown area in Durham. DHA 4, at 20. DHA also requests the Subcommittee to condition the Certificate, if one is issued, to authorize an independent historic monitor approved by the Committee, the towns and DHR, to monitor the Applicant's compliance with the Memorandum of Understanding. *See* Post-Hearing Brief, at 6. DHA also requested that the Subcommittee require the Applicant to comply with BMPs. *See* Post-Hearing Brief, at 6.

(6) Individual Intervenors

Ms. Frink testified that the Project will have an adverse effect on the historic Darius Frink Farm and Alfred Pickering Farm. HF 29, at 1; Tr., Day 11, 10/17/2018, Afternoon Session, at 37. The Darius Frink Farm was placed in the National Register of Historic Properties as part of the Newington Center Historic District. HF 29, at 1. Ms. Frink acknowledges that much of the Project will be buried underground on the Farm. HF 29, at 1. She argues that a 75-foot high monopole transition station with a foundation that will be eight feet in diameter constructed on the Farm will have an adverse effect on the Darius Frink Farm and the Newington Center Historic District because it will be visible from the house and fields and from Nimble Hill Road. HF 29, at 2-3; Tr., Day 3, 09/17/2018, Morning Session, at 40-46; Tr., Day 11, 10/17/2018,

Afternoon Session, at 38. She also argues that vegetation proposed by the Applicant for screening will not be high enough to cover the view of the structure. Tr., Day 11, 10/17/2018, Afternoon Session, at 30. As to the vegetation along Nimble Hill Road, as proposed by Ms. Widell, Ms. Frink opines that it will preclude the views of the Farm from the road. Tr., Day 11, 10/17/2018, Afternoon Session, at 30. Ms. Frink acknowledges that DHR determined that the Project will have no adverse effect on the Farm where it will be constructed underground through the Farm property and the transition structure will be within an existing forested area (100 feet into the tree line) and will not protrude significantly from the top of the tree line. Tr., Day 11, 10/17/2018, Afternoon Session, at 36, 63-65.

b. Deliberations

Aboveground Historic Resources

Project opponents argue that the Applicant failed to assess the Project's impact on all historic resources because it limited the studied area of potential effect to 1-mile for aboveground historic resources. They argue that the Applicant should have used a 10-mile area of potential effect because a viewshed analysis demonstrated that the Project may be visible to the sites located as far as 10 miles away. Site 301.06 states that the Applicant should identify all historic sites within the area of potential effect "as defined in 36 C.F.R. §800.16(d)." 36 C.F.R. §800.16(d) defines an "[a]rea of potential effects" as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist." It is "influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." *Id.*

Here, the Applicant's expert testified that she analyzed the impacts of the Project within the area of potential effect determined by DHR in consultation with the US Army Corps of

Engineers. While determining the area of potential effect, DHR relied on the definition provided by 36 C.F.R. §800.16(d) and internal policies and procedures. DHR is an agency that has the experience and level of expertise required for determining the areas of potential effect on historic properties. The Subcommittee received no evidence indicating that DHR's determination of area of potential effect was arbitrary and/or unreasonable. The area of potential effect analyzed by the Applicant is in compliance with Site 301.06 and 36 C.F.R. §800.16(d).

Regardless of the area of potential effect that was determined by DHR and analyzed by the Applicant, the record demonstrates that the Applicant's expert ascertained the impact on all historic sites affected by the Project. Although the Applicant's expert concentrated her analysis on the historic sites within the area of potential effect, as defined by DHR, she also assessed the Project's impact on each historic resource identified by the parties regardless of whether the resource was in the area of potential effect. The Subcommittee is not aware of any historic resource, within or outside the area of potential effect, that the Applicant's expert failed to analyze. The Applicant did not limit its analysis and did not fail to assess the Project's impact on all historic properties by limiting the area of potential effect as recommended by DHR.

Site 102.23 defines "historic sites" as "historic property," as defined in RSA 227-C:1, VI, namely "any building, structure, object, district, area or site that is significant in the history, architecture, archeology or culture of this state, its communities, or the nation." The term includes "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior," pursuant to 36 C.F.R. §800.16(l)(1). A review of the record demonstrates that the Applicant addressed the impacts of the Project consistent with Site 101.23. The Applicant's identification and analysis of historic sites was comprehensive and thorough. The Subcommittee

is not aware of any “historic site,” as defined by the rules, that was not evaluated by the Applicant. The Applicant did not fail to identify all “historic resources.”

Although the Applicant’s expert determined that the Project will not have an adverse effect on the Durham Point Historic District and the Newmarket & Bennett Roads Farm Historic District, the Applicant does not dispute DHR’s determination of an “adverse effect” on these historic districts. It was determined that the Project will have an adverse effect on Durham Point Historic District because the Project will affect seven historic stone walls and a granite quarry that contribute to the District. The Applicant entered into the Memorandum of Understanding with DHR where it agreed to minimize and mitigate the impacts on stone walls. App. 200, at 3; App. 200, Appx. B. The Applicant agrees to avoid and mitigate the Project’s impact on the quarry by adjusting access roads around the quarry and protecting stone walls and features during construction. App. 200, at 3.

The Project was determined to have an adverse effect on the Newmarket & Bennett Roads Farm Historic District because it will impact thirteen historic stone walls that contribute to the rural character of the District. The Applicant agreed to avoid, minimize, and mitigate the Project’s impact on the stone walls by not traversing them, traversing them through existing breaches, crossing the walls using timber matting to temporarily bridge over the wall, or placing the work pad on top of timber matting to elevate the work pad above the wall. App. 200, at 3. DHR agrees that implementation of the proposed avoidance, minimization, and mitigation measures demonstrate that the effects of the Project on this historic district have been taken into account.

The Applicant agrees that the Project will have an adverse effect on the Little Bay Underwater Cable Terminal Houses Historic District. The Applicant, DHR, and the US Army

Corps of Engineers entered into the Memorandum of Agreement addressing the Project's impact on the District. The Applicant agreed to: (i) fund and oversee completion of a Historic American Engineering Record; (ii) fund and oversee the relocation and rehabilitation of the Durham side cable terminal house; (iii) fund and install interpretive signage at Fox Point to interpret the historical and engineering/technological significance of the District; and (iv) fund and oversee the development of two identical interpretive displays, one each for the towns of Durham and Newington to convey the historical and engineering significance of the District. App. 200, Appx. A, at 1-3. DHR and the US Army Corps of Engineers agree that implementation of the proposed mitigation measures demonstrate that the agencies have taken into account the effects of the Project on historic properties.

As to the impact on the historic Alfred Pickering Farm, the Applicant agrees to use a steel H-frame structure on the property. App. 200, at 2. The Applicant also agrees to publish a publicly oriented booklet that will provide a brief history of agriculture in Newington from its founding to the present highlighting different agricultural periods or trends over time, an architectural guide to the styles and types of farm houses and agricultural outbuildings in the community, and a brief overview of no more than 20 individual farms extant in Newington as of 2018. App. 200, at 2. Finally, the Applicant agrees to conduct a public presentation in the Town of Newington to celebrate Newington's agricultural history. App. 200, at 2.

The Subcommittee received many public comments indicating that publishing of the booklet will not mitigate the Project's impact where a similar booklet was published before and not a lot of people demonstrated interest in reviewing it. The Subcommittee also received testimony indicating that the owner of the Alfred Pickering Farm refused to mitigate impacts on the farm by improving historic qualities of the farm and indicated that any mitigation measures

should be focused on the Newington Historic District. The Town identifies the preferred mitigation measures as undergrounding of the Project, refurbishing of the building's exterior of Old Stone School, repairs of Old Parsonage's and Meeting House's chimneys, tree planting to provide shade for enjoyment of people, forest management, and etc. App. 248. As discussed above, the Subcommittee will not require the Applicant to employ a method of construction without an understanding of the impacts. The Applicant does not have property rights to bury the Project at the Alfred Pickering Farm and the property owner refuses to cooperate with the Applicant. Counsel for the Public's expert testified that it is customary to mitigate the impact on historic properties by enhancing the value of other property or conducting educational sessions. The Subcommittee does not have sufficient information to determine if the mitigation measures requested by the Town will contribute to character defining historic features of the Newington Center Historic District and/or the Alfred Pickering Farm. The Subcommittee finds it reasonable, in addition to the mitigation measures agreed to by the Applicant, to require the Applicant to pay to the Town of Newington \$20,000.00 to be used by the Town towards mitigating the impacts of the Project to historic sites in Newington. To ensure that the funds will be spent timely and in a manner that mitigates the Project's impact on the historic features of the Alfred Pickering Farm, the Town through its Board of Selectpersons, shall consult with DHR when selecting project(s) for these funds and shall spend these funds within five (5) years of receipt. The Town shall notify the Administrator of the date and subject of expenditures made from the funds provided by the Applicant.

DHA identified the number of impacted aboveground historic properties which the Applicant's expert originally failed to address. Following submission of the DHA's testimony, the Applicant's expert completed a thorough analysis of the Project's potential impact on these

sites. App. 143, Att. A. The Applicant addressed each potential aboveground historic site identified by DHA and either proposed mitigation measures addressing such impact or determined that there will be no impact. Following the Applicant's review, DHA continued to raise concerns about the Project's impact on historic stone walls, the fact that the "Quarry Sensitive Area," as identified on the Applicant's environmental maps did not include the Quarrymen's granite slab bench, and the Project's potential impact on the Class VI portion of Beech Hill Road and Foss Farm Road. The Applicant addressed DHA's concerns in the Memorandum of Understanding executed with the Town of Durham where it agreed to: (i) protect historic walls by timber mats; (ii) avoid impacts on historic stone walls or boundary stone walls within the right-of-way or along access roads by not traversing the walls, traversing the walls through existing breaches, traversing the wall using timber matting to temporarily bridge over the wall, or by placing the work pad on top of timber matting to elevate the work pad above; (iii) include the Quarrymen's granite slab bench into the "Quarry Sensitive Area" and to flag the bench; (iv) use timber matting on the Class VI portion of Beech Hill Road; and (v) use timber matting on Foss Farm Road. App. 270, §VIII, D. Avoidance, mitigation, and minimization measures agreed to by the Applicant adequately address concerns raised by DHA.

The Memorandum of Understanding with Durham addresses the Project's impact only on historic stone walls located in Durham. The right-of-way will traverse and impact historic stone walls and other historic stone features outside the Town of Durham. It is crucial to ensure preservation and restoration of historic stone walls that may be impacted because of construction and maintenance of the Project. It is also important to provide uniformity for the Applicant's treatment of impacts on historic stone walls. Prior to construction, the Applicant shall develop a protocol, subject to review and approval by DHR, identifying measures that will be implemented

to preserve historic stone features located within the Project's site during construction, operation, and maintenance of the Project. Said protocol shall remain in effect until the decommissioning of the Project.

The Subcommittee does not find the DHA's claim that the Applicant intentionally altered the Google Earth Photo contained in Applicant's Exhibit 164 to be persuasive. The Applicant explained that the appearance of additional lines was caused by distortion in the enlargement of the photo. The Preservation Company confirmed that it did not alter the photo in any way other than enlargement. Comm. 11. The Subcommittee received no credible evidence indicating that the Applicant intentionally altered the image.

Archaeological Historic Resources

The Applicant's expert thoroughly analyzed the Project's potential impacts on archaeological resources. She determined that the Project will have a potentially adverse impact on one archaeological site – the LaRoche Cellar Hole. Pursuant to her recommendation, the Applicant agreed to relocate the structure that might have impacted the site, to flag the site for the construction crew, to train environmental inspectors in the identification of significant cultural resources, including human remains and/or grave-associated artifacts, and to use timber mats to protect the artifacts from the impacts. Considering the proposed avoidance and mitigation measures, the Applicant's expert and DHR concluded that the Project will not have an effect on archaeological resources.

The Applicant's expert also addressed potential archaeological sites identified by DHA. While evaluating these sites, Dr. Bunker utilized procedures that are common and widely accepted in the industry. She determined that some of the sites are located outside of the area of potential effect and others had no evidence of archaeological artifacts. Although the Applicant's

experts disagreed that there is a need to use radar at the Samuel Hill Gravesite, the Applicant agreed to accommodate DHA's request and will conduct a ground penetrating radar survey of the Samuel Hill family burial site. App. 270, §VIII, D.

The Applicant also entered into a Memorandum of Understanding with DHR where it agrees to cease construction activities and consult with the State Historic Preservation Officer (SHPO) if previously unidentified archaeological resources are discovered. App. 200, at 4. The Applicant agreed to train all personnel that will be engaged in the construction of the Project in accordance with the Historic Properties Training Plan that will provide information as to how to proceed in the case of unanticipated discoveries under the Unanticipated Discovery Plan. App. 200, Appx. C, at 1. The Unanticipated Discovery Plan identifies the procedure that the Applicant and its contractors will follow if they discover the following during construction or other Project-related activities: (i) potential significant archaeological deposits; (ii) human remains; or (iii) unanticipated effects upon identified historic properties. App. 200, Appx. C, at 2-6. The Curation and Repatriation Plan identifies the procedure the Applicant will follow for the curation and repatriation of artifacts, human remains and for related documentation. App. 200, Appx. C, at 10-11.

DHA expresses concern with the Applicant's ability to construct the Project so that it complies with all agreements and conditions of the Certificate. It requests that the Subcommittee order the Applicant to retain an independent monitor for historic resources. DHR did not recommend the use of an independent historic resource monitor. The Subcommittee finds that retaining a monitor is unnecessary. The Applicant demonstrated its technical and managerial capability to construct the Project in compliance with the Certificate. The Applicant and its contractors will receive training that will ensure compliance with the Certificate and all

conditions addressing the Project's impact on historic sites. The Committee will enforce the Applicant's compliance with the Certificate and DHR will enforce compliance with the MOU. The retention of an additional historic monitor is redundant and unnecessary.

Considering the extent and thoroughness of the study of the Project's potential impacts on archaeological resources, the determination of no effect by DHR, and the mitigation and avoidance measures that the Applicant agreed to implement for the resources discovered and that may be discovered in the future, the Subcommittee finds that the Project will not have an unreasonable adverse effect on archaeological resources.

Conclusion

The Subcommittee finds that the Project will not have an unreasonable adverse effect on historic sites.

3. Air and Water Quality

a. Air Quality

When determining whether the Project will have an unreasonable adverse effect on air quality, the Subcommittee is required to consider the determinations of the Department of Environmental Services with respect to applications or permits required for the construction and operation of the Project and other relevant evidence submitted and accepted by the Subcommittee. *See* Site 301.14(c).

(1) Positions of the Parties

The Applicant asserts that construction of the Project may have minor, short-term effects on air quality resulting from fugitive dust. App. 1, at 82; App. 145, at 13.

To minimize this effect, environmental monitors will review ongoing activities and will verify and confirm that preventative and proactive BMPs are being used and maintained. These

practices may include mulching/covering soil stock piles and installing wind breaks, using water trucks and installing crushed stone aprons at all access road entrances to public roadways. App. 1, at 82. Contractors will adhere to NH State laws relating to idling. App. 15, at 3. The potential for fugitive dust resulting from construction activity will be controlled in accordance with conditions of the NPDES CGP (Section 2.1.2.5 Minimize Dust). App. 15, at 3.

The Applicant asserts that the Project will not produce air emissions during its operation. App. 1, at 83; App. 15, at 2-3. No air permits are required for the Project. App. 15, at 3.

Counsel for the Public agrees that the Project will have no appreciable long-term effect on air quality. Post-Hearing Brief, at 60.

Keith Frizzell opines that the Project will have an adverse effect on air quality. KF 1, at 6.

(2) Deliberations

There is no reasonable claim that the Project will have an unreasonable adverse effect on air quality. Although Mr. Frizzell asserts that it will, he submitted no testimony and/or records evidencing such alleged impact. No air permit is required for the construction and operation of the Project. Construction of the Project will cause some dust. The short term effect from fugitive dust will be addressed through implementation of best management practices. The Subcommittee finds that the Project will not have an unreasonable adverse effect on air quality.

b. Water Quality

In determining whether the Project will have an unreasonable adverse effect on water quality, the Subcommittee is required to consider the determination of the New Hampshire Department of Environmental Services, the United States Army Corps of Engineers, and other state or federal agencies having permitting or other regulatory authority, under state or federal

law, to regulate any aspect of the construction or operation of the Project, with respect to applications and permits required for construction and operation of the Project and other relevant evidence submitted and accepted by the Subcommittee. *See* Site 301.14(d).

(1) Positions of the Parties

(a) Applicant

i. General Impacts

To address potential impacts of the Project on water quality, the Applicant filed a report entitled “Natural Resource Impact Assessment.” App. 54. The Applicant amended the report and filed “Natural Resources Impact Assessment – AMENDED.” App. 97. The report was partially superseded by the report entitled “Revised Little Bay Impact Report.” App. 125. The Applicant also pre-filed the testimony of Sarah D. Allen. App. 15, 78, 145.

According to the Revised Little Bay Impact Report, and the NHDES the Revised Final Decision, the Project will cause impacts to 607,777 square feet of wetlands, surface waters, and upland tidal buffer zone of which 9,470 square feet is permanent impacts, and 598,307 square feet is temporary. Comm. 12c, at 19, Finding 3.

Permanent impacts to Little Bay will be caused by the installation of concrete mattresses that will be eight-feet by twenty-feet and nine inches tall. Tr., Day 3, 09/17/2018, Afternoon Session, at 73. The mattresses will not overlap near the shore tidal flat area. Tr., Day 6, 09/21/2018, Morning Session, at 72-73. In the deeper part of the channel, the end part of each mattress (one foot) will overlap with the beginning part of the next mattress (one foot) creating an eighteen-inch layer of concrete mattresses. Tr., Day 3, 09/17/2018, Afternoon Session, at 73, 120-121; Tr., Day 6, 09/21/2018, Morning Session, at 72-73. The Applicant must install the mattresses over the submarine cables to comply with the National Electrical Safety Code at the

locations where the minimum burial depth (42 inches to the top of the cable) cannot be reached due to bedrock or other material. App. 88, at 2; Tr., Day 3, 09/17/2018, Afternoon Session, at 73. The Applicant asserts that it will not know where and how many mattresses will be installed until the Project is complete. App. 88, at 2; Tr., Day 1, 08/29/2018, Afternoon Session, at 103-104, 107; Tr., Day 3, 09/17/2018, Afternoon Session, at 76.

The Applicant asserts that the Project's effect on streams will be avoided by bridging. App. 97, at 6. Sections of College Brook in Durham and of the Unnamed Stream in Newington will be diverted during construction of the Project and will be restored and stabilized after the construction. App. 97, at 6. The Applicant asserts that it does not anticipate long term impacts to water quality and/or temperature in the streams near the Project. App. 1, at 88.

The Project will temporarily impact 7,377 square feet of the vernal pool envelope¹⁹ immediately adjacent to the Flynn Pit vernal pool. App. 97, at 9. The Applicant will restore this area of impact. App. 97, at 9. The Applicant admits, however, that the 25-foot wide permanent easement corridor which includes this impacted area will be periodically mown for access to the underground cable. App. 7, at 97; App. 87.

The secondary impact on wetlands will be caused by vegetation conversion of forested or forest-covered wetlands and upland clearing within stream buffers. App. 97, at 2. The Applicant asserts that vegetative clearing will be required within:

- 306,724 square feet (7.04 acres) of forested or forest canopy covered wetlands: (i) 2,072 square feet (0.05 acres) in Madbury; (ii) 216,621 square feet (4.97 acres) in Durham; (iii) 76,721 square feet (1.76 acres) in Newington; and (iv) 11,305 square feet (0.26 acres) in Portsmouth;
- 87,225 square feet (2 acres) of upland areas within 100 feet of perennial streams, 50 feet of intermittent streams and 25 feet of ephemeral streams: (i) 7,383 square feet in

¹⁹ US Army Corps of Engineers defines the "envelope" as a 100-foot band immediately adjacent to the high water mark of the pool to provide shade to the vernal pool and peripheral habitat for amphibians metamorphosing to terrestrial conditions. App. 97, at 9.

Madbury; (ii) 68,997 square feet in Durham; and (iii) 10,820 square feet in Newington.

App. 68, at 19; App. 97, Table 3.3-3, 3.3-4.

The Applicant asserts that permanent and temporary impacts to water resources were avoided, where possible, through the design and engineering phase of Project development. App. 97, at 3. The Applicant claims it will minimize the Project's impact by: (i) avoiding placing 26 structures within or partially within wetland areas; (ii) removing approximately 51 existing structures from wetland areas; and (iii) co-locating the existing distribution line on the same new structures below the new transmission lines. App. 97, at 3. The Applicant also asserts that it will use timber mats, where necessary, depending on the ground conditions. App. Appx. 34a, at 4. It will conduct construction activities during frozen conditions, where possible, and will use low-ground pressure vehicles, as practicable. App. 97, at 4. To the extent feasible, the Applicant will use access paths already in the corridor. App. 97, at 4.

The Applicant acknowledges that construction of the Project will increase the potential for erosion and sedimentation to waterbodies. App. 1, at 88. It asserts, however, that soil disturbance will be minimized through timber matting in sensitive areas. App. 1, at 88. Erosion control measures, including compliance with "Best Management Practices Manual for Utility Maintenance in and Adjacent to Wetlands and Waterbodies in New Hampshire" and applicable BMPs will be enforced. App. 97, at 4. The Applicant will develop BMPs for steep slope sites before construction. Tr., Day 5, 09/20/2018, Afternoon Session, at 172-74. Water bars will be installed on access roads located on steep (>10% slope) slopes and greater than 100 feet in length, with level spreaders located at the downslope end to disperse flow. App. 97, at 4.

The Applicant agreed to file with the Committee all Best Management Practices relating to the Applicant's Storm Water Pollution Prevention Plan and submarine and shoreland cable

installation. App. 193, ¶8. The Applicant also agreed to comply with the following conditions relative to the water and soil quality:

Further Ordered that, the Applicant shall implement measures to avoid and minimize to the extent possible any potential water quality impacts, including implementing sedimentation and erosion controls, and the Applicant shall implement all applicable Best Management Practices (“BMPs”) prior to and during construction of the Project.

Further Ordered that, the Applicant shall use independent environmental monitors to oversee the construction of the Project and to work with contractors to implement appropriate BMPs to avoid or minimize environmental impact. The Applicant shall also use independent NHDES approved environmental monitors to oversee work in Little Bay.

Further Ordered that, the Applicant shall restore any disturbed soils (wetland and upland) to a stabilized condition to prevent permanent erosion impacts.

Further Ordered that, the Applicant shall obtain NHDES approval of a Revised Soil and Groundwater Management Plan for the Town of Newington, to manage groundwater during construction within the vicinity of the former Pease Air Force Base that is potentially impacted by perfluorinated compounds (PFCs) and/or other contaminants, a draft of which was provided to the SEC on July 27, 2018. The Applicant shall comply with all conditions of the Final Soil and Groundwater Management Plan for the Town of Newington.

Further Ordered that, the Applicant shall use the State’s Aquatic Resource Mitigation Calculator to determine the final amount of mitigation money necessary to comply with the in-lieu fee program and shall make the required payment to the ARM Fund prior to the commencement of construction.

App. 193, ¶¶ 24-25, 27-29.

The Applicant also developed and submitted Soil and Groundwater Management Plans for the Town of Newington and the Darius Frink Farm. App. 145, Att. B. The Applicant

proposes to implement the following dewatering measures for construction activities in

Newington:

- **On-Site Surface Water Discharge:** On-site surface water discharge would require use of a water treatment system, including equipment such as fractionation (frac) tanks and carbon units, to adequately treat groundwater before discharge. It may be possible to discharge dewatering effluent into storm drains or surface water bodies under a National Pollutant Discharge Elimination System (NPDES) Dewatering General Permit (DGP) with minimal treatment. Additional water testing for NPDES DGP requirements and approval from NHDES, and treatment for, at a minimum, total suspended solids (TSS) would be necessary. If, based on NHDES requirements or NPDES DGP testing results, a NPDES DGP is not appropriate, a NPDES Remediation General Permit (RGP) would likely be required to discharge dewatering effluent. Additional water treatment requirements would also likely apply.
- **Off-Site Disposal:** The contractor shall identify an appropriate off-site groundwater disposal method and facility. Dewatering effluent may be pumped into a tanker truck or other appropriate containers, and transported off-site to the selected facility. All receiving facilities must be pre-approved by Eversource. No excess effluent may be recharged or disposed of at an uncontrolled location.

App. 145, Att. B.

As to the Darius Frink Farm, the Soil and Groundwater Management Plan indicates that:

(i) PFCs were not present in the soil tested; (ii) PFC concentration in groundwater, where encountered, was less than New Hampshire state ambient groundwater quality standards (AGQS) of 0.07 µg/L; and (iii) PFC concentration in surface water from Knight's Brook tributary exceeded the NH AGQS of 0.07µg/L. App. 145, Att. B, Appx. A. Soils and groundwater within the wetland adjacent to the Knight's Brook Tributary were not tested. App. 145, Att. B, Appx. A. At the nearby upland soil boring location, PFOA and PFOS were not detected in soils. App. 145, Att. B, Appx. A.

The plan is based on the assumption that any groundwater encountered in the Newington and Portsmouth areas, including at the Darius Frink Farm, is impacted by PFCs. Tr., Day 4, 09/18/2018, Afternoon Session, at 79. The plan sets forth the following soil, groundwater, and

surface water management practices: (i) soil - all excess soils should be disposed of offsite at a licensed disposal facility or reused offsite in accordance with applicable reuse regulations and guidelines; (ii) groundwater - if dewatering is necessary, groundwater should be treated and discharged to Knight's Brook Tributary under the NPDES Remediation General Permit or will be transported offsite for disposal; and (iii) surface water - surface water should be diverted during construction in a manner that does not produce excess water or require additional water management, treatment, or offsite disposal. App. 145, Att. B, Appx. A; Tr., Day 4, 09/18/2018, Afternoon Session, at 86, 88-90.

ii. Little Bay - Sediment

The Applicant identifies the following potential effects on water quality associated with installation of cables in Little Bay: (i) direct disturbance of the sediment surface from cable installation along each cable trench (quantifiable) and from anchoring of the installation vessel (not quantifiable); (ii) deposition of sediments suspended during the jet plowing and dispersed beyond the footprint of each trench (quantifiable); and (iii) increase in suspended sediments above ambient conditions during jet plowing. App. 54, at 18. The Applicant filed a Report entitled "Modeling Sediment Dispersion from Cable Burial for Seacoast Reliability Project, Little Bay, New Hampshire" and a report entitled "Revised Modeling Sediment Dispersion from Cable Burial for Seacoast Reliability Project, Upper Little Bay, New Hampshire." App. 55, 104. The Applicant also addressed excess suspended sediment concentration²⁰ and dispersion of suspended sediments for jet plowing and hand jetting by pre-filing the testimony of Ann E. Pembroke, Sarah D. Allen, Bjorn Bjorkman, and Craig Swanson. App. 15, 16, 78, 79, 136, 145.

²⁰ Defined as the concentration above ambient suspended sediment concentration that results from the jetting activities. App. 54, at 18.

The Applicant's experts simulated the jet plowing and diver burial process along the cable route to determine the likely suspended sediment concentrations generated in the water column above the cable route and the resulting re-deposition of the sediment in and along the route. App. 104, at i. They used two computer models: (i) BELLAMY – a hydrodynamic model used for predicting the currents in Upper Little Bay; and (ii) Suspended Sediment FATE (SSFATE) – a sediment dispersion model used for predicting the fate and transport of sediment re-suspended by the jet plowing and diver burial operations. App. 104, at 69.

The Applicant's experts determined that the jet plow installation will involve approximately 7.1 hours of active sediment disturbing activity to install each cable. App. 104, at 70. The base case demonstrated that areas totaling: (i) 91.2 acres will be exposed to a concentration of 10 mg/L or greater for 1 hour; and (ii) 0.2 acres will be exposed to a concentration of 10 mg/L or greater for 2 hours. App. 104, at 71. No areas will be exposed to such a concentration for a duration of 3 hours. App. 104, at 71.

The base case deposition thickness patterns demonstrated that the footprint over 0.1 mm will cover 67.81 acres due to jet plowing the three cable routes. App. 104, at 71. Areas with thickness over 5 mm are estimated to be 0.1 acres. App. 104, at 71. An additional model run including the effects of continued resuspension was simulated. App. 104, at 71. It demonstrated a footprint of suspended sediment excess concentrations that will be larger than the base case. App. 104, at 71. The concentrations will be present intermittently and will be confined to the bottom of the water column. App. 104, at 71. Resuspension will be most pronounced on the first tide following jet plowing and will fully dissipate by the third day. App. 104, at 71.

The excess concentration will decrease to zero within approximately 1 hour following the cessation of jet plowing. App. 104, at 71. Excess concentration will drop to zero within 3 days.

App. 104, at 71. There will be no cumulative increases in suspended sediment concentrations because three cables will be installed 5 to 7 days after each other. App. 104, at 71.

As to the hand jetting, it will be conducted 4 hours per day between 9-18 days for west and east routes respectfully. App. 104, at 71. The duration of active sediment disturbing activities will be 1.7 days for the west route and 3 days for the eastern route. App. 104, at 71. The divers will use silt curtains for the entire west route and for 57.5% of the east route. App. 104, at 71. The maximum excess suspended sediment concentration due to diver burial will be 500 mg/L. App. 104, at 71. It will occur over an area of 0.59 acres. App. 104, at 71. Excess suspended sediment of 20 mg/L will cover 14.21 acres, at some point in time. App. 104, at 71. Concentration will diminish shortly after diver activity stops. App. 104, at 71. The higher deposition areas due to the diver burial will be adjacent to the cable route. App. 104, at iv. A total of 10.79 acres will accrue deposition greater than 0.004 inches. App. 104, at 71. There will be a cumulative threefold increase in deposition inside the silt curtains that will average 3 inches. App. 104, at 72.

The Sediment Dispersion Modeling did not address the effect of wind in Little Bay because it assumed that such effect will be essentially insignificant relative to the large tidal currents that occur in Little Bay. Tr., Day 4, 09/18/2018, Afternoon Session, at 116. It also did not consider that the jet plow may be stopped to address potential obstruction and to reposition the lay anchors. Tr., Day 6, 09/21/2018, Morning Session, at 51. It assumed there will be a continuous pull. Tr., Day 6, 09/21/2018, Morning Session, at 53.

Mr. Swanson acknowledges that the modeling did not address the fact that to get to the farthest extent into the eastern shore, the Applicant must bring the barge at high tide. Tr., Day 6, 09/21/2018, Morning Session, at 54-55. Considering this information, Mr. Swanson testifies that

the plume will travel further south into Little Bay than was estimated by the model. Tr., Day 6, 09/21/2018, Morning Session, at 51-59.

The Applicant's experts also analyzed the composition of surface sediments. App. 105, 150. The sampling was performed in twelve separate locations in September, 2016 and May, 2017. App. 105, at 4. Vibratory cores were collected to 4-feet in the shallows and 6-feet in the channel. App. 105, at 4. The upper 4-feet were analyzed as a result of the September sampling for chemical and physical data and the upper 2-feet were analyzed because of May sampling. App. 105, at 4; Tr., Day 5, 09/20/2018, Afternoon Session, at 21-22, 25. The sampling and testing demonstrated:

- Metals were presented in all samples. Their concentrations were below National Oceanic and Atmospheric Administration screening criteria (Effects Range-Low) for sediment concentrations indicative of biological effects (with the exception of arsenic);
- Arsenic levels in several samples exceeded the National Oceanic and Atmospheric Administration (NOAA) ER-L screening criterion, but were below the Effect Range-Median criterion. By definition, exposure to such arsenic levels may have a biological effect. Arsenic levels fell within the range of concentrations found in Little Bay by United States Environmental Protection Agency between 2000 and 2010.
- Concentrations of polycyclic aromatic hydrocarbons (PAH) compounds were low or below detection limits.
- Concentration of polychlorinated biphenyls (PCB) compounds were low or below detection limits.
- Concentrations of pesticides were below detection limits and similar to concentrations observed by United States Environmental Protection Agency (USEPA) within Little Bay. Total pesticide levels were below the NOAA screening criteria (ER-L) for the compounds with ER-Ls.
- Dioxins/furans were present in low concentrations in many samples. Neither New Hampshire nor United States have developed guidelines for dioxins/furans. Concentrations of dioxins/furans along the cable route were below guidelines prepared by Canadian Council for the Ministers of the Environment (TEQ ND=0 guidelines).

- Perfluoro compounds were below detection limits in all samples and below the proposed European Predicted No Effect Concentration (PNEC).

App. 105.

The Applicant's experts conclude that the analyses, except arsenic, uniformly occurred at levels below concentrations identified as likely to cause toxic effects in marine sediments. App. 105, at 15. There was no evidence of elevated lead in any samples. Tr., Day 5, 09/20/2018, Afternoon Session, at 19. Considering that arsenic was only slightly above the lowest screening criterion (ER-L) and was consistent with levels reported elsewhere in Little Bay, the Applicant's experts conclude that dispersion of sediments into other areas of Little Bay would pose no ecological risk. App. 105, at 15.

The Applicant also addresses the concerns raised by the Intervenors that significant nitrogen will be released in the Little Bay. Tr., Day 6, 09/21/2018, Morning Session, at 151. Mr. Bjorkman testifies that he conducted relevant calculations and determined that, although some amount of dissolved nitrogen that is present on the sediment will be released, such amount will be trivial as compared to the currently present amount. Tr., Day 6, 09/21/2018, Morning Session, at 151-152.

To ensure that the installation of the Project will be in line with the modeled estimates, the Applicant has proposed a Water Quality Monitoring Plan to be implemented during the jet plow installation of cables. App. 33. The original proposed plan was filed with the Application as Appendix 14. App. 33. The Applicant filed the Revised Environmental Monitoring Plan for Little Bay, including the Water Quality Monitoring Plan with NHDES on June 30, 2017. App. 107. A Revised Monitoring Plan was filed on September 15, 2017. App. 129. On August 28, 2018, NHDES advised the Subcommittee that the Applicant will be filing a further revised Water Quality Monitoring Plan. App. 183.

According to the latest version of the Plan, the Applicant will conduct a field survey measuring turbidity during cable installation to verify that the NHDES turbidity criterion of <10 NTUs above background has been met at the edge of the proposed mixing zone. App. 129, at 3. The Applicant offered to establish a mixing zone during construction and for a period of one week following completion of each cable installation to account for a period when resuspension of sediments redeposited after the initial disturbance by the jet plow. App. 129, at 4. Monitoring will take place at the edge of the mixing zone. App. 129, at 4. Reference stations will be located up current of the planned cable route centerline and monitoring stations will be located down current of the centerline. App. 129, at 4. During high slack and ebbing tides, the southern stations will be considered the reference station and the northern station will be considered the mixing zone or impact station. App. 129, at 4. During low slack and flooding tides, the location of the reference and mixing zone stations will reverse. App. 129, at 4.

Turbidity monitoring will be composed of mobile monitoring performed from boats and fixed station monitoring with deployed instrumentation at select locations. App. 129, at 6. Mobile monitoring will occur at the edge of the mixing zone and will repeatedly sample multiple established stations. App. 129, at 6. Two monitoring boats will be deployed simultaneously at the proposed mixing zone boundary. App. 129, at 6. One boat will be in an up-current position to document background turbidity and another boat will be in a down-current position to document construction effects. App. 129, at 6. A series of five stations will be located north and south of the cable route. App. 129, at 6. At each mobile station, turbidity will be measured using a turbidity probe at the near-surface (within 3 feet of the surface), mid-depth, and near-bottom (within 3 foot of the substrate). App. 129, at 6. Sentry stations will be occupied by a third monitoring team to provide an “early-warning” of higher-than expected turbidity.

App. 129, at 7. There will be four sentry stations: (i) two will be located north of the route along the west side of the Bay (protective of the Fat Dog and Joe King oyster farms); (ii) one north of the route in the channel; and (iii) one south of the route near the end of the jet plow installation (protective of resources in Great Bay). App. 129, at 7. Water samples will be collected at each depth from the middle and sentry stations for analysis of TSS, total nitrogen, dissolved and particulate copper and arsenic, and fecal coliform bacteria. App. 129, at 8. Collections will be made hourly for the four-hour period when the jet plow is within the vicinity of each station. App. 129, at 8. Water samples will sometimes be collected from adjacent monitoring stations, but each station will not be sampled for water every hour. App. 129, at 8.

Two continuously monitoring data loggers will be set at fixed stations located mid-channel at the mixing zone boundary to measure continuous turbidity conditions during construction and for a one-week period following each cable installation to document any prolonged water quality effects. App. 129, at 8. The fixed station monitors will be deployed at a depth approximately 3-feet above the channel bed to document maximum plume effects. App. 129, at 8. Continuously recording turbidity probes will be deployed near the southern boundary of three aquaculture leases at depths approximately 3 feet above the channel bed. App. 129, at 8.

Mobile monitoring will be initiated one-hour before the startup of the jet plow and will continue for two-hours after jet plowing has been completed or longer, if indicated by turbidity results. App. 129, at 9.

Monitoring data will be evaluated and handled in the following manner:

- Mobile monitoring will document turbidity at three depths in the water column (near-surface, mid-column, and near-bottom) at reference and impact stations, where water depth allows. Turbidity impacts will be evaluated at like depths between reference and impact stations for each sample time. This data will be downloaded daily during the monitoring periods for evaluations.

- If turbidity at any impact station exceeds the reference station value by more than 10 Nephelometric Turbidity Units (NTUs): (i) the construction team and environmental monitor will be notified of an exceedance and sediment reduction measures will be implemented; and (ii) the turbidity exceedance will be characterized by taking turbidity measurements every 15 minutes at the edge of the mixing zone and at 100 feet intervals down-current of the observed exceedance until excess turbidity is shown to be less than 10 NTUs. Hourly sampling at the remaining mobile station monitoring will continue during the exceedance characterization.
- If turbidity at any impact station exceeds the reference station value by more than 10 NTUs for two or more consecutive hours: (i) the construction team and environmental monitor will be notified; (ii) the exceedance will be characterized in the same manner as stated above; and (iii) the construction team and environmental monitor will evaluate the nature of the exceedance and take corrective action, as necessary.

App. 129, at 10.

The Applicant agrees to provide monitoring data to regulatory agencies within 48-hours of completing the jet plow crossing. App. 129, at 10. If the absolute value of the impact data falls within the range of observations for the fall months, then it could be considered consistent with natural variability. App. 129, at 10-11. If it is determined that the impact station results are outside the range of natural variability, then the marine contractor will be required to modify its operation of the jet plow for the subsequent installation. App. 129, at 11. The Applicant asserts that the most likely factors that could be changed are the advancement rate across the Bay and the pressure directed through the water chambers on the plow blade. App. 129, at 11. Final quality controlled monitoring data will be formatted as requested by NHDES for submission to the NHDES Environmental Monitoring Database within one month of completion of the construction monitoring. App. 129, at 11.

iii. Conclusion

Based on the experts' testimony, the reports filed by the Applicant, and the mitigation and minimization measures proposed by the Applicant, Ms. Allen concludes that the Project will not have an unreasonable adverse effect on water quality. App. 145, at 13.

(b) Counsel for the Public

Counsel for the Public filed a report and testimony of Payson R. Whitney, III and Matthew D. Ladewig addressing potential impacts on water quality in Little Bay. CFP 1, 3. Mr. Whitney and Mr. Ladewig reviewed the Applicant's experts' reports and testimony and concluded that "[f]or the most part, the Applicant has adequately characterized the potential environmental impacts of the work associated with installation of the submarine cable in Little Bay." CFP 1, at 6.

Counsel for the Public's experts recommend the Subcommittee consider requiring the Applicant to monitor chemical constituents in the water column in samples collected 500-feet up-current and down-current of the operating jet plow. CFP 1, at 6-7. They testified, however, that incorporation of this recommendation is not important considering the State's emphasis on a mixing zone approach. Tr., Day 12, 10/22/2018, Afternoon Session, at 28. They also opine that obtaining water samples for testing of turbidity and total suspended solids will provide valuable information to verify the Applicant's estimated correlation between suspended sediment concentrations on mg/L to turbidity in NTU (that 20 mg/L represents 10 NTUs). CFP 1, at 7. They assert that, by using expedited laboratory turnarounds, testing results from the first cable installation could be available in time to adjust the monitoring plan for installation of the second and third cables, if necessary. CFP 1, at 7. They argue that the Water Quality Monitoring Plan proposed by the Applicant should be revised to state that the regular hourly monitoring will

continue to take place while the additional turbidity probe measurements will be obtained every 15 minutes at the location where any exceedances of the 10 NTU criterion are measured. CFP 1, at 6.

Counsel for the Public's experts opine that the Applicant should provide NHDES with an analysis comparing the installation monitoring results with the suspended sediment model predictions to determine if the model reasonably predicted the conditions that occurred during the installation. CFP 1, at 7.

The Applicant addressed and incorporated Counsel for the Public's experts' recommendations in its Revised Environmental Monitoring Plan. CFP 3, at 4. Counsel for the Public's experts confirmed the adequacy of the Applicant's Plan. CFP 3, at 4.

Counsel for the Public's experts provide these remaining comments and recommendations about the Revised Water Quality Monitoring Plan: (i) the Plan should include the flexibility to move the locations of the sentry stations from the pre-selected locations during the installation of each cable if field observations indicate the plume is in a location different from the pre-selected location picked from the model results or be adjusted to have the sentry station at set distances up-current and down-current from the operating jet plow as it moves along the route; (ii) sentry station measurements should be reported to NHDES after the installation to help understand how the plume behaved and to help assess future jet plows in New Hampshire; and (iii) it should identify with specificity which turbidity results will trigger monitoring for over two hours. CFP 3, at 4-5.

Counsel for the Public's experts originally recommended that the Applicant be required to outfit the cable removal vessel with a floating absorbent or containment boom around the area where cables will exit the water to contain any debris or sheens that may result from removal and

cutting of the cables. CFP 1, at 8. The Applicant responded by stating that it would prefer not to use containment booms or absorbants unless needed, as determined by an on-board environmental monitor. CFP 3, at 2. Counsel for the Public's experts agree that the Applicant's proposal is reasonable. CFP 3, at 2. They acknowledge that the Applicant prepared a cable removal plan accepted as adequate by NHDES and confirm that it resolved any concerns they had about the Cable Removal Plan. Tr., Day 12, 10/22/2018, Afternoon Session, at 78.

They also state that the protocol identifying procedure for spill response and reporting should be prepared. CFP 3, at 2. They acknowledged that NHDES requires that the Applicant prepare a Spill Response Plan and confirmed this condition resolves their concerns about spill response. Tr., Day 12, 10/22/2018, Afternoon Session, at 150-151.

Counsel for the Public's experts further testified that some amount of nitrogen will be released in the water columns because of disturbance of the sediment. Tr., Day 12, 10/22/2018, Afternoon Session, at 125-130. They state there is insufficient data to ascertain the amount of nitrogen that will be released. Tr., Day 12, 10/22/2018, Afternoon Session, at 125-130. They confirm, however, that release of some amount of nitrogen is a common temporary occurrence that takes place every time the sediment is disturbed. Tr., Day 12, 10/22/2018, Afternoon Session, at 125-131.

Counsel for the Public's experts also opine that the Applicant's revised sediment disbursement modeling adequately accounted for the potential wind impacts. Tr., Day 12, 10/22/2018, Afternoon Session, at 140-141.

(c) Town of Durham

Durham pre-filed the testimony of Joseph J. Famely, Stephen H. Jones, Matthew F. Schultz, and Michael F. Dacey. TD/UNH 2, 3.

Durham's experts raised their concerns about the adequacy of Sediment Characterization Reports. TD/UNH 2, at 6. They assert that the Sediment Report characterizes composite samples of the top 2 feet of each vibracore. TD/UNH 2, at 6. The Applicant, however, provided no documentation that demonstrates the expected sediment mobilization in Little Bay from the jet plow or hand jetting to this depth. TD/UNH 2, at 6. The experts argue that, without having such documentation, it is impossible to ascertain the accuracy of the Applicant's assumptions and predictions. TD/UNH 2, at 6.

Durham's experts also argue there are uncertainties in the Applicant's water quality evaluation. TD/UNH 2, at 7. They assert that the sediment concentrations used in the mass balance model calculations were derived from two different datasets: (i) 2016 evaluation that was based on 0-4-foot composites; and (ii) 2017 evaluation that was based on 0-2-foot composites. TD/UNH 2, at 7. In 2016, all twelve locations were tested for lead, polycyclic aromatic hydrocarbons (PAHs), and polychlorinated biphenyl (PCBs). TD/UNH 2, at 7. In 2017, however, six out of twelve locations were not tested for lead, PAHs, and PCBs. TD/UNH 2, at 7. The experts argue this "represents an inconsistency in the water quality model inputs and the mass balance model calculations for some contaminants may be based on composites that misrepresent the suspended sediment horizon." TD/UNH 2, at 7.

They further argue that the Sediment Reports may be inaccurate because the assumption of "0" for background concentrations of contaminants in the water is not conservative considering: (i) the land use patterns in the adjacent and tidally-connected watersheds are likely to contribute organic contaminants such as PAHs via runoff; (ii) Little Bay has been listed on the New Hampshire 2014, 303(d) List as "Not Supporting" for dioxin and PCBs; and (iii) the wide distribution and persistence of organic contaminants in the environment. TD/UNH 2, at 7-8.

The experts also claim that the Applicant failed to consider the chemistry of the fine sediment particles, but, instead, concentrated on the heavier sand particles. TD/UNH 2, at 8. They assert that the Sediment Reports may be inaccurate because they are based, in part, on results of the sediment dispersion model. TD/UNH 2, at 8. The model, however, does not quantitatively assess the plume and does not present results examining the sensitivity of adjusting probable combinations of modeling parameters to reflect what could realistically occur during cable installation. TD/UNH 2, at 8.

They further claim that the Applicant's assessment of nitrogen is incomplete because it does not consider nitrogen in sediment pore water. TD/UNH 2, at 11. They estimate that installing cables in Little Bay will cause loading of nitrogen in the amount equal to up to 300 times the discharge of total nitrogen from Durham's Wastewater Treatment Facility in a day. TD/UNH 2, at 11; Tr., Day 13, 10/23/2018, Morning Session, at 25-26. They confirm that they raised their concerns about the release of nitrogen with NHDES. Tr., Day 13, 10/23/2018, Morning Session, at 118-122. They urge the Subcommittee to consider the magnitude of nitrogen loading from the Project compared to the Town's efforts and resources it will expand on reduction of nonpoint nitrogen loading. TD/UNH 3, at 10.

Durham's experts also argue that the Applicant's dismissal of potential arsenic concentrations is unpersuasive because the sediments lost to the water column during construction may carry potentially toxic levels of arsenic. TD/UNH 2, 11-12.

Durham's experts opine that the Applicant should be required to comply with USACE/USEPA guidance enumerated in the "Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters" (RIM) and should conduct RIM Tier III water column toxicity testing using serial dilutions of the sediments

expected to be re-suspended by the jet plow and hand jet activities. TD/UNH 2, at 9-10; TD/UNH 3, at 5; Tr., Day 13, 10/23/2018, Morning Session, at 11. They further request that the Subcommittee require the Applicant to incorporate water column toxicity testing into the monitoring program. TD/UNH 3, at 5.

They also argue that the Water Monitoring Plan offered by the Applicant is inadequate because it does not offer monitoring of critical contaminants such as nitrogen, bacteria, metals, toxic organic compounds in water and shellfish. TD/UNH 2, at 11. It also does not provide for monitoring of the oyster farms and natural oyster beds. TD/UNH 2, at 11. It fails to explain how degraded sediment and impacts on water quality will be mitigated. TD/UNH 2, at 11. They opine that accuracy of the water quality monitoring may be impacted if crossing exceeds 7-hours. TD/UNH 3, at 6. They argue that the Applicant should be required to identify additional sediment reduction measures that could be used to the immediate south of all aquaculture sites in Little Bay and to the immediate north of the Adams Point oyster beds if environmental monitoring criteria are exceeded. TD/UNH 3, at 6. A plan identifying these measures should be submitted to NHDES 60 days before construction. TD/UNH 3, at 6.

Durham's experts also criticize the Revised Modeling Sediment Dispersion Report and assert that it erroneously fails to evaluate the expected range of wind conditions that will occur during the burial process. TD/UNH 2, at 13; TD/UNH 3, at 2. They argue that the Report fails to analyze how wind conditions may affect the sediment plume characteristics and subsequent deposition. TD/UNH 2, at 13, 15; TD/UNH 3, at 2. They opine that, based on the model sensitivity results, model simulations that represent more of a worst-case scenario should have been conducted to better understand the potential sediment plume and deposition. TD/UNH 2, at 14; TD/UNH 3, at 2.

They opine that the Sediment Dispersion Report may not be as conservative as asserted by the Applicant because it was based on an assumption there are significant quantities of clay in the sediment, but the 2017 grain size data indicates that the sediment contains more silt and less clay. TD/UNH 2, at 16.

They assert that the Applicant failed to evaluate sediment suspension associated with removal of existing cable and cable clearing procedures. TD/UNH 2, at 17.

They acknowledge that they raised and discussed their concerns with NHDES which incorporated some of the proposed conditions in their permits. Tr., Day 13, 10/23/2018, Morning Session, at 73-92.

They conclude that “the residents of Durham cannot be assured that there will be no unreasonable adverse effects on water quality and the natural environment of Little Bay or that the impact on natural resources will be manageably limited in Little Bay as a result of the Project as it is currently proposed.” TD/UNH 2, at 18.

(d) Town of Newington

Newington argues that the Applicant failed to demonstrate that the Project will have no unreasonable adverse effect on water quality in Little Bay. *See* Post-Hearing Brief, at 47-48. It argues that the Applicant’s reports and modeling are not sufficient to allow the Subcommittee to provide “full and timely” consideration of the impacts on Little Bay because they are only estimates and modeled conclusions. *See* Post-Hearing Brief, at 48. Newington asserts that the NHDES recommendation to conduct a jet plow trial run is insufficient because it will be conducted after the hearing and will not provide information required for determination of impacts until after the impacts occur. *See* Post-Hearing Brief, at 48.

Mr. Hebert, on behalf of the Town of Newington, asserts that the Project will be constructed in areas where the groundwater is contaminated with perfluorooctane sulfonate and perfluorooctanoic acid. NEW 1, at 29. He argues that all excavation that will take place in contaminated areas should be conducted with substantial care and under direct supervision of NHDES. NEW 1, at 29.

Mr. Hebert opines that the Applicant failed to identify the locations of the marshalling yards and laydown areas and assess their impact on water quality. NEW 1, at 29. Mr. Hebert acknowledges the Applicant's request to delegate authority to approve locations for such sites to NHDES. NEW 1, at 29. He opines, however, that the Subcommittee is not authorized to delegate such authority by its enabling statute (RSA 162-H). NEW 1, at 29. He requests that the Subcommittee order the Applicant to identify locations for marshalling yards and laydown areas and to assess their impact of water quality before construction. NEW 1, at 29.

Mr. Hebert confirms that the Town has no concerns about the Project's impact on the vernal pool, if the Applicant complies with NHDES' conditions. Tr., Day 11, 10/17/2018, Morning Session, at 95-96.

(e) Conservation Law Foundation

CLF argues that the Project will have an unreasonable effect on water quality in Little Bay by causing a release of a significant amount of sediment and nitrogen in the water column. *See* Post-Hearing Brief, at 4. CLF asserts that such release of sediment will undermine management goals and public investments in the restoration of the Great Bay estuary. *See* Post-Hearing Brief, at 4, 8-9.

CLF also argues that the Subcommittee cannot decide whether the Project will have an unreasonable adverse effect on water quality where the Applicant's modeling and conclusions as

to the impact on water quality are based on inaccurate assumptions that the jet plow crossing will be conducted without interruption and will take seven hours, does not account for a lack of elutriate analysis, contains several uncertainties, and does not assess impact of removing of existing cable. *See* Post-Hearing Brief, at 4, 8-9, 10-23. CLF claims there is no empirical evidence to support the Applicant's modeling. *See* Post-Hearing Brief, at 10. CLF concludes that the Applicant failed to carry its burden of proof and failed to demonstrate that the Project will not have an unreasonable adverse effect on the water quality of Little Bay. *See* Post-Hearing Brief, at 15.

Notably, CLF did not sponsor any witness or testimony to affirmatively support its claims.

(f) Individual Intervenors

Mr. Frizzell owns real estate at 24 Fox Point Lane in Newington, New Hampshire. KF 1, at 1. He testified that there is a wetland within his property. KF 1, at 3-5. He opines that the Project will have an adverse effect on water quality of this wetland. KF 1, at 6.

Ms. Frink opines that construction of the underground section of the Project within the Darius Frink Farm may cause underground water and soil contamination. HF 29, at 4-6. She asserts that the Applicant conducted soil and groundwater tests on the Farm and determined that PFOA and PFOS concentration at Knight's Brook exceeds the New Hampshire Ambient Groundwater Quality Standards. THF 29, at 4. She expressed concern that construction of the Project will spread PFOA and PFOS into soil, cattle pasture, and hayfields. HF 29, at 4; Tr., Day 11, 10/17/2018, Afternoon Session, at 26. The extent of such contamination cannot be determined because the Applicant did not test soils at the location of the transmission structure and wetlands around the Brook. HF 29, at 4. She argues that the Applicant's determination that

there was no PFCs in tested soils is unreliable because the Applicant failed to test soils for PFCs along Knight's Brook. HF 29, at 4. Ms. Frink acknowledges that the Applicant developed the Soil and Groundwater Management Plan. HF 29, at 4. She argues, however, that the plan is inadequate because it does not state with specificity how and where the water from the site will be treated and how much it will cost. Tr., Day 11, 10/17/2018, Afternoon Session, at 26-27.

Jeff and Vivian Miller argue that the Project will have a negative impact on the water quality of Little Bay. DR 8, at 6. They claim that the Applicant failed to provide scientific evidence demonstrating that jet plowing will not cause an unreasonable adverse effect on water quality of Little Bay and opine that NHDES has never supervised a jet plow project in an estuary with specific characteristics of Little Bay. *See* Post-Hearing Brief, at 3.

Mr. Fitch argues that the Applicant failed to demonstrate that jet plowing will not cause an unreasonable adverse effect on water quality of Little Bay and failed to consider other less impactful alternatives. *See* Post-Hearing Memorandum, at 4-5.

(2) Deliberations

Except for impacts on Little Bay and Darius Frink Farm, the parties do not dispute that the NHDES permits and conditions adequately ensure avoidance, minimization, and mitigation of the Project's effects on water quality.

There is no question that Little Bay, as a part of Great Bay Estuary, represents a valuable, unique, and fragile ecosystem. Several parties voiced concerns about the Project's impact on Little Bay. The parties did not, however, provide evidence that would demonstrate the Project's anticipated impacts. Instead, they criticized the accuracy of the Applicant's reports and plans. Durham's experts argue that the sediment distribution modeling contains errors and is inadequate. They also argue that it is based on inadequate sediment testing. They conclude that

the impact cannot be determined and its extent cannot be ascertained based on inaccurate modeling and sampling. However, to address the level of uncertainty associated with the modeling, the Applicant agreed to and is ordered to conduct a jet plow trial run. NHDES is authorized to review the results of the trial and to request that the Applicant adjust its jet plowing operations to ensure that the impact on water quality of the Bay minimized. NHDES is also authorized to review the plans that will be prepared in order to minimize the Project's impact on the Bay. The Subcommittee relies on the experience and expertise of NHDES to appropriately review, approve, and oversee the plans.

Durham's experts disagree with a number of Wetland Permit conditions and requests that the Subcommittee supplement them with additional requirements. The evidence demonstrates that NHDES reviewed and addressed each recommendation made by Durham. Some were accepted and incorporated in the permit and others were rejected. App. 204, 208. Durham was unable to explain why NHDES rejected some of its recommendations and failed to provide sufficient support for the Subcommittee to adopt them. The Subcommittee is confident in the expertise and ability of NHDES to determine which conditions should be implemented.

The municipalities expended significant funds and efforts to reduce the release of nitrogen. Their actions will assist with the recovery of valuable resources like Little Bay. The Project, however, will not add nitrogen. It will disturb and dispense nitrogen already present in the Bay. Durham's experts estimated that the nitrogen that will be released in the Bay will be significant and cannot be ignored. The Applicant's experts testified that their calculation demonstrated that the nitrogen released will be "trivial." Counsel for the Public's experts testified that they have never worked on projects where the release of nitrogen was a concern. The Subcommittee gives significant weight to the testimony of experts in the field. Experts for

the Applicant and Counsel for the Public testified that the release of nitrogen does not present a great concern and will not cause an unreasonable adverse effect on water quality. The trial run should verify the accuracy of the modeling and should provide the opportunity to adjust the specifications for the jet plow operation if necessary. The Applicant will also have to comply with a Water Quality Monitoring and an Adaptive Management Plan that will require the Applicant to sample and analyze total nitrogen, the parameters of which will include, nitrate/nitrite nitrogen, total Kjeldahl nitrogen, and ammonia. Comm. 12c, at 12, Condition 45. The Subcommittee is confident in the ability of NHDES to monitor the amount of nitrogen that will be disturbed in Little Bay and to ensure that the Project will comply with New Hampshire Surface Water Quality Standards. Having heard the expert testimony, knowing that a jet plow trial run will occur, and that monitoring will be undertaken by NHDES, the Subcommittee does not find that nitrogen released by the jet plow will have an unreasonable adverse effect on water quality.

The parties also argue that removal of the existing cable may cause an unreasonable adverse effect on water quality, including the release of lead. The Town of Durham raised concerns associated with cable removal with NHDES. NHDES required the Applicant to prepare and file a Cable Removal Plan with NHDES. The Applicant prepared and filed the Plan, and NHDES reviewed the Plan and indicated that it was appropriate. Counsel for the Public's experts confirm that the Cable Removal Plan addressed and incorporated their suggestions and concerns. The Subcommittee has no reason to decide that the Plan approved by NHDES is insufficient. The Subcommittee finds that removal of existing cable will not have an unreasonable effect on water quality.

All parties agree that an independent environmental monitor should monitor construction of the Project to ensure compliance with conditions of the permits and to ensure that there will be no unreasonable adverse effect on water quality. NHDES requires that the Applicant retain an independent environmental monitor “to assure compliance with permit conditions during and after construction activities, including one year of post-construction corridor monitoring after one full growing season and preparation of appropriate compliance reports for submittal to NHDES.” Comm. 12c, at 8, Condition 29. The Applicant agrees to use independent environmental monitors to oversee the construction of the Project and to work with contractors to implement BMPs to avoid or minimize environmental impacts of the Project. App. 193, Condition 25. The Applicant agrees to use an independent environmental monitor approved by NHDES to oversee work in Little Bay. App. 193, ¶ 25. The Applicant also agreed to file with NHDES and the Committee a copy of all Weekly Compliance Monitoring Reports by all construction and environmental monitors. App. 193, ¶ 26.

The Subcommittee relies on the experience and expertise of NHDES to review and approve the environmental monitor for Little Bay and it will assure that the monitor will be skilled, professional, and independent from the Applicant. The Certificate is conditioned upon the Applicant’s compliance with NHDES Wetlands Permit and additional conditions:

The Applicant shall use independent environmental monitors to oversee the construction of the Project and to work with contractors to implement appropriate BMPs to avoid or minimize environmental impact. The Applicant shall also use independent NHDES approved environmental monitors to oversee work in Little Bay.

Once construction begins, the Applicant shall weekly file with the NHDES, with a copy to the SEC, a copy of all Weekly Compliance Monitoring Reports by all construction and environmental monitors. The Committee shall post said reports on its website and the Applicant shall also post said reports on its website. The

Committee, or any state agency to which the Committee delegates authority, shall have continuing jurisdiction to address any violations of these conditions, all BMPs or all Time of Year restrictions for the Project. Following remediation of any such violation, the Applicant shall file with the NHDES, with a copy to the Committee, a report of remediation, and the Committee shall post said reports on its website.

As to the Project's impact on the Darius Frink Farm, NHDES required the Applicant to develop and submit with the Waste Management Division a Soil and Groundwater Management Plan if it determines that the Farm's water contains PFOA or PFOS. Comm. 12c, at 10, Condition 38. The Applicant's experts testified that they assumed that PFOA and PFOS are present in the water on the Farm. Based on this assumption, they have developed and filed a Soil and Groundwater Management Plan with NHDES. At the time of the hearing, NHDES was reviewing the Plan. Tr., Day 6, 09/21/2008, Morning Session, at 160. NHDES has experience and expertise to determine the adequacy of the Plan prepared by the Applicant. Subject to approval by NHDES of the Soil and Groundwater Management Plan for the Darius Frink Farm, the Subcommittee finds that the Project will not have an unreasonable adverse effect on the waters of the Farm.

Considering the expert testimony and the avoidance, mitigation, and minimization measures adopted by NHDES and agreed to by the Applicant, and the conditions imposed, the Subcommittee finds that the Project will not have an unreasonable adverse effect on water quality.

4. Natural Environment

When determining whether construction and operation of the Project will have an unreasonable adverse effect on the natural environment, the Subcommittee must consider the

Project's effect on wildlife species, rare plants, rare natural communities, and other exemplary natural communities. *See* Site 301.14(e). The Subcommittee also must consider:

- (1) the significance of the affected resident and migratory fish and wildlife species, rare plants, rare natural communities, and other exemplary natural communities, including the size, prevalence, dispersal, migration, and viability of the populations in or using the area;
- (2) the nature, extent, and duration of the potential effects on the affected resident and migratory fish and wildlife species, rare plants, rare natural communities, and other exemplary natural communities;
- (3) the nature, extent, and duration of the potential fragmentation or other alteration of terrestrial or aquatic significant habitat resources or migration corridors;
- (4) the analyses and recommendations, if any, of the department of fish and game, the natural heritage bureau, the United States Fish and Wildlife Service, and other agencies authorized to identify and manage significant wildlife species, rare plants, rare natural communities, and other exemplary natural communities;
- (5) the effectiveness of measures undertaken or planned to avoid, minimize, or mitigate potential adverse effects on the affected wildlife species, rare plants, rare natural communities, and other exemplary natural communities, and the extent to which such measures represent best practical measures;
- (6) the effectiveness of measures undertaken or planned to avoid, minimize, or mitigate potential adverse effects on terrestrial or aquatic significant habitat resources, and the extent to which such measures represent best practical measures; and
- (7) whether conditions should be included in the certificate for post-construction monitoring and reporting and for adaptive management to address potential adverse effects that cannot reliably be predicted at the time of application.

See Site 301.14(e)(1)-(7).

a. Positions of the Parties

(1) Applicant

(a) Plants and Natural Communities

The Applicant retained Normandeau Associates, Inc. (Normandeau) to ascertain the impact of the Project on wildlife. Normandeau prepared a report entitled “Rare, Threatened, and Endangered Species and Exemplary Natural Community Report.” App. 57. The Applicant also pre-filed the testimony of Sarah Allen addressing the Project’s impact on plants and natural communities. App. 15, 78, 145.

According to the report, nine rare, threatened or endangered plant species and six elementary natural communities recorded by the New Hampshire National Heritage Bureau (NHNHB) may occur in the vicinity of the Project. App. 57, at 13. The surveys conducted by the Applicant’s experts confirmed existence of only four patches of one state-listed plant species, crested sedge, *Carex cristatella*, within an approximately 0.6-mile stretch of corridor in the Town of Durham under the existing distribution line. App. 57, at 13-14; App. 54, at 43; Tr., Day 6, 09/21/2018, Morning Session, at 11.

The Applicant agrees to implement the following BMPs to minimize and avoid the Project’s impact on crested sedge: (i) in late June or July, prior to construction, locations of known crested sedge will be resurveyed and flagged; (ii) any new populations will be flagged and reported to NHNHB; (iii) if avoidance on any population is not possible, the Applicant will consult with NHNHB for recommendations; (iv) sensitive areas adjacent to impact areas will be fenced, as needed, and generic caution signs will be installed; (v) if construction is performed during the growing season, work will be performed after the species has set seed, to the extent practicable; (vi) after construction, the native topsoil will be restored to allow crested sedge to

reseed naturally; and (vii) long-term population monitoring in accordance with a monitoring plan that will be approved by NHHNB will be implemented. App. 124, at 13; Tr., Day 6, 09/21/2018, Morning Session, at 12-13. A monitoring plan for long-term population monitoring was not finalized as of the hearing. Tr., Day 6, 09/21/2018, Morning Session, at 15. The BMPs require the Applicant to place access roads on raised timber mats to minimize ground compaction. App. 124, at 13.

The following four exemplary natural communities or natural community systems were identified within the Project area where it will cross Little Bay: (i) high salt marsh (shallow peat variant) – a state ranking of S3 (very rare and local or vulnerable); (ii) salt marsh system; (iii) sparsely vegetated intertidal system; and (iv) subtidal system. App. 57, at 13, 17. The Project will have a temporary impact on 1,456 square feet of salt marsh. App. 128, Table 13. The Applicant developed a Salt Marsh Restoration Plan filed with NHDES. App. 124, at 13. The plan proposed by the Applicant is addressed in Section V.D.4.a.(1)(g)i., below. In addition, before construction, the Applicant will flag salt marsh limits and the location of permitted work areas, fence any known sensitive areas adjacent to permitted work areas (as needed), and install generic caution signs along construction access roads. App. 124, at 13.

(b) Invertebrates

The Applicant asserts that the state endangered ringed boghaunter dragonfly (*Williamsonia lintneri*) was mapped to occur to the North of the Project in Durham. App. 57, at

13, 17; App. 54, at 43. The only area with a potential suitable habitat for this species was surveyed. App. 57, at 13, 17-18. No boghaunter dragonfly was observed. App. 57, at 13, 18.

(c) Fish

Shortnose sturgeon (*Acipenser brevirostrum*), a designated federally endangered species considered to be extirpated in New Hampshire, may occur in the Project area. App. 57, at 17-18. According to the Rare, Threatened, and Endangered Species and Exemplary Natural Community Report, populations of shortnose sturgeon exist in the Kennebec River system to the north of the Project and the Merrimack River to the south. App. 57, at 19. The Applicant's experts opine that, although shortnose sturgeons do not travel as far from their natal rivers as Atlantic sturgeon, they could transit the Project area. App. 57, at 19. They also can use the Project area as feeding habitat. App. 57, at 19.

The Atlantic sturgeon is designated as a federally listed threatened species in the Gulf of Maine. App. 57, at 19. The Applicant asserts that members of the endangered Distinct Population Segment from New York could occur in the Project area. App. 57, at 19. In 1993, the movement of juvenile Atlantic sturgeon in the Merrimack River was tracked. App. 57, at 19. There are also anecdotal reports of Atlantic sturgeon occurring in the Great Bay complex. App. 57, at 19. Juvenile and adult Atlantic sturgeon may transit to the Project area for feeding. App. 57, at 19.

The New Hampshire Fish and Game Department determined that, considering the noise level and scope of work as well as associated plume, sturgeons present within the area will be startled away from the impacted area once daily work starts. App. 203, at 1.

Ms. Pembroke acknowledges that sturgeons will lose an area of feeding habitat covered by concrete mattresses. Day 6, 09/21/2018, Morning Session, at 125-26. She opines, however,

that it will not affect the number of sturgeons that use Little Bay because the number that enters the system is already low. Day 6, 09/21/2018, Morning Session, at 128.

American eel (*Anguilla rostrate*) is designated as a Special Concern Category A1 (SC-A1) species. App. 57, at 19. Ongoing surveys in the Oyster River (yellow eels) and Lamprey River (glass eels/elvers) indicate that the Great Bay Estuary and its tributaries should be considered viable American eel habitat. App. 57, at 20. The Project will cross the Oyster River in Durham where American eels were reported in 1985 and 1998. App. 57, at 20. The section of the Oyster River crossed by the Project may be considered year-round habitat for adult American eel. App. 57, at 20. The Applicant's experts argue that adult eels present in the Oyster River can avoid the Project during any temporary disturbance caused by construction activities. App. 57, at 20. The Project also will cross the LaRoche Brook, a tributary of the Lamprey River, in Durham in the area that can be considered to provide habitat for juvenile and adult American eels. App. 57, at 20. The Applicant's experts assert that the Little Bay Cable Area may provide a staging habitat for juvenile American eels as they migrate upstream. App. 57, at 20.

The banded sunfish (*Enneacanthus obesus*) is designated as SC-A1B and described as a species of Northeast Regional Conservation Concern. App. 57, at 21. This species has been found in the Upper Oyster River, Oyster River, and Longmarsh Brook. App. 57, at 21. The Applicant's experts opine that banded sunfish have a high probability of occurrence within the Project area in Longmarsh Brook and have the potential to occupy the Oyster River within the Project area, if habitat conditions are adequate. App. 57, at 21.

Swamp Darter (*Etheostoma fustiforme*) is designated as SC-A1. App. 57, at 21. Swamp Darters were observed in the Oyster River and below the Oyster River Reservoir Dam, approximately 0.2 miles upstream from the Project area. App. 57, at 21.

To avoid and minimize impacts on fresh water fisheries, the Applicant agrees to utilize low impact tree removal methods such as hand cutting by climbing crews, to reduce the need for clearing equipment near Oyster River and Longmarsh Brook. App. 124, at 9; Tr., Day 5, 09/20/2018, Afternoon Session, at 185-86. The Applicant agrees to install temporary bridges at LaRoche Brook to allow unimpeded stream passage. App. 124, at 9.

(d) Reptiles

The eastern hog-nosed snake (*Heterodon platirhinos*) is a State endangered species. App. 57, at 22. The nearest known occurrence of eastern hog-nosed snakes in the Project area is in a power line corridor in the Concord/Pembroke area. App. 57, at 22. The Applicant's experts testify that, during construction of the Project, the Applicant will implement best management practices to prevent impacts to all special status reptiles potentially present in the Project area. App. 57, at 22. They further state that the Project will improve eastern hog-nosed snakes' habitat by reducing canopy cover. App. 57, at 22.

The Northern black racer (*Coluber constrictor*) is a State threatened species. App. 57, at 22. An adult northern black racer was observed within the Project area in Madbury and approximately 0.5 miles from the Project corridor south of the Packers Falls substation in Durham. App. 57, at 22. On October 31, 2013 and on April 22, 2015, the Applicant's experts surveyed the area in Madbury where the presence of a northern black racer was recorded. App. 57, at 22-23. They concluded this area provides useful resources to northern black racers and any individual with a home range that includes this area would likely use this portion of the Project area. App. 57, at 23. Ms. Allen testifies that no new hibernacula could develop since the last survey and there is no need to update the survey. Tr., Day 6, 09/21/2018, Morning Session, at 21.

According to the BMPs, the Applicant will conduct site searches and removal of the snakes to a safe suitable habitat close to their point of capture during the active season between April 15 and October 30. App. 124, at 4. Construction areas cleared of snakes will be fenced to prevent their reentry. App. 124, at 4. For black racers, contractors will be trained to recognize this species and to take appropriate actions to protect them. App. 124, at 4; Tr., Day 6, 09/21/2018, Morning Session, at 17-18. No clearing, site preparation, and construction will be conducted from April 15 to October 30 in general and from October 15 to April 30 in any location known by NHFG to host a hibernaculum.²¹ App. 124, Att. 1.

Blanding's turtle (*Emydoidea blandingii*) is a State endangered species and spotted turtles (*Clemmys guttata*) is a State threatened species. App. 57, at 23-24. Site-specific surveys were not conducted for these two species within the Project area. App. 57, at 24. The Applicant's experts conclude, however, that it should be assumed that both turtles use portions of the Project area in Durham during portions of their life cycle. App. 57, at 24. They testify that best management practices should be used during construction of the Project to prevent construction's impacts on these species. App. 57, at 24. According to the BMPs, to minimize the Project's impact on Blanding's and spotted turtles in wetlands, the Applicant will avoid and minimize impacts to open water and muck substrates in all seasons to the greatest extent possible. App. 124, at 5. During the active season (April 15 – October 15), the Applicant will conduct searches and removal of the turtles at woody and grassy wetland vegetation within the construction zone. App. 124, at 5. Turtle searches and removals at upland vegetation in the construction area within 3,280 feet of wetland suitable for spotted and Blanding's turtles will be conducted.

²¹ Surveys to date have not identified hibernacula in the Project area. App. 124, Att. 1.

App. 124, at 5. If nesting areas are identified, symbolic fences around the areas will be installed during construction. App. 124, at 5.

(e) Birds

Osprey is a species of special concern. App. 57, at 25. Ospreys were recorded nesting near the Project. App. 57, at 25. The Applicant's experts acknowledge that species-specific surveys of ospreys were not conducted along the right-of-way. App. 57, at 25. They opine, however, that in the season prior to construction, the Project area should be reviewed to determine if it is being used by ospreys. App. 57, at 25.

According to the BMPs, the Applicant will conduct a survey for active raptor nests before initiating work. App. 124, Att. 1. The BMPs identify these nesting seasons for these species: (i) osprey – April 15 – August 15; (ii) sharp-shinned hawk – April 15 – July 25; (iii) Cooper's hawk – April 1 – June 30; (iv) red-shouldered hawk – April 1 – June 25; (v) broad-winged hawk – May 1 – July 30; (vi) red-tail hawk – March 15 – July 15; and (vii) American kestrel – April 1 – July 25. App. 124, Table 1. Appropriate buffer distances for individual nests subject to disturbance from clearing, site preparation, or construction will be negotiated with the regulatory agencies. App. 124, at 3.

As to the possibility of electrocution, the Applicant's experts testify that the Project's lines meet Avian Line Interaction Committee's bird-safe standards to minimize the possibility of electrocuting all types of raptors. App. 57, at 24-25.

The Golden-wing warbler is a species of special concern. App. 57, at 25. The Applicant's experts testify that, because the most recent record for this species in the Project area is from 1984 and there is no current record in the vicinity of the Project, no survey was

conducted for this species. App. 57, at 25. They opine that power line corridors potentially provide good quality habitat for this species. App. 57, at 25.

The Grasshopper sparrow is a state threatened species. App. 57, at 25. The Grasshopper sparrow was present near the Project in Newington, but has not been recorded in it. App. 57, at 25. The Applicant's experts opine there are no suitable habitat areas for this species within the Project area. App. 57, at 25.

Henslow's sparrow (species that is tracked by NHHNB) was historically present near the Project area in Newington. App. 57, at 25. No survey of this species was conducted because the NHHNB records are historic and not within the Project area. App. 57, at 26.

Least bittern (species of special concern) was historically present near the Project in Durham. App. 57, at 26. No survey of this species was conducted because the habitat within the Project area is marginal and the NHHNB records are historic and not within the Project area. App. 57, at 26.

Roseate tern (state and federal endangered species) is seen regularly in coastal locations in Rye and New Castle. App. 57, at 26. There are no inland reports of this species, including no reports from Great Bay. App. 57, at 26.

Sedge wren (state endangered species) was historically present near the Project in Durham. App. 57, at 26. Although no survey of this species was conducted, the Applicant's experts conclude that it likely will not be present in the Project area because of its erratic and inconsistent distribution in New England, historic nature of the records, and the small amount of suitable habitat. App. 57, at 26.

(g) Mammals

The Northern Long-Eared Bat is a state and federally threatened species. App. 57, at 27. To address the Project's potential effect on the Northern Long-Eared Bats, the Applicant filed a report entitled "Biological Assessment for the Northern Long-Eared Bat." App. Appx. 39. According to the report, no assessment of the level of suitability or the distribution of the most suitable habitat has been conducted. App. 59, at 7. A comprehensive assessment of Northern Long-Eared Bats' population within the action area²² has not been conducted. App. 59, at 7. The Applicant's experts conclude, however, that the action area probably provides suitable habitat for the Northern Long-Eared Bats and it can be assumed that they will be present. App. 59, at 7. Construction and operation of the Project will affect the Northern Long-Eared Bats that may be present in the action area. App. 59, at 8.

The Applicant conducted ultrasonic acoustic surveys within the proposed limits of work from July 17 through July 22, 2017. App. 145, at 6. The results of the survey were provided in a report entitled "Northern Long-Eared Bat Acoustic Survey." App. 145, Att. A. The survey indicates that Northern Long-Eared Bats were likely present at Segments 14, 16, 18, and 19. App. 145, at 6. The survey further demonstrates that big brown bats, eastern red bats, hoary bats, silver-haired bats, little brown bats (state endangered), and eastern small-footed bats (state endangered) were present at the Site. App. 145, at 6.

The Applicant's experts conclude, however, that "the effect of construction and operation of the [Project] on this species is so small as to be inconsequential to the population that may be present in the Action Area based on [the Applicant's] commitment to meet the USFWS final

²² Action area is defined as footprint of the Project where the construction will occur and a three-mile buffer drawn around any point in the right-of-way centerline. App. Appx. 39, at 4.

guidance and the limited tree removal.” App. 59, at 9. They further explain this conclusion is based on these facts:

- There are no known maternity roosts or hibernacula within 0.25 miles of the Project. Therefore, USFWS’s TOY rule 4(d) rule²³ will not apply.
- Direct impacts associated with the felling of trees will be relatively minor due to the narrow corridor to be cleared at the sections where calls were recorded (from 0 to 40 feet).
- Secondary impacts will include maintenance removal of limbs and hazard trees during operation. Rule 4(d), however, exempts such activity and considers it as posing no impact to Northern Long-Eared Bats.
- The Project will contribute to the cumulative removal of forest within the action area. This contribution, however, is likely to be minimal, as compared to the existing and future development likely to occur in the region.

App. 59, at 9; App. 145, at 6.

The Applicant agrees, when possible, to perform tree clearing outside of the maternity season (June-July) to minimize risk to non-flying pups. App. 145, at 6.

The New England Cottontail (state endangered species) has not been recorded within the vicinity of the Project. App. 1, Appx. 37, at 27. However, the Project will abut two parcels that are actively managed to create suitable habitat for this species in Durham. App. 57, at 28.

According to the BMPs for the cottontail, to the extent practicable, in locations identified as New England Cottontail habitat management areas, vegetation will be cleared between March 31 and June 21, or as otherwise directed by NHFG considering site specific considerations at these locations. App. 124, at 6. Vegetation will be cleared by hand cutting or using a “brontosaurus” or similar equipment and leave stumps and root systems in place. App. 124, at 6.

²³ No trees can be cleared within ¼ mile of known, occupied hibernacula at any time of the year, or within 150 feet of a known, occupied maternity roost during the June 1 – July 31 pup season. App. 124, at 3-4.

(g) Impacts of the Little Bay Cable Crossing

i. Salt Marsh

The Applicant admits that the Project will have temporary impacts on salt marsh (1,456 square feet) during cable burial performed by an excavator across the narrow fringing salt marshes of the east and west shores of Little Bay. App. 128, Table 13.

To minimize and mitigate the Project's impacts on salt marsh and pursuant to the requirements of NHDES, the Applicant developed and filed with the Subcommittee a "Salt Marsh Protection and Restoration Plan."²⁴ App. 108. According to the Plan, all construction and restoration of salt marsh will be performed under the supervision of an engineer and an environmental monitor. App. 108, at 1. Before construction, the work areas will be delineated with temporary fencing and erosion controls will be installed along the upland edge. App. 108, at 1. Within the work area, timber mats will protect the marsh from equipment and foot traffic. App. 108, at 2.

Excavation in the marsh will be limited only to the area necessary for burying the cables. App. 108, at 2. The Applicant agrees to use mats and conduct excavation "over the briefest time period possible to limit impacts to the salt marsh." App. 108, at 2. In the excavation areas, all suitable salt marsh peat, as determined by the environmental monitor²⁵, will be salvaged and stockpiled for replacement during restoration. App. 108, at 2.

In areas where the salt marsh will not have fully established, the marsh will not be salvaged. App. 108, at 2. It will be restored with a mixed sand within sandbags or otherwise protected to stabilize the sediments. App. 108, at 2. The marsh will be replanted at 1 sq. ft.

²⁴ Ms. Allen testified that the Plan will be updated. Tr., Day 6, 09/21/2008, Morning Session, at 160.

²⁵ It should be thick enough (minimum 6 inches) and intact enough (minimum 4 square feet) to tolerate salvaging, storing and re-planting. App. 108, at 2.

intervals with salt marsh cordgrass seedlings in low marsh areas and salt marsh hay (*Spartina patens*) seedlings in high marsh areas, as designated by the environmental monitor. App. 108, at 2.

The Applicant agrees to conduct five²⁶ years of post-construction monitoring. App. 108, at 2. The monitoring will include a site inspection in the spring and late summer, growing season vegetation cover estimates by species, and photographs. App. 108, at 3. Areas with less than 80% cover in late summer will require additional planting or other appropriate enhancements. App. 108, at 3. Any areas with erosion will be repaired immediately. App. 108, at 3.

In addition to the areas disturbed by construction activities, the Applicant agrees to re-establish approximately 461 square feet of former salt marsh to the north of the work corridor. App. 108, at 1-2.

ii. Macroalgae

Approximately 469 square feet (0.01 acres) of rocky shore within the work area will be temporarily disturbed and macroalgae on the rocks will be lost. App. 1-2, at 31; App. 1, at 97. The Applicant asserts that a rocky substrate will be replaced at the completion of the cable installation. App. 1, at 97. The same species of macroalgae (primarily *Fucus vesiculosus*) will recolonize naturally after construction is complete. App. 54, at 31; App. 1, at 97.

The Applicant acknowledges that concrete mattresses will permanently change the substrate from unconsolidated to artificial hard (rock) substrate. App. 54, at 31; App. 125, at 8; Tr., Day 4, 09/18/2018, Afternoon Session, at 109. It argues, however, that although it will

²⁶ Three years according to the original Application. App. 1, at 97; App. 15, at 10.

destroy any macroalgae attached to the ledge or boulders, the same species of macroalgae will colonize the concrete mattresses following construction. App. 54, at 31-32; App. 1, at 97.

iii. Eelgrass

The Applicant argues that it is highly unlikely that established beds of eelgrass will be present when the cable installation takes place. App. 54, at 31; App. 1, at 98. The Applicant's expert, Ann Pembroke, testifies that the eelgrass video survey demonstrated there was no attached (viable) eelgrass plants along the five transects conducted. App. 16, at 4. Water quality modeling demonstrated that neither plume nor deposition of suspended sediments resulting from the in-water construction activities will reach any established eelgrass beds. App. Appx. 54, at 31; App. 1, at 98. Nonetheless, the Applicant agrees to survey for eelgrass during the active growing season prior to in-water cable installation and, if eelgrass is detected, to evaluate the extent and validity of the beds and to work with regulatory agencies to develop appropriate mitigation, if necessary. App. 1, at 97-98. BMPs require the Applicant to conduct a field survey for eelgrass the summer before construction, in a band approximately 500 feet to either side of the cable route. App. 124, at 11. NHDES requires that the Applicant conduct an eelgrass survey the summer before construction commences and approximately one year after work is completed.²⁷ NHDES indicates that, as of August 31, 2018, it did not receive a satisfactory eelgrass survey. App. 183.

iv. Shellfish

The Applicant asserts that the tidal flats in Little Bay support a population of shellfish, including softshell clams and razor clams. App. 54, at 32; App. 1, at 98. It also supports a

²⁷ "To assess the impact of work associated with laying cable in Little Bay on eelgrass, the Applicant shall conduct an eelgrass survey in the Little Bay estuary the summer before construction commences and, if directed by NHDES, approximately one year after work is completed." Comm. 12c.

population of ecologically important species such as *Macoma*. App. 54, at 32. Species within the footprint of the cable trenches will be impacted by the jet plow and hand jetting process. App. 1, at 98. Those in the direct path of the jet plow will be displaced and, potentially, injured or killed. App. Appx 34, at 32. Species adjacent to the trenches will be buried. App. 1, at 98. The Applicant estimates that adult softshell clams and razor clams covered by sediments will survive. App. 54, at 32.

If concrete mattresses are used in the upper intertidal on both sides of the cable crossing where rocks or bedrock may occur beneath the sediment surface, any shellfish residing in the sediment will be covered and the substrate will become not suitable for infaunal shellfish. App. 54, at 32. The Applicant estimates that artificial material may provide suitable substrate for macroalgae and oysters. App. 1, at 98.

The Applicant asserts there may be pockets of oysters occurring intertidally near the Project that are not mapped by GRANIT and that they may be exposed to the plume. App. 1, at 98-99. The Applicant argues, however, that, given the ephemeral nature of the plume, it is unlikely there will be “significant deleterious effects” on these oysters. App. 1, at 99.

The nearest mapped natural oyster reef is located offshore of the southeastern point of Adams Point. App. 54, at 32; App. 1, at 98. A planned restoration area adjacent to this bed is expected to be in place by the time of installation of the cables. App. 5, at 32. Water quality modeling demonstrates that the suspended sediment plume is likely to come near the Adams Point reef for one to two hours during each installation.²⁸ App. 54, at 32; App. 1, at 98. Ms. Pembroke testifies that silt associated with the Project may cause mortality to oysters if it is approximately half an inch thick. Tr., Day 5, 09/20/2018, Morning Session, at 51. The highest

²⁸ Based on the estimates that were updated thereafter.

suspended sediment concentration to reach the vicinity of the Adams Point reef will be approximately ≤ 10 mg/L. App. 54, at 32. The Applicant argues this level of suspended sediment is below the maximum values recorded for the area by Great Bay National Estuarine Research Reserve and levels shown in laboratory experiments to elicit any kind of report by oysters. App. 54, at 32; App., at 98. Deposition closest to the oyster bed will be ≤ 0.02 inch. App. 54, at 32. The Applicant concludes that the Project will have no “discernable” effects on oysters at Adams Point reef. App. 1, at 98. The Applicant also argues that the Project will not affect a proposed oyster restoration area adjacent to the southern border on the natural bed at Adams Point and other areas where oyster reef restoration has taken place in Great Bay. App. 1, at 98-99.

The Applicant confirms that the plume will flow towards the Joe King Oyster Cooperative and the Fat Dog Shellfish beds and will reach the vicinity of these businesses for several hours. App. 54, at 37; App. 1, at 99. Water quality modeling estimates that excess suspended concentrations in the plume near and potentially overlapping these aquaculture facilities will be approximately 10-20 mg/L.²⁹ App. 54, at 37; App. 1, at 99. The Applicant argues that the Project will not affect oysters at the farms because these concentrations are within naturally occurring suspended sediment levels observed in the Bay during the fall. App. 1, at 99. The Applicant also argues that the plume associated with the Project will not have a negative impact on the farms’ oysters because the research demonstrated that the eastern oysters exhibited no discernable response to a three-week exposure to concentrations as high as 710 mg/L. App. 54, at 37. The Applicant opines that, if oysters continue pumping as a result of exposure to the plume, subsequent exposure to less turbid seawater will allow them to cleanse any excess

²⁹ Based on the estimates that were updated thereafter.

sediments from their tissues. App. 54, at 37. The Applicant acknowledges that approximately 0.004 inch of suspended sediment will be deposited on the shells and cages. App. 54, at 37. It argues that, because the level of sediment is so low, there is a negligible risk of contaminating the meat of the shellfish. App. 54, at 37.

Bay Point Oyster Co. is at the eastern terminus of the jet plow portion of the route. App. 1, at 99. As the jet plow approaches this area, the tide will be at flood stage. App. 1, at 99. The plume will be flowing southward towards Furber Strait. App. 1, at 99. The Applicant asserts that, even though the tide will have reversed, the plume crossing the Bay Point will be less than 20 mg/L and will last for less than 1 hour.³⁰ App. 54, at 37; App. 1, at 99. The Applicant acknowledges that some deviation in the jet plow rate of speed is possible. App. 1, at 99. It argues, however, that the likelihood there will be a delay in reaching the eastern terminus of the cable so the tide has reversed, transporting the plume to the north in the vicinity of Bay Point, is “negligible.” App. 1, at 99. The Applicant also asserts that a portion of the cable buried by divers will be in close proximity to Bay Point. App. 54, at 37; App. 1, at 99. A plume caused by this activity will reach the farm. App. 54, at 37; App. 1, at 99. The excess suspended sediment concentration on the portion of the plume nearing the farm will be less than 10 mg/L. App. 54, at 37; App. 1, at 99. The Applicant concludes that it is unlikely that construction of the Project will cause a physiological impact on the oysters held at this farm. App. 1, at 99.

The Applicant also argues that impacts to farmed oysters through increased exposure to polychaete *Polydora* disturbed because of jet plowing will be negligible because it is likely that individuals suspended in the water column will be redeposited within an area demarcated by the 0.1 millimeter thickness contour. App. 54, at 38.

³⁰ Based on the estimates that were updated thereafter.

The Applicant confirms that larval forms of American oysters and softshell clams may be in the plankton during the installation of the cable. App. 54, at 37; App. 1, at 99. Jet plowing will cycle approximately 1,000 m³/hour (264,172 gallons/hour) from Little Bay for a total of approximately 42x10⁴ m³. App. 54, at 37; App. 1, at 99. Planktonic organisms will be entrained in the system and they likely will not survive. App. 54, at 37; App. 1, at 99. The Applicant concludes, however, that entrainment will have insignificant effects on the shellfish populations because the volume of water cycled by jet plowing represents 0.17 (high tide) to 0.27 (low tide) percent of the total volume of upper Little Bay and associated plankton. App. 54, at 37; App. 1, at 99-100.

The Applicant confirms that infauna shellfish could be exposed to magnetic fields emitted by the cables. App. 54, at 38. It argues that these magnetic fields likely will not have a discernable effect on area shellfish or on the oyster stock at the Bay Point Oyster Co. because: (i) it is estimated that the cables will cause a maximum magnetic field strength of 100 milliGauss (mG) that will decay laterally to 20 mG within 60-feet either side of the center cable and will decay vertically above the cable; and (ii) several researchers have examined the physiological effect of mussels exposed to magnetic fields and observed that the minimum magnetic field strength required to evoke change in shape or immunocyts or increase in concentration of heat shock proteins was 30 to 40 times higher than the predicted magnetic field strength at the cables in Little Bay. App. 54, at 38.

The Applicant's experts estimate that each cable will elevate the temperature of the sediment two feet above the cable to 30°C. Adult softshell clams may bury that deep into the substrate and may be exposed to elevated temperatures. The Applicant argues that research indicates that softshell clams (*Mya arenaria* and *Macoma balthica*) acclimated at 20-25°C

experienced a 50% mortality rate when exposed to temperatures of 31-32°C. App. 54, at 38.

The Applicant argues that the effects to shellfish will be limited since the area where increased sediment temperatures will occur will be limited to a narrow band above each cable.

App. 54, at 38.

v. Benthic Infauna, Lobsters, and Horseshoe Crabs

Benthic infauna along each cable route will be displaced into the water column and adjacent substrate by the jet plow. Displaced individuals may not survive. The likelihood of displaced individuals being consumed by predators will be increased because predators like lobsters and demersal-feeding fish are attracted to areas of disturbance. App. 54, at 38; App., at 100.

Infauna organisms in the upper intertidal zone will be affected by placement of concrete mattresses. App. 1, at 100. The Applicant asserts, however, that it is likely that the artificial subsurface will be colonized by macroalgae and macrofauna typically found on hard substrate in this depth zone. App. 54, at 39; App. 1, at 100.

Recovery of the benthic infauna will depend on recruitment from nearby populations and will likely take place the following spring and summer. App. 54, at 38. The Applicant opines that the benthic infaunal community will recover in terms of abundance and, possibly, species richness by the end of the following reproductive period. App. 1, at 100.

Benthic infauna may be exposed to magnetic fields associated with the Project. The Applicant admits that “[l]ittle is known about how benthic invertebrates respond to EMF.” App. 54, at 38. The Applicant argues that the electro-magnetic field likely will not have a discernable effect on area benthic infauna because the predicted field is too low to evoke physiological changes in mussels. App. 54, at 38.

The Applicant agrees to conduct benthic infaunal community monitoring. App. 129, at 9-12. Baseline sampling was conducted in early fall of 2014 along three transects running perpendicular to the charted cable area in different depth strata and the Applicant proposes a similar study design for the post-construction monitoring. App. 129, at 12. The Applicant asserts that post-construction benthic monitoring will include analysis of grain size, total organic carbon (TOC), and benthic infauna collected from five stations along each of the three transects occupied during the baseline survey. On each transect, one station will be within the 100-foot wide area of disturbance and the remaining stations will be located outside the disturbed area (two stations to the north and two stations to the south). Station locations will be finalized based on the as-built plans. App. 129, at 10. Post-construction sampling will be conducted in the month of September to capture the majority of the annual peak benthic reproductive period. App. 129, at 12. Should the results of the survey conducted in the year following installation indicate that any of the impact stations has not recovered biologically, then the survey will be repeated a second year for the affected transect(s). App. 129, at 16. If there is no recovery after two years this would suggest a more long-term change in infaunal community structure and the need for mitigation will be discussed with the regulatory agencies. App. 129, at 16.

On August 31, 2018, NHDES advised the Subcommittee that the Applicant will be filing a revised benthic infaunal community monitoring plan. App. 183, Page 8 of 17.

The Applicant asserts that population estimates of American lobsters and horseshoe crabs in the Great Bay Estuary are not available. App. 54, at 34; App. 1, at 100. Lobster that burrow into the substrate during the day will be impacted by the jet plow. Lobsters adjacent to the jet plow route will be subject to burial. App. 54, at 39. Lobster larvae will be vulnerable to entrainment by the jet plow water intake. App. 54, at 40; App. 1, at 100.

Horseshoe crabs along the path of the jet plow will be displaced and potentially injured or killed by the force of the plow. App. 54, at 40; App. 1, at 100. Horseshoe crabs adjacent to the plowed area will be buried. App. 54, at 40. The Applicant opines that it is unlikely that adult individuals displaced or buried under a thin layer of sediment will experience more than a fleeting impact. App. 54, at 40.

The Applicant concludes, however, that the proportion of suitable habitat within the Great Bay system affected by the cable installation is small and that it is reasonable to assume that the number of lobsters and horseshoe crabs potentially affected is small. App. 54, at 40; App. 1, at 100.

The Applicant acknowledges that installation of the cables will temporarily affect bathymetry along an approximately 100-foot wide swath crossing Little Bay. App. 129, at 11. That may cause areas of excess deposition adjacent to the cables and areas of depression over the cables. App. 129, at 11. The changes in microtopography can influence the composition and distribution of benthic infauna and the use of substrate by epibenthic species (lobsters, crabs, and horseshoe crabs). App. 129, at 11. To address this possibility, the Applicant agrees to conduct a bathymetric survey immediately following cable installation using a single beam or multibeam sonar system to map the sediment surface. App. 129, at 11. A second survey in spring will be conducted if results indicate bathymetric changes in excess of six inches above or below the surrounding topography. App. 129, at 11. The survey area will cover at least 100-feet north and south of the 100-foot wide cable route for a minimum total width of 300 feet. App. 129, at 11. It will cover the entire jet plow installation route. App. 129, at 9. The data will be examined for evidence of depression directly over the cables or mounding adjacent to the cables. App. 129, at 11. If the depression is noted and the benthic infaunal survey demonstrates that benthic infaunal

recruitment has been very limited, a follow-up survey will be conducted in one year. App. 129, at 11. If after two years, bathymetric changes have persisted and infaunal recruitment has continued to be insufficient, the Applicant “will discuss with the agencies what mitigation would be required.” App. 129, at 11.

NHDES requires the Applicant to obtain its approval of a Benthic Habitat Monitoring Plan at least sixty (60) days before the start of construction in Little Bay. On August 31, 2018, NHDES advised the Subcommittee that the Applicant will be filing a revised benthic habitat monitoring plan. App. 183, Page 7 of 17.

vi. Fish

The Applicant states that the Project’s impact on fish in Little Bay will be temporary and will include: (i) alteration of benthic habitat; (ii) increased levels of suspended sediments; and (iii) mortality of early life stages entrainment in the jet plow’s water system. App. 54, at 40.

The Applicant asserts that Wilbur and Clarke (2001) reported that salmonids exposed to suspended sediment concentrations of 1000 mg/L or higher for up to one full day: (i) respond with behavioral changes (altered swimming behavior with either attraction or repulsion to the plume); or (ii) experience sublethal effects (e.g. reduced feeding). The Applicant opines that the fish will not be impacted by exposure to the Project’s plume because the duration of the highest density of the plume will be approximately an hour per cable. App. 54, at 40.

The Applicant also argues that impact on early fish life-stages associated with entrainment will be insignificant considering that only approximately 0.17-0.27 percent of the total volume of water in upper Little Bay will be withdrawn. App. 54, at 41.

The Applicant acknowledges that the cables have the potential to emit magnetic fields. App. 54, at 41. It asserts, however, that research indicated that the magnetic fields emitted from

low voltage AC cables are unlikely to be detected by most fishes. App. 54, at 41. Ms. Pembroke opines that EMFs will decay to a low level by the time it reaches the surface of the sediment and will not be detectable. Tr., Day 6, 09/21/2018, Morning Session, at 128-29.

In order to address the Project's effect on Essential Fish Habitat, the Applicant filed reports entitled "Essential Fish Habitat Assessment," "Rare, Threatened, and Endangered Species and Exemplary Natural Community Report," and "Natural Resource Impact Assessment." App. 57; App. 58; App. 54. The Applicant also filed the "Revised Essential Fish Habitat Assessment" dated September 19, 2017. App. 131.

The Essential Fish Habitat Assessment describes the habitat requirements for species having Essential Fish Habitat designation within the Project area in Little Bay. App. 131, at 1. According to the report, the fish species with essential fish habitat listed in the table in Attachment C, may be impacted by construction of the Project between August and December.

The Applicant asserts that essential fish habitat for demersal species will be temporarily reduced in areal extent during the installation of the cables for several hours for any given location. Essential Fish Habitat for pelagic species will be temporarily degraded by increased suspended sediments in a band perpendicular to the cable route during installation of the cables. The Applicant asserts that the Project will have no permanent impact on essential fish habitat. App. 54, at 41.

The Applicant argues that the construction's impact on diadromous species may be minimized by restricting underwater construction activities or implementing time-of-year restrictions that minimize construction during the following periods when diadromous species are likely to be present. App. 54, at 41-42, Table 5.9-1.

Adult American eel (“yellow”) and juvenile alewife, blueback herring, American shad, and rainbow smelt may be impacted by construction of the Project during their seaward migration in the fall. Each species also may encounter the turbidity plume caused by the jet plow. The Applicant admits these species were not examined by various researchers. It argues, however, that studies conducted for other species may apply to these species, in general. Based on these studies, the Applicant opines that lethal and sublethal effects will require exposure to the plume for several hours. The Applicant argues these species, most likely, will swim away from the plume when they encounter it. App. 54, 41-42.

As mitigation and minimization measures, the Applicant agrees to time of year restrictions and best management practices and will conduct underground cable installation between September 1 and December 31. App. 124, at 6 and Att. 1.

vii. Birds

In the fall, the Great Bay hosts over 500 migrating Canada geese and black ducks. App. 1, at 101. It hosts less than 100 other diving and dabbling ducks and shorebirds. App. 1, at 101. The Applicant asserts that construction of the Project during fall will shift avian use away from the Project area. App. 1, at 101. The Applicant argues, however, that resources for these species are available in other parts of the Bay and, post-construction, the Project will not affect resources for migrating waterfowl, eagles and other resident bird species. App. 1, at 101.

American bald eagles (state-threatened) and osprey (state special concern) are fish eating birds of prey that breed in Great Bay. App. 1, at 101. Bald eagles are also present in Great Bay in the fall and winter. App. 1, at 101. An active Bald Eagle nest has been identified approximately 650-700 feet from the edge of the right-of-way. The presence of young was confirmed on July 12, 2018. App. 145, at 7. The Applicant’s experts opine that construction of

the Project will not disturb the eagles during the February-July nesting season because most work will be shielded by trees and will be outside the 660-foot buffer recommended by the USFWS 2007 National Bald Eagle Management Guidelines. App. 145, at 7; Tr., Day 6, 09/21/2018, Morning Session, at 22-24. Jet plow-related work will be outside of the buffer and will be conducted at the time when the eagles will not depend on the nest (September -November). App. 145, at 7. Ms. Allen opines that construction of the Project will not violate the Bald and Golden Eagle Protection Act where no bald eagles will be harassed or injured. Tr., Day 5, 09/20/2018, Morning Session, at 6.

As to avoidance measures, the Applicant agrees to conduct a pre-construction survey of active nests by surveying the right-of-way. App. 57, at 24; Tr., Day 6, 09/21/2018, Morning Session, at 28-29. No aerial survey will be performed. Tr., Day 6, 09/21/2018, Morning Session, at 29. Ms. Allen testified that she is confident, based on the location of known nests and eagles, that no aerial survey is needed to identify active nests. Tr., Day 6, 09/21/2018, Morning Session, at 29-30. No roost site survey will be conducted because the right-of-way does not provide winter roost habitat. Tr., Day 6, 09/21/2018, Morning Session, at 31.

The New Hampshire Fish and Game Department recommends avoiding cutting supra canopy pine trees used as perch trees by bald eagles. App. 203 at 1. It recommends contacting the Department for its input if tree cutting must be conducted within the vicinity of the Bald Eagle nest. App. 203 at 2. For the overhead line construction, the Department recommends that the Applicant follow industry standards for “raptor safe best management practices” to reduce the potential for avian electrocution. App. 203 at 2. The Department also recommends contacting New Hampshire Audubon to inquire about an independent observer to volunteer and monitor the site. App. 203, at 2. The Department concludes that installation of the cables in

Little Bay will not impact nesting eagles if it is conducted from September to December.

App. 203, at 2.

viii. Conclusion

Ms. Pembroke concludes that the Project will not have a “significant” adverse effect on the resources of Little Bay along the cable crossing. App. 16, at 7-8; App. 145, at 10. She bases her conclusion on these specific facts: (i) jet-plowing minimizes the surface area directly disturbed during installations; (ii) disturbance caused by jet-plowing will be temporary; (iii) water quality effects associated with jet-plowing will be temporary and limited in space; (iii) benthic infaunal species impacted are widespread and highly likely to repopulate the disturbed sediments; (iv) artificial substrate (mattresses) will provide some habitat value; (v) construction of the Project will not affect eelgrass; (vi) impacts to macroalgae will be minimal; (vii) the sediment plume will not reach major natural oyster beds or restored oyster beds and will not impact them; (viii) the plume will have a negligible effect on unmapped oyster beds; (ix) elevated suspended sediments will not cause detrimental effects on oysters at the aquaculture farms considering the duration and concentration of the plume; (x) entrainment of planktonic organisms will be insignificant considering that less than 0.3% of the volume of water in Little Bay will be withdrawn by jet plowing; (xi) impact to EFH of demersal fishes, fishes dwelling at or near the bottom of Little Bay will be negligible because the substrate will recover to its preexisting condition quickly; (xii) impacts to EFH of pelagic fishes, fishes in the water column not associated with the substrate will be negligible because the sediment plume will be limited in

duration and spatial extent; and (xiii) diadromous fishes will not experience a significant effect because of limited spatial and temporal extent of the plume. App. 16, at 8-9.

(h) Conclusion – Impact on Natural Environment

Based on the testimony and reports submitted by the Applicant's experts and considering the mitigation and minimization measures implemented by the Applicant, Ms. Allen concludes that the Project will not cause an unreasonable adverse effect on the natural environment. App. 145, at 13.

(2) Counsel for the Public

Counsel for the Public filed a report and testimony of Payson R. Whitney, III and Matthew D. Ladewig addressing the Project's potential impacts on the natural environment of Little Bay. CFP 1, 1-a, 3. Mr. Whitney and Mr. Ladewig reviewed the Applicant's experts' reports and testimony and concluded that "[f]or the most part, the Applicant has adequately characterized the potential environmental impacts of the work associated with installation of the submarine cable in Little Bay." CFP 1, at 6.

Counsel for the Public's experts also submitted several recommended conditions. CFP 1, at 6-8. Relative to benthic infaunal community monitoring, they recommend that the Subcommittee require that the Applicant perform pre-construction benthic sampling to ensure that the most recent data is recorded. CFP 1, at 6-8. They also recommend ordering the Applicant to collect at least three replicate samples at each of the proposed sampling locations. CFP 1, at 6-8. They opine that impact and non-impact stations should be selected and finalized before installation of the cable to allow for collection of updated pre-construction benthic infaunal samples. CFP 1, at 8. The Applicant implemented the Counsel for Public's experts' recommendation relative to benthic infaunal community monitoring in its Revised Benthic

Monitoring Plan. CFP 3, at 2. After the review of the Revised Plan, Counsel for the Public's experts recommended: (i) the Applicant should use a multi-beam system to obtain bathymetric data because it will provide a more comprehensive assessment of bottom elevations without interpretation of elevations between survey lines; and (ii) the Applicant should conduct the pre-construction baseline monitoring before initiation of route clearing and preparation activities. CFP 3, at 5-6.

Counsel for the Public's experts testify that the time-of-year restrictions and BMPs that the Applicant agrees to implement in Little Bay during cable installation are "consistent with industry standards." CFP 3, at 2. They opine that these restrictions and BMPs should be incorporated into the final construction plans. CFP 3, at 3. Relative to BMPs and time of year restrictions, Counsel for the Public and the Applicant agree to condition the Certificate as follows:

Further Ordered that, the Applicant shall comply with vegetation management BMPs and TOY restrictions established by the New Hampshire Natural Heritage Bureau, and as described in Best Management Practices and Construction Plan for Protected Wildlife and Plants, dated September 15, 2017.

Further Ordered that, the Applicant shall comply with BMPs and TOY restrictions approved to by the New Hampshire Fish and Game Department ("NHFG") to avoid and minimize potential impacts to rare, threatened, and endangered wildlife species and rare plants, as described in Best Management Practices and Construction Plan for Protected Wildlife and Plants, dated September 15, 2017.

App. 193, ¶26.

Counsel for the Public asserts that the Subcommittee should condition the Certificate upon these requirements: (i) the Applicant shall conduct pre-construction surveys for all rare, threatened, and endangered species identified in the Project right-of-way or that may have habitat

within the Project right-of-way; (ii) the Applicant shall perform pre-construction surveys for active nests of raptors and bald eagles by aerial survey; and (iii) to the extent that construction activities are proposed in the winter in areas where rare, threatened, and endangered snake or turtle hibernacula may be present, the Applicant shall have environmental monitors perform sweeps of construction areas, remove identified rare, threatened, and endangered species, and install exclusion fencing prior to applicable hibernation periods. *See* Post-Hearing Brief, at 67-68.

Counsel for the Public and the Applicant agree that the Applicant should be ordered to require construction contractors and field personnel to be trained in environmental compliance. App. 193, ¶6. The Applicant also agrees to notify the Board of Selectmen or Town Council of all affected host towns or their respective designee and Administrator of the Committee in writing as soon as possible of significant unanticipated changes or events during construction that may impact the environment. App. 193, ¶8. The Applicant agrees to comply with the condition that would require it to: (i) use independent environmental monitors to oversee the construction of the Project; (ii) work with contractors to implement Best Management Practices to avoid or minimize environmental impact; and (iii) use independent NHDES approved environmental monitors to oversee work in Little Bay. App. 193, ¶25. The Applicant agrees, once construction begins, on a weekly basis to file with NHDES and the Committee a copy of all Weekly Compliance Monitoring Reports prepared by all construction and environmental monitors. App. 193, ¶26. Following remediation of any violation, the Applicant will file with the NHDES and the Committee a report of remediation. App. 193, ¶26.

(3) Conservation Law Foundation

CLF submits that the Project will have an unreasonable adverse effect on oysters by exposing them to contaminants, including viruses and pathogens, and sediments. *See* Post-Hearing Brief, at 4-7. CLF also argues that nitrogen released by the Project will have an adverse effect on eelgrass habitat. *See* Post-Hearing Brief, at 8-9. It submits that it is unreasonable to allow the Project to undermine the progress being made to reduce nutrient loads and enable the recovery of the Estuary's essential eelgrass habitat. *See* Post-Hearing Brief, at 10. CLF also argues that installation of concrete mattresses will permanently eliminate potential eelgrass habitat and will cause permanent loss of potential feeding habitat for sturgeon. *See* Post-Hearing Brief, at 20.

(4) Town of Durham

Durham's experts, Joseph Famely, Dr. Stephen Jones, Matthew Schultz, and Michael Dacey, criticize the accuracy and completeness of the Applicant's evaluation of composition and dispersion of potential sediment caused because of construction of the Project in Little Bay. *See* Section V.D.3.b.(1)(c), above for a detailed description of Durham's arguments.

Specific to the impact on oysters and other organisms in Little Bay, they opine that the Applicant failed to adequately evaluate impacts of bacterial contaminants (*Escherichia coli*, *Salmonella spp.*, enterococci, *Giardia lamblia*, *Cryptosporidium parvum*, *Clostridium perfringens*, *Vibrio parahaemolyticus*, *V. cholera*, and *V. vulnificus*, and *Aeromonas hydrophila*) that will be introduced into the water column during cable crossing activities. TD/UNH 2, at 12. They opine that jet plowing will likely release billions of bacterial cells into the water contaminating bivalve shellfish, including commercial oysters. TD/UNH 2, at 12; Tr., Day 13, 10/23/2018, Morning Session, at 14-15. They acknowledge that NHDES requires the Applicant

to conduct shellfish testing for fecal coliform. Tr., Day 13, 10/23/2018, Morning Session, at 95. NHDES, however, did not require the Applicant to test the presence of pathogens. Tr., Day 13, 10/23/2018, Morning Session, at 193. Durham’s experts testify that their concerns about the impact on shellfish could be resolved if the Subcommittee requires the Applicant, as a part of shellfish monitoring, to test the presence of microbial pathogens. Tr., Day 13, 10/23/2018, Morning Session, at 193-196.

They also argue that the engineering drawings of concrete mattresses provided by the Applicant do not support a conclusion that its “honey-comb configuration” will allow them to become partially or fully embedded into the surrounding soft sediment and infaunal organisms will colonize the soft substrate exposed in spaces between the individual blocks. TD/UNH 3, at 7.

As to eelgrass, they confirm there are no eelgrass beds in the Project’s site. Tr., Day 13, 10/23/2018, Morning Session, at 33, 146-147. They opine, however, that eelgrass is “recovering” in Little Bay and some beginning form of establishment of an eelgrass bed can be present in the Bay. Tr., Day 13, 10/23/2018, Morning Session, at 145-146. They state it will not be able to populate the areas covered by concrete mattresses if the Project is allowed. Tr., Day 13, 10/23/2018, Morning Session, at 33. They acknowledge, however, that the area covered by mattresses is “small” compared to the entire area available for its habitat. Tr., Day 13, 10/23/2018, Morning Session, at 158-159. They also opine that suspension of sediment in the water column may affect water clarity and may have a negative effect on eelgrass. Tr., Day 13, 10/23/2018, Morning Session, at 60-62.

They conclude that “the residents of Durham cannot be assured that there will be no unreasonable adverse effects on . . . the natural environment of Little Bay or that the impact on

natural resources will be manageably limited in Little Bay as a result of the [Project] as it is currently proposed.” TD/UNH 2, at 18.

Durham’s Town Manager, Todd Selig, asserts that the State, municipalities, various organizations, and private individuals invested significant funds and efforts to address various ecological issues in Little Bay and the Estuary. TD/UNH 2, at 5-6. He states that it is the Town’s position that, at “a minimum,” “it is imperative that the [Project] not contribute in any way toward further degradation of Little Bay and the estuary.” TD/UNH 2, at 6. Mr. Selig also opines that the Applicant underestimates the amount of mattresses that will be installed and, underestimates their impact on the natural environment. Tr., Day 10, 10/16/2018, Afternoon Session, at 112.

(5) Individual Intervenors

Mr. Frizzell asserts that he observed Northern Long-Eared Bats at his property at 24 Fox Point Lane in Newington. KF 1, at 5. He argues that the Project will impact long-eared bats and will have an adverse effect on the natural environment. KF 1, at 5-6.

Ms. Frink opines that construction of the Project and associated usage of access roads traversing Darius Frink Farm will have an adverse impact on the Farm’s natural environment. Tr., Day 11, 10/17/2018, Afternoon Session, at 26. She argues that construction of the transition station at the Darius Frink Farm and associated vegetative clearing may diminish the existing shrub-scrub wildlife habitat. HF 29, at 3.

Dr. Miller asserts that a family of bald eagles consisting of two adults and two eaglets live on her property. DR 11, at 1. She opines that construction of the Project will introduce new irritants that will impact bald eagles and their behavior. DR 11, at 4. She opines that such impact and disturbance will be in direct violation of the National Bald Eagle Management

Guidelines. DR 11, at 1-5. Dr. Miller also expresses her concerns about the impact of the Project on the wildlife of the marshland that abuts her property. DR 10, at 4-5. She also opines that concrete mattresses will disrupt aquatic life. DR 10, at 2.

Matthew and Amanda Fitch argue that the Project will have a negative impact on the natural environment of Little Bay. DR 4, at 2. They request that the Subcommittee order the Applicant to develop a remedial plan of the Project's impact agreeable to all affected communities. DR 4, at 10.

Jeff and Vivian Miller complain about the impact of the Project on the natural environment of Little Bay. DR 7, at 5. They state their specific concerns about the impact of concrete mattresses on the ecosystem in Little Bay. DR 7, at 1, 5-6; DR 8, at 2, 6. They argue that the Project will have negative impact on oysters, shellfish, and other fauna and species in Little Bay. *See* Port-Hearing Brief, at 3.

b. Deliberations

The Applicant filed numerous reports addressing impacts on the natural environment in general and on natural environment of Little Bay specifically. Intervenors argued that the Project will have an unreasonable adverse effect on natural environment because of the Project's impact on specific species. Resolution of whether the Project will have unreasonable adverse effect on natural environment requires the Subcommittee to address the impact on these species.

There is concern about the Project's impact on bald eagles documented in the Little Bay environs. The Applicant argues that construction of the Project will not adversely affect nesting eagles in the Bay where the impacts will be avoided by undertaking construction outside of the nesting season (between August and December) and by employing construction techniques that will not disturb the birds. App. 189, at 14. To avoid the Project's impact on bald eagles, the

New Hampshire Fish and Game Department recommends that the Applicant avoid cutting supra canopy pine trees used by eagles as perch trees. App. 203. It also recommends the Applicant contact the Department and receive its input if tree cutting is necessary within the vicinity of the Bald Eagle nest. App. 203. The Department recommends following the industry standard for “raptor safe best management practices” to reduce the potential for avian electrocution. App. 203. The Department confirms that installation of cable under Little Bay will not impact bald eagle nesting if it is conducted between September and December. App. 203. NHDES also indicates that the Applicant will coordinate with the Fish and Game Department prior to and during construction of the Project to minimize the potential impact to sensitive species and habitats. Comm. 12c, at 9, Condition 32. Counsel for the Public argues that the Applicant should have to conduct pre-construction aerial surveys for active nests of raptor and bald eagles. Post-Hearing Brief, at 68. The Applicant agreed to: (i) conduct ground surveys in the right-of-way to determine the presence of raptors that nest within the tree canopy; and (ii) conduct pre-construction aerial surveys for active raptor and bald eagle nests, which may not be visible from within the right of way corridor. Post-Hearing Brief, at 162.

Considering avoidance, minimization, and mitigation measures that were proposed by the Applicant and agreed to by the Fish and Game Department as well as an additional commitment to conduct pre-construction surveys, the Subcommittee finds that the Project will not have an unreasonable adverse effect on bald eagles. The Certificate is conditioned upon the Applicant’s compliance with the New Hampshire Fish and Game Department’s letter dated October 16, 2018, (App. 203).

The Applicant shall coordinate with the New Hampshire Fish and Game Department prior to and during construction of the Project to minimize the potential impact to sensitive

species and habitats. The Applicant shall conduct: (i) ground surveys in the right-of-way to determine the presence of raptors that nest within the tree canopy; and (ii) pre-construction aerial surveys for active raptor and bald eagle nests, which may not be visible from within the right of way corridor.

CLF and Durham raise their concerns about the Project's potential impact on eelgrass. The sediment dispersion model demonstrates that sediment associated with the Project will not reach known eelgrass beds. NHDES requires that the Applicant conduct an eelgrass survey in the Little Bay Estuary the summer before construction commences and, if directed by NHDES, approximately one year after work is completed. Comm. 12c, at 10, Condition 41. The parties argue that it is unclear how effective the survey will be where the plan describing the eelgrass survey is not before the Subcommittee. However, NHDES requires the Applicant to develop and file such a plan for its approval. The Subcommittee relies on the experience and expertise of NHDES to review and determine the adequacy of the plan.

Durham and CLF argue that the Project may prevent eelgrass from future recolonization of Little Bay. The degree of such impact, however, cannot be ascertained by the Subcommittee where it is speculative that eelgrass will be reestablished in Little Bay and it is unknown as to how much of it will be reestablished, if any.

Durham's experts argue that the Project may have an adverse effect on oysters by releasing a pathogen in the water. They assert that NHDES did not require the Applicant to test oysters for pathogens and the Subcommittee should require the Applicant to do so. Review of the record indicates that Durham presented its concerns to NHDES about the release of pathogens and their potential impacts to public health. While being fully aware of Durham's

concerns, NHDES decided not to require the Applicant to test oysters for pathogens. The U.S. Food and Drug Administration also monitors the oysters for the safety of public health.

NHDES has extensive experience regulating the environmental impacts of development on oysters and other organisms in Little Bay. The Subcommittee relies on the experience and expertise of NHDES with regard to the level of testing that should be required.

Counsel for the Public's experts opine that the Applicant should have to use a multi-beam system to obtain bathymetric data because it will provide a more comprehensive assessment of bottom elevations without interpretation of elevations between survey lines. CFP 3, at 5-6. The Subcommittee received no evidence that would compare a multi-beam system to a single-beam system. The Subcommittee is confident in the ability of NHDES to determine which scanning system should be used. Therefore, if the Applicant decides not to use a multi-beam system, it shall advise NHDES of the system it intends to use and shall obtain permission from NHDES to use such a system. The Subcommittee delegates the authority to NHDES to determine the appropriate scanning system to be used for obtaining bathymetric data and to authorize the use of such system.

Counsel for the Public argues that, as an additional avoidance, minimization, and mitigation measure, the Applicant should have to conduct pre-construction surveys for all rare, threatened, and endangered species identified within the right-of-way or that may have habitat within the right-of-way. Post-Hearing Brief, at 68. NHDES requires the Applicant to have a New Hampshire Certified Wetland Scientist or similarly qualified professional walk the site before construction of the Project to survey for any rare, threatened, or endangered species. Comm. 12c, at 9, Condition 34. The Applicant is also required to develop and file with NHDES, project specific best management practices addressing fenced exclusion zones and wildlife

survey areas and on-site construction monitoring for protection of resources. Comm. 12c, at 9, Condition 35. Additional pre-construction surveys have been required by NHDES.

Determination as to which surveys are required for the detection of rare, threatened, and endangered species is squarely within the jurisdiction and level of expertise of NHDES. It is unclear, however, whether the Applicant intends to rely on previously completed surveys to satisfy the conditions. If the Applicant intends to rely on previously completed surveys to satisfy Condition 34 of the Wetland Permit, the Applicant shall consult with NHDES to determine whether such surveys are sufficient and whether additional pre-construction surveys should be conducted. The Subcommittee delegates to NHDES the authority to determine whether updated surveys for rare, threatened, and endangered species shall be completed prior to construction of the Project.

Durham requests that the Subcommittee order the Applicant to provide any reports it will file with NHDES to the Subcommittee and allow the parties to comment and request a hearing to address these reports. It is reasonable to require the Applicant to file with the Committee any reports that it files with NHDES, to be posted on the Applicant's and the Committee's websites so interested parties can have easy access. Establishing the procedure for review and hearings to address these reports is unnecessary. The parties may participate in the NHDES process and may provide their comments and suggestions. NHDES is sufficiently qualified to address such concerns and comments. Establishment of a duplicative process with the Committee will cause unnecessary delay in construction of the Project. The Subcommittee is mandated by the legislature to avoid such delay. *See* RSA 162-H:1.

Durham's request to establish a separate procedure for review, comment, and hearings on the reports filed with NHDES is denied. The Applicant shall file with the Committee any reports

and plans it files with NHDES to be posted on the Committee's website. To ensure further transparency, the Applicant shall post these reports on the Applicant's website.

After reviewing testimony and evidence provided by various parties, subject to compliance with conditions of the environmental permits, and additional mitigation and minimization measures ordered by the Subcommittee and agreed to by the Applicant, the Subcommittee finds that the Project will not have unreasonable adverse effect on the natural environment.

5. Public Health and Safety

In determining whether the Project will have an unreasonable adverse effect on public health and safety, the Subcommittee must consider (i) the potential adverse effects of construction and the operation of the Project on public health and safety; (ii) the effectiveness of measures undertaken or planned to avoid, minimize, or mitigate such potential adverse effects; and (iii) the extent to which such measures represent best practical measures.

See Site 301.14(f)(1).

The Subcommittee should also consider information submitted pursuant to Site 301.08 and other relevant evidence submitted pursuant to Site 202.24. *See* Site 301.14 (f)(1). Site 301.08 requires the Applicant to submit the following information that should be considered by the Subcommittee under Site 301.14(f)(1): (i) Site 301.08(b) – “an assessment of electric and magnetic fields generated by the proposed facility and the potential impacts of such fields on public health and safety, based on established scientific knowledge, and an assessment of the risks of collapse of the towers, poles, or other supporting structures, and the potential adverse effects of any such collapse”; (ii) Site 301.08(d)(1) – “an assessment of operational sound associated with the proposed facility, if the facility would involve use of equipment that might

reasonably be expected to increase sound by 10 decibel A-weighted (dBA) or more over background levels, measured at the L-90 sound level, . . . at the edge of the right-of-way or the edge of the property boundary if the proposed facility, or portion thereof, will be located on land owned, leased or otherwise controlled by the applicant or an affiliate of the applicant;”

(iii) Site 301.08(d)(2) – “[a] facility decommissioning plan prepared by an independent, qualified person with demonstrated knowledge and experience in similar energy facility projects and cost estimates;” (iv) Site 301.08(d)(3) - a plan for fire safety prepared by or in consultation with a fire safety expert; (v) Site 301.08(d)(4) - a plan for emergency response to the proposed facility site; and (vi) Site 301.08(d)(5) – “[a] description of any additional measures taken or planned to avoid, minimize, or mitigate public health and safety impacts that would result from the construction and operation of the proposed facility, and the alternative measures considered but rejected by the applicant.”

In addition, as to electric transmission lines, the Subcommittee must consider: (i) the proximity and use of buildings, property lines, and public roads; (ii) the risks of collapse of towers, poles, or other supporting structures; (iii) the potential impacts on public health and safety of electric and magnetic fields generated by the proposed facility; and (iv) the effectiveness of measures undertaken or planned to avoid, minimize, or mitigate such potential adverse effects, and the extent to which such measures represent best practical measures. *See* Site 301.14(f)(4).

a. Positions of the Parties

(1) Applicant

The Applicant asserts that, before construction, it will develop and implement a project health and safety plan for all aspects of the construction and will hire and retain qualified

workers and contractors to construct the Project. App. 1, at 104. During the operation of the Project, the Applicant will adhere to company procedures and ISO-NE, state, and federal regulations relating to safely operating the lines. App. 1, at 104.

(a) Electric and Magnetic Fields

The Applicant retained Dr. William H. Bailey of Exponent, Inc. to model electric and magnetic field levels associated with the Project and to assess literature on the impact of electric and magnetic fields (EMF) on health.³¹ App. 60. Dr. Bailey's assessment of literature is summarized in a report entitled "Current Status of Research on Extremely Low Frequency Electric and Magnetic Fields and Health – Seacoast Reliability Project" that was filed with the Subcommittee. App. 60. Dr. Bailey acknowledges that some studies and literature suggest that exposure to an electro-magnetic field can have a long-term effect. App. 11, at 8-9. Dr. Bailey asserts, however, that such individual studies may be subject to chance variation, potential biases and confounding due to limitations in study design, conduct of the study, or in the analyses and interpretation of the results. App. 11, at 8.

Dr. Bailey also acknowledges that the United States National Institute of Environmental Health, the International Agency for Research on Cancer (IARC), the National Radiological Protection Board of the United Kingdom, the World Health Organization, the International Commission on Non-Ionizing Radiation Protection (ICNIRP), and the Scientific Committee on Emerging and Newly Identified Health Risks acknowledge that some evidence indicates a statistical association between childhood leukemia and exposure to EMF. App. 11, at 9; Tr., Day 7, 09/24/2018, Afternoon Session, at 91-93. He argues, however, that all these organizations

³¹ Electric fields are the result of voltage applied to electrical conductors and equipment. App. 1, at 104, n. 31. Magnetic fields are produced by the flow of electric currents. App. 1, at 104, n. 32. Magnetic field levels depend on characteristics of the source, including the arrangement of conductors, the amount of current flow through the source, and its distance from the point of measurement. App. 1, at 104, n. 32.

concluded that chance, bias, and confounding could not be excluded as an explanation of these findings. App. 11, at 9. According to Dr. Bailey, ICNIRP specifically addressed the issue by stating:

[i]t is the view of ICNIRP that the currently existing scientific evidence that prolonged exposure to low frequency magnetic fields is causally related with an increased risk of childhood leukemia is too weak to form the basis for exposure guidelines, In particular, if the relationship is not causal, then no benefit to health will accrue from reducing exposure.

App. 11, at 9.

Dr. Bailey notes that on its website the World Health Organization (WHO) states that “[b]ased on a recent in-depth review of the scientific literature, the WHO concluded that current evidence does not confirm the existence of any health consequences for exposure to low level electromagnetic fields.” App. 11, at 9. WHO and other scientific and health agencies concluded that “on balance, the scientific weight of evidence does not support the conclusion that EMF causes any long-term adverse health effect.” App. 11, at 10. Dr. Bailey testifies that his review of literature does not provide evidence to alter this overall conclusion. App. 11, at 10.

The Applicant calculated EMF levels in the vicinity of the Project right-of-way³² before and after construction. App. 61. The results of such calculations were provided in a report entitled “Electric and Magnetic Fields Summary.” App. 61. The Applicant provided tabulated electric field calculations of electric and magnetic field levels before and after construction of the Project. App. 99, Attachment A.

Dr. Bailey opines that calculations demonstrate that levels are significantly below basic restrictions for public exposure to electric and magnetic fields set forth by the International Committee on Electromagnetic Safety (electric field – 5 kV/m; magnetic field – 9,040 mG) and

³² 300 feet on either side of the proposed transmission line. App. 61, at 6; App. 99.

by the International Commission on Non-Ionizing Radiation Protection (electric field – 4.2 kV/m; magnetic field – 2,000 mG). App. 11, at 6-7, 10; App. 1, at 107, Table 5.

Based on his review of existing studies and the Applicant's modeling results, Dr. Bailey opines that, to a degree of scientific certainty, the EMFs associated with the operation of the Project will not be harmful to human health and, therefore, will not result in an unreasonable effect on public health and safety. App. 11, at 10; App. 80, at 2.

(b) Risk of Collapse of Towers, Poles, or Other Supporting Structures

The Applicant argues there is minimal potential that collapse of the transmission structures may cause an adverse effect because it is rare for the towers to collapse. App. 1, at 107. The Applicant explains that the wires connected to the structures prevent the total collapse of the structures. App. 1, at 107. When transmission structures have failed catastrophically, the collapse pattern is seldom one in which a single or multiple pole structures fails about the base creating the potential for a radial zone of impact. Instead, it results in the failed structure buckling and failing within its original footprint or being pulled in along the line of the wire with the point of deformation above ground line. The Applicant concludes that, considering the footprint of the Project and placement of the towers, there is a high probability that any elements of the collapsed towers will remain within the bounds of the right-of-way. App. 1, at 108-109. The Applicant will mitigate the risk associated with the tower collapse by implementing inspection and maintenance programs in place for other PSNH projects. App. 1, at 109.

The following design conditions will be utilized by the Applicant to address extreme weather loading conditions: (i) NESC Heavy Loading (250B); (ii) NESC Extreme Wind (250C); (iii) NESC Extreme Ice with Concurrent Wind (250D); and (iv) Eversource Heavy Ice. App. 1, at 107-108. As to conditions that cannot be anticipated, the Applicant will follow

recommendations of the American Society of Civil Engineers Manual and Report on Engineering Practice No. 74 “Guidelines for Electrical Transmission Line Structural Loadings.” App. 1, at 108. If a structure fails, the relaying systems will detect faults and de-energize the line. App. 1, at 109. The Applicant’s employees will respond promptly to address the reason for its failure and to conduct any necessary repairs. App. 1, at 109.

(c) Sound

The Applicant asserts that the Project will not increase sound by 10 decibels A-weighted (dBA) or more over background noise levels at the property boundary of the site or at the edge of the right-of-way. App. 1, at 109. The Applicant asserts that the Project will not cause a corona effect that will manifest itself in audible noise and/or interfere with television or radio because the Project will be a low voltage 115 kV transmission line. App. 1, at 109. The Project is not expected to impact radio noise and will not have an unreasonable effect on television reception. App. 1, at 110.

(d) Decommissioning Plan

On April 12, 2016, the Applicant filed a Motion to Waive requirements of N.H. Code Admin. Rules, Site 301.08(d)(2). The Applicant requested that the Subcommittee waive the following requirements: (i) the requirement to hire independent experts to develop a decommissioning plan for the Project; (ii) the requirement to provide forms of financial assurances; (iii) the requirement that all transformers be transported off-site; and (iv) the requirement to remove all underground infrastructure at a depth less than four feet below grade.

The Applicant asserted that it will submit a decommissioning plan should the removal of the Project infrastructure be required, based on the right-of-way and the existing state and federal land use and environmental rules in existence at the time of the decommissioning. On

December 29, 2016, the Subcommittee issued an order granting the Applicant's request. On pages 10-11 of the Order provides that: "the Applicant and all other parties should be prepared to address decommissioning during the adjudicative process as part of the Subcommittee's obligation to consider the orderly development of the region, and other statutory factors that may be impacted by decommissioning."

The Applicant does not anticipate decommissioning of the Project unless in the very long term. App., at 110. It claims that any decommissioning plan that may be developed for the Project must be modified to address conditions of the right-of-way and applicable laws at the time of decommissioning (50-100 years from construction of the Project). App. 1, at 110. If decommissioning is needed, it will submit a decommissioning plan prior to initiating the removal of the Project. App. 1, at 110. This decommissioning plan will detail each element of the plan to decommission the Project, consistent with then-current environmental, safety, and other regulatory requirements. App. 1, at 110.

In the alternative, the Applicant requests that the Subcommittee order it to comply with the same decommissioning requirements as ordered for the Merrimack Valley Reliability Project, to wit: (i) submit a report to the Committee every 10 years indicating any change in the need for the Project to ensure the continued reliability of the regional bulk transmission system; (ii) promptly notify the Committee of any retirement obligation that arises; and (iii) submit to the Committee a decommissioning plan in accordance with then-applicable rules, upon any imposition of a decommissioning obligation, or prior to the retirement of any part of the Project. App. 140.

(e) Fire Safety

The Applicant asserts there is no need to prepare a plan for fire safety because the right-of-way will not be occupied and there will be no personnel to evacuate. App. 1, at 111. During construction of the Project, responses to fires will be documented daily on the tailboard and will be addressed during the morning safety meetings. App. 1, at 112. During operation of the Project, any fire that occurs within the right-of-way will be addressed by local fire departments. App. 1, at 111. The Applicant will respond pursuant to the Applicant's Electric Operations Emergency Response Plan. App. 1, at 111. If during construction or operation of the Project a fire occurs at the portion of the right-of-way where workers are present, they will be evacuated to the point established at the daily tailboard session and the local fire department will be called. App. 1, at 112.

(f) Emergency Response Plan

The Applicant filed the Eversource Energy Emergency Response Program, New Hampshire Electric Operations Emergency Plan dated March 5, 2015. App. 62. The purpose of the program is to:

Provide a comprehensive overview of how NH Electric Operations addresses situations that have the potential to adversely affect electric service to its customers.

The objective of the [Emergency Response Program] and associated documentation (procedures, policies, and other supporting documentation) is to outline a systematic and organized approach to prepare for, and respond to, emergency events causing power outages or other distractions of NH Electric Operations distribution system, including those caused by transmission system or generation issues.

App. 62, at 7.

The Program is limited to "emergency events caused by, but not limited to, severe weather, flooding, civil disturbance, fire, explosion, or other major disruption of the distribution

system or any other instance for which the Incident Commander determines that additional assistance or coordination is needed.” App. 62, at 7.

(g) Navigation Safety

Mr. Dodeman testifies that, to ensure navigation safety in Little Bay, the Applicant will submit as-built plans to NOAA that will enable NOAA to mark the concrete mattresses on navigation charts. Tr., Day 3, 09/17/2018, Morning Session, at 137; Tr., Day 3, 09/17/2018, Afternoon Session, at 128. Subject to NHDES and United States Coast Guard approval, the Applicant agrees to install temporary markers to identify the concrete mattresses pending identification on the navigation charts. Tr., Day 3, 09/17/2018, Afternoon Session, at 128-130, 136, 140-141, 183.

(h) Traffic Safety

The Applicant asserts that, during construction of the Project, all traffic controls will be in accordance with the 2009 edition of the Manual on Uniform Control Devices and the New Hampshire Department of Transportation policies. App. 1, at 112.

Lynn Frazier testifies that DOT’s permits will require the Applicant to develop and follow traffic control plans consistent with the Manual of Uniform Traffic Control Devices that will be approved by a certified traffic operations engineer. App. 14, at 3-4. The Traffic Control Plans were filed with DOT and no concerns were expressed about their adequacy. App. 141, at 2. Ms. Frazier argues that “the traffic management components of the Project will provide appropriate mitigation of the temporary impacts to traffic to ensure that there will be no unreasonable adverse effects on public safety along the public highways and local streets.” App. 14, at 5; App. 141, at 1. She concludes that the Project will not have an unreasonable adverse effect on public safety along the public highways and local streets. App. 141, at 4.

As to access of emergency vehicles to UNH facilities, Mr. Bowes and Mr. Plante testify that emergency vehicles can access all UNH facilities during construction of the Project. Roads will have at least one lane open with traffic control and/or police detail. If a road closure occurs, temporary access roads will be constructed or detours will be established. Any changes will be communicated to emergency officials. App. 140, at 5.

Mr. Bowes and Mr. Plante testify that the Applicant will ensure that the emergency access will be maintained for all roads during construction of the Project, including access to Vivian and Jeffrey Miller's property. App. 140, at 5; App. 237, at 2.

(i) Blasting

Mr. Plante testifies that blasting will be required for installation of the underground cable under Main Street in Durham. Tr., Day 3, 09/17/2018, Morning Session, at 20. No other blasting will be required and all other ledge removal will be conducted by using core-boring methods. Tr., Day 3, 09/17/2018, Afternoon Session, at 116. The required blasting will be performed by a blasting contractor and will be conducted in accordance with applicable local, state, and federal permitting requirements. Town officials and abutting property owners will be notified before blasting. App. 1, at 115. The Applicant agrees to conduct pre-blasting and post-blasting surveys and compensate for any damages that may be caused by blasting. Tr., Day 3, 09/17/2018, Afternoon Session, at 175.

(j) Safety of Contractors

The Applicant admits that its contractors may encounter groundwater impacted by PFOA and PFOS in the Newington area. App. 140, at 4. Mr. Bowes and Mr. Plante testify that a Soil and Groundwater Management Plan requires contractors to develop a site-specific health and safety plan. App. 140, at 5; App. 145, Att. B, at 2. It states that any worker that directly handles

contaminated or potentially contaminated soil or water should have OSHA Hazardous Waste Operations and Emergency Response (HAZWOPER) 40-hour training in accordance with standard 1910.120(e). App. 140, at 5; App. 145, Att. B, at 2. A site-specific health and safety plan will identify the protective equipment should be utilized by the workers. App. 140, at 5.

(2) Counsel for the Public

(a) Construction Safety

Counsel for the Public and the Applicant request that the Subcommittee require the Applicant to construct the Project in accordance with all Eversource Policies, National Electric Safety Code requirements for transmission lines, and national and regional reliability standards. App. 193, ¶2. They also agreed that, before construction, the Applicant should file with the Committee a copy of Best Management Practices³³ that will be utilized for all construction activities. App. 193, ¶8. Counsel for the Public and the Applicant agree that the Applicant should be required to notify the Board of Selectmen or Town Council of all affected host Towns or their respective designee and the Administrator in writing, as soon as possible, but no later than seven days of significant unanticipated changes or events during construction that may affect the public, the environment, compliance with the terms and conditions of the Certificate, public transportation, or public safety. App. 193, ¶15.

(b) Electric and Magnetic Fields

Counsel for the Public and the Applicant agree that the Applicant, in consultation with PUC Safety Division, should measure actual electro-magnetic fields associated with the Project before and after construction of the Project during projected peak-load and should file the

³³ Including Best Management Practices for entering and exiting the right-of-way or any construction site; sweeping paved roads at access point; practices relating to the Storm Water Pollution Prevention Plan; practices for specific locations such as steep slopes near water bodies; practices for submarine and shoreline cable installation; and practices for work near archaeological and historic sites. App. 193, ¶8.

results of such measurements with the Committee. App. 193, ¶34. If the results of the measurements exceed the guidelines of the International Committee on Electromagnetic Safety or the International Commission on Non-Ionizing Radiation Protection, the Applicant should file a mitigation plan designed to reduce such levels with the Committee. App. 193, ¶35.

(c) Decommissioning Plan

Relative to decommissioning, Counsel for the Public and the Applicant agree that, if the Project ceases to be used and useful, the Applicant should decommission it in accordance with then-applicable rules of the Committee or a successor regulatory body. App. 193, ¶36. The Applicant agrees to: (i) submit a report to the Committee every 10-years indicating any change in the need for the Project to ensure the continued reliability of the regional bulk transmission system; (ii) promptly notify the Committee of any retirement obligation that arises; and (iii) submit to the Committee a decommissioning plan in accordance with then-applicable rules, upon any imposition of a decommissioning obligation, or prior to the retirement of any part of the Project. App. 193, ¶37.

(d) Aviation Safety

Counsel for the Public and the Applicant agreed that the Applicant should re-submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Federal Aviation Administration at least 45 days before commencing construction to address any changes made to the original design. App. 193, ¶7.

(e) Navigation Safety

Counsel for the Public's construction experts testify that, subject to Coast Guard approval, it may be beneficial for navigational safety to require the Applicant to install sign

identification of the location of the cables in Little Bay. Tr., Day 12, 10/22/2018, Afternoon Session, at 114-115.

(f) Traffic Safety

Relative to traffic safety, Counsel for the Public and the Applicant request that the Subcommittee Order the Applicant to implement: (i) safety measures, including traffic officers and flaggers, to mitigate any temporary traffic impacts due to construction of the Project; and (ii) traffic controls conducted in accordance with DOT policies including the 2009 edition of the Manual on Uniform Traffic Control Devices. App. 193, ¶¶3-4.

(g) Safety of Contractors

Counsel for the Public and the Applicant agree to condition the Certificate to require construction contractors and field personnel to be trained in Safety/Occupational Safety and Health Administration, Basic First Aid/cardio-pulmonary resuscitation, Environmental Compliance and other relevant topics. App. 193, ¶¶6.

(3) Conservation Law Foundation

CLF submits that the Project will have an unreasonable adverse effect on public health and safety by contaminating oysters in Little Bay. *See* Post-Hearing Brief, at 4.

(4) Town of Newington

Mr. Hebert states that the Town is concerned about blasting and associated hazards. NEW 1, at 35. On July 12, 2018, Newington entered into an Addendum to the Memorandum of Understanding that addresses Newington blasting related concerns. NEW 2-2. According to the Addendum to the Memorandum of Understanding, the handling, storage, sale, transportation, and use explosive material will conform with state and federal rules and regulations, including but not limited to RSA 158 et. seq. and Saf-C 1600, et. seq. NEW 2-2, §I. The Applicant agrees to

use a blasting contractor, if blasting must be performed in shallow-to-bedrock soil depths and subsurface boulders. NEW 2-2, §I.A. Town officials and abutting landowners will be notified of blasting. NEW 2-2, §I.B. Newington agrees not to require the Applicant to seek a blasting permit. NEW 2-2, §II. The Application for blasting will be filed with the Newington Fire Chief. NEW 2-2, §II. The Fire Chief's decision may be appealed with the Town of Newington Board of Fire Engineers. NEW 2-2, §II. The Board of Engineers' decision may be appealed to the SEC Administrator. NEW 2-2, §II. The Administrator's decision will be binding upon the parties. NEW 2-2, §II.

The Town of Newington also entered into the Memorandum of Understanding with the Applicant that requires the Applicant to provide to the Town copies of all reports of environmental incidents or industrial accidents that require a report to the U.S. EPA, NHDES, OSHA or other state or governmental agency. App. 168, §III.

Mr. Hebert requests that if the Subcommittee grants the Certificate, that it condition the Certificate upon the Applicant's compliance with the Memorandum of Understanding and the Addendum to the Memorandum of Understanding. NEW 2, at 3.

Mr. Hebert testifies that the Town is concerned about navigation hazards that may be caused by concrete mattresses in Little Bay in general and in mud flats specifically. Tr., Day 11, 10/17/2018, Morning Session, at 104-106. He opines that the Applicant should be required to clearly mark concrete mattresses at these locations. Tr., Day 11, 10/17/2018, Morning Session, at 106.

Durham's expert, Mr. Jones, expresses his concerns about the effect on the health and safety of consumers of oysters that may contain pollutants and contaminants that may be caused by sediment disturbance. Tr., Day 3, 10/23/2018, Morning Session, at 132-133.

(5) Town of Durham

The Town of Durham entered into a Memorandum of Understanding with the Applicant that requires the Applicant to hire a licensed blasting contractor, to provide an approved site plan, contractor's license, certificate of insurance, vehicle trip sheet and material inventory to the Durham Fire Department, and advise the police and fire department prior to each blast. App. 270, §V, G. The Applicant also agreed to comply with traffic control plans consistent with the Manual of Uniform Traffic Control Devices. App. 270, §VI, B.2, C.2.

(6) University of New Hampshire

The Applicant filed a Memorandum of Understanding with UNH addressing, in part, issues related to construction safety. App. 216. According to the Memorandum of Understanding, the UNH Project Manager will be authorized to stop construction on campus if there are safety concerns. App. 216, §I, A. The Applicant agrees to retain a licensed blasting contractor to perform required blasting. App. 216, §II, K. A blasting plan with vibration monitoring will be provided to UNH. App. 216, §II, K. The Applicant agrees to work with the UNH Project Manager to ensure safe pedestrian travel paths created and maintained during construction. App. 216, §III, A.

(7) Individual Intervenors

Ms. McCosker argues that the Project will cause a buzzing sound that will keep her awake at night. DR 1, at 14. She also complains about the effect of the Project's EMF on her health and ability to use radio and other electronic devices. DR 1, at 14; *see* Post-Hearing Brief at 6.

Matthew and Amanda Fitch express concerns about the accuracy of measurements and estimates of the EMFs. DR 4, at 2-3. They request that the Subcommittee order the Applicant to

conduct EMF measurements at their property before and after construction. DR 4, at 9. They also request that the Subcommittee order the Applicant to provide a plan that would include remedial measures if post-construction EMFs exceed the estimated levels. DR 4, at 9.

Jeff and Vivian Miller complain about the impact of the electromagnetic field and blasting associated with the Project on their health. DR 4, at 9-10; DR 8, at 4-5.

Mr. Fitch argues that the Applicant failed to demonstrate that the Project will not have an unreasonable effect on public health and safety and that concrete mattresses will not interfere with the recreational usage of Little Bay. *See* Post-Hearing Memorandum, at 6.

b. Deliberations

The parties raise concerns about the impact of the electro-magnetic field on their health and the potential for interference with electronic devices. The experts testify that the scientific literature and modeling that was conducted by the Applicant do not support the conclusion that the electro-magnetic field that will be generated by the Project will interfere with electronic devices or have any effect on the health of people exposed to it. The Intervenor and Counsel for the Public provided no reliable scientific evidence contradicting the Applicant's conclusion. To ensure that the level of the Project's electro-magnetic field will be as modeled, the Applicant stipulated with Counsel for the Public to the following conditions:

Further Ordered that, the Applicant, in consultation with the New Hampshire Public Utilities Commission's ("NHPUC") Safety Division, shall measure actual electromagnetic fields associated with operation of the Project both before and after construction of the Project during projected peak-load, and shall file with the SEC the results of the electro-magnetic fields' measurements.

Further Ordered that, if the results of the electro-magnetic fields measurements exceed the guidelines of the International Committee on Electromagnetic Safety ("ICES") or the International Commission on Non-Ionizing Radiation Protection ("ICNIRP"), the Applicant shall file with the SEC a mitigation

plan designed to reduce the levels so that they are lower than the ICES or ICNIRP guidelines.

App. 193, ¶¶34-35.

The Applicant also agreed to measure the electro-magnetic fields at Mr. Fitch's property before and after construction. Considering the expert testimony and the Applicant's agreement to verify and address, if required, the level of the electro-magnetic field associated with the Project, the Subcommittee finds that the electro-magnetic fields will not have an unreasonable effect on the public health and safety. The Applicant shall comply with Conditions 34 and 35 of the Stipulated Conditions (App. 193). The Applicant shall measure the level of the electro-magnetic field at Mr. Fitch's property before and after construction of the Project. Further, in the event that the Project causes radio or television interference, the Applicant shall locate the source of that interference and remedy it in a timely manner.

There was no credible argument that the risk of tower collapse presents a danger to public health and safety. The design of the Project is such that any tower collapse will likely be contained within the right-of-way. The design anticipates and addresses the impacts from weather conditions that may occur in New Hampshire. The Applicant will conduct periodic maintenance to ensure that the structures maintain their integrity. The Subcommittee finds that the Project will not have an unreasonable effect on the health and safety that may be caused by the collapse of towers.

The Applicant presented credible evidence confirming that sound from the Project will be below the levels that could cause an adverse impact on public health and safety. The Subcommittee finds that the sound from the Project will not have an unreasonable effect on public health and safety.

The Applicant did not prepare and did not file the decommissioning plan. The Applicant agrees to comply with the following conditions:

Further Ordered that, in the event that the Project ceases to be used and useful the Applicant shall be obligated to decommission the Project in accordance with then applicable rules of the SEC or a successor regulatory body.

Further Ordered that, the Applicant shall: (i) submit a report to the Committee every 10 years indicating any change in the need for the Project to ensure the continued reliability of the regional bulk transmission system; (ii) promptly notify the Committee of any retirement obligation that arises; and (iii) submit to the Committee a decommissioning plan in accordance with then-applicable rules, upon any imposition of a decommissioning obligation, or prior to the retirement of any part of the Project.

App. 193, ¶¶ 36-37.

The Applicant argues that these conditions are warranted because, as a reliability project, it may continue to exist for so long that the rules and regulations that establish requirements for the decommissioning plans may become obsolete. The Applicant asserts that the conditions it agreed to comply with will ensure that the decommissioning will be addressed under the rules in place when the Project is retired. The Project will cross sensitive environmental and historic areas and proper decommissioning is paramount.

The Project is a reliability project that may remain in operation for a significant number of years. It is unknown which method of decommissioning will be required at the time of its retirement. The conditions agreed to by the Applicant set forth the procedure according to which the Project will be properly decommissioned when the time comes. To ensure, however, that concrete mattresses used in construction of the Project in Little Bay are properly decommissioned as well, the decommissioning plan that will be prepared by the Applicant in the future shall address the decommissioning and removal of concrete mattresses. The Applicant

shall comply with Condition 36 of the Stipulated Conditions (App. 193). The Applicant shall also comply with Condition 37 of the Stipulated Conditions, as modified, as follows:

Further Ordered that, the Applicant shall: (i) submit a report to the Committee every 10 years indicating any change in the need for the Project to ensure the continued reliability of the regional bulk transmission system; (ii) promptly notify the Committee of any retirement obligation that arises; and (iii) submit to the Committee a decommissioning plan, **that shall address decommissioning of the Project, including concrete mattresses**, in accordance with then-applicable rules, upon any imposition of a decommissioning obligation, or prior to the retirement of any part of the Project.

Subject to the above-stated conditions, the Subcommittee finds that decommissioning of the Project will not have an unreasonable adverse effect on public health and safety.

The Applicant did not submit a formal Fire Safety Plan and stated that such a plan is not needed because the right-of-way will not be occupied. The fires that may occur within the right of way will be addressed by the local fire department. The Applicant will respond pursuant to its Electric Operations Emergency Response Plan (App. 62). The parties do not argue that the Project presents a fire hazard and that fires that may take place within the right-of-way will have an unreasonable adverse effect on public health and safety.

To address the emergency response to the site, the Applicant filed an Eversource Energy Emergency Response Program, New Hampshire Electric Operations Emergency Plan, dated March 5, 2015. The Subcommittee received no evidence that would indicate that this plan is inadequate.

The parties raised concerns about the impact on navigational safety. Specifically, the parties argue that concrete mattresses and cables may present a danger to boaters and kayakers that use Little Bay for recreational purposes. The underwater cables may present a danger for people who anchor at the location of the cable. NHDES addressed concerns associated with the

hazard that may be caused by the installation of concrete mattresses by requiring the Applicant, before placement of concrete mattresses, to coordinate with the New Hampshire Division of Ports and Harbors and/or the New Hampshire Department of Safety Marine Patrol, to determine if placing the mattresses creates a navigational hazard which will require navigational marker(s). Comm. 12c, Condition 52. If the markers are required, the Applicant must comply with any request to install markers that the New Hampshire Division of Ports and Harbors or the New Hampshire Department of Safety Marine Patrol requires. Comm. 12c, at 15-16, Condition 52.

The Wetland Permit appropriately mitigates the potential impact of the concrete mattresses on navigational safety by delegating a determination as to whether such impact will be caused, and what should be utilized to prevent such impact to the agencies qualified to make such determinations. The Wetland Permit, however, does not address impacts on navigation that may be caused by the cables. To ensure that the cables will not cause a navigational hazard, the Certificate is conditioned upon the following requirement:

Prior to the placement of the cables in Little Bay, the Applicant shall coordinate with the New Hampshire Division of Ports and Harbors and/or the NH Department of Safety Marine Patrol, to determine if the placement of the cables creates a navigational hazard which will require navigational marker(s). If navigational markers are required, then the Applicant shall comply with any request to install such markers that the New Hampshire Division of Ports and Harbors or the NH Department of Safety Marine Patrol requires.

The Applicant also agrees to submit as-built plans to NOAA that will enable NOAA to mark the concrete mattresses on navigation charts. Tr., Day 3, 09/17/2018, Morning Session, at 137; Tr., Day 3, 09/17/2018, Afternoon Session, at 128. Subject to NHDES and United States Coast Guard approval, the Applicant agrees to install temporary markers to identify the concrete

mattresses pending identification on the navigation charts. Tr., Day 3, 09/17/2018, Afternoon Session, at 128-130, 136, 140-141, 183.

Subject to compliance with the NHDES permit and the condition stated above, the Subcommittee finds that the Project will not cause an unreasonable adverse effect on health and safety associated with a navigational hazard.

As to aviation safety, the Applicant asserts that the Project will meet all FAA requirements and will not interfere with any local or federal aviation regulations. The Applicant agrees to re-submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the FAA at least 45 days before commencing construction to address any changes made to the original design. App. 193, ¶7. The parties do not argue that the Project will have a negative impact on aviation safety. To ensure air safety, the Applicant is ordered to comply with the following condition of the Certificate:

Further Ordered that, the Applicant shall re-submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Federal Aviation Administration at least 45 days before commencing construction to address any changes that have been made to the original design.

Subject to the Applicant's compliance with this condition, the Subcommittee finds that the Project will not have an unreasonable adverse effect on aviation safety.

As to traffic safety, Ms. Frazier testified that the Applicant developed and filed with DOT for approval, traffic control plans in accordance with the Manual of Uniform Traffic Control Devices. She opines that traffic associated with construction will not cause an unreasonable adverse effect on public health and safety. Emergency vehicles will have access to UNH. The Applicant will maintain at least one open lane and with road closures or detours, temporary access roads will be established.

The Applicant entered into Memorandums of Understanding with Newington, Durham, and UNH addressing the use of the roads for construction. The Applicant also agrees to comply with these conditions:

Further Ordered that, the Applicant shall construct the Project in accordance with good utility practice, in such a manner to best accommodate the public, and to avoid interference with existing utility facilities, as required by the New Hampshire Public Utilities Commission. Puc 306.01 (a).

Further Ordered that, the Project shall be constructed in accordance with all Eversource Policies, National Electric Safety Code (“NESC”) requirements for transmission lines, and national and regional reliability standards.

Further Ordered that, the Applicant shall implement safety measures, including traffic officers and flaggers, to mitigate any temporary traffic impacts due to construction of the Project.

Further Ordered that, the Applicant shall construct the Project in accordance with the New Hampshire Department of Transportation (“NHDOT”) Utility Accommodation Manual (“UAM”).

Further Ordered that, the Applicant shall implement traffic controls to ensure that materials are delivered safely to the site, and such traffic controls shall be conducted in accordance with NHDOT policies including the 2009 edition of the Manual on Uniform Traffic Control Devices (“MUTCD”).

....

Further Ordered that, the Applicant shall comply with all terms and conditions of all Memoranda of Understanding entered into between the Applicant and host communities or other entities.

Further Ordered that, to the extent the Applicant requires the use of local roads for deliveries of heavy equipment and/or materials that exceed the weight limits of locally maintained roads, the Applicant shall comply with specific terms and conditions of any Memorandum of Understanding (“MOU”) with the host municipality. To the extent the MOUs do not cover oversize and overweight equipment and deliveries, the Applicant shall work with the local Town or City to reach an agreement on the use of

local roads. If an agreement cannot be reached, the Applicant and the Town or City shall resolve any such issues with the SEC Administrator.

Further Ordered that, to the extent not already addressed by a Memorandum of Understanding, the Applicant shall coordinate with the municipal engineer, road agent or other authorized municipal officer for any municipality through which the Project will pass in order for the Applicant to comply to the extent possible with existing municipal construction rules and regulations. Such coordination shall include the provision of any information necessary for the municipality to assess compliance, but shall not require the Applicant to apply for or obtain local permits. If it is not practicable for the Applicant to comply with such municipal rules and regulations, the Applicant shall work with the municipal officials to reach an agreement. In the event a dispute arises as to the Applicant's compliance with any rule or regulation that the Applicants are unable to resolve directly with the municipal officials, the Applicant and/or the municipality may refer the matter in writing to the SEC Administrator for resolution.

Further Ordered that, to the extent not already addressed by a Memorandum of Understanding, the Applicant shall coordinate with all host municipalities to restore all municipal roads that are damaged by construction of the Project to the same or better condition, subject to the review of the municipal engineer, road agent or other authorized municipal officer. In the event a dispute arises as to the Applicant's compliance with this condition, the municipality may refer the matter in writing to the SEC Administrator for resolution.

App. 193, ¶1-5, ¶9-12.

The conditions agreed to by the Applicant constitute reasonable avoidance, minimization, and mitigation measures for the impact on municipal roads and traffic. The Certificate is conditioned upon the Applicant's compliance with these conditions. In addition, to ensure that the Administrator can address any disputes that may be brought to her attention under these conditions, the Administrator is authorized to retain consultants to assist her with resolution of issues raised. The Applicant shall be responsible for any costs associated with retention of such consultants.

The Applicant's expert recommends that the Subcommittee consider the following conditions of the Certificate to address the Project's impact on traffic: (i) mall parking lot - detail and/or flagger, meetings with the mall manager, ceasing work on weekends and accelerating work to reduce the duration of impacts; (ii) reduce, to the extent practicable, the number of oversized loads such as drilling rigs and cranes on New Hampshire roads during the heaviest morning and afternoon commuting times; (iii) when the overhead right-of-way is being accessed by construction vehicles from municipal roads a police detail or flagger with MUTCD compliant signing should be stationed at the active access points; (iv) UNH - cease construction activities on the campus during graduation weekend, ensure MUTCD compliant pedestrian detour signing as applicable, and to continue coordination with UNH for other activities on campus; (v) if a roadway work area must remain while crews and traffic control are not present in an area, steel plating should be placed in town roads, private roads, and parking lots, to allow for the safe passage of vehicular, bicycle and pedestrian traffic over all travel way lanes; and (vi) the Project team should continue its outreach with businesses and ensure there is consistent communication with businesses during construction. App. 141, at 4-5.

Ms. Frazier's recommended conditions are reasonable. The Certificate is conditioned upon:

The Applicant shall utilize a detail and/or flagger, meet with the Crossings at Fox Run manager, cease work on weekends and accelerate work to reduce duration of impacts on the Crossings at Fox Run.

The Applicant shall reduce, to the extent practicable, the number of oversized loads such as drilling rigs and cranes on New Hampshire roads during the heaviest morning and afternoon commuting times.

When the overhead right-of-way is being accessed by construction vehicles from municipal roads, a police detail or flagger with

MUTCD compliant signing should be stationed at the active access points.

The Applicant shall cease construction activities on the UNH campus during graduation weekend, ensure MUTCD compliant pedestrian detour signing as applicable, and to continue coordination with UNH for other activities on the UNH campus.

If a roadway work area must remain while crews and traffic control are not present in an area, steel plating should be placed in town roads, private roads, and parking lots, to allow for the safe passage of vehicular, bicycle, and pedestrian traffic over all travel way lanes.

The Applicant should continue its outreach with businesses and ensure there is consistent communication with businesses during construction.

Based on the testimony of the Applicant's expert and subject to the conditions stated herein, the Subcommittee finds that the Project will not have an unreasonable adverse effect on public health and safety associated with traffic safety.

Durham and Newington raised concerns about the effects of blasting. The Applicant's construction experts testified that only a limited amount of blasting will be required. The Applicant entered into a separate Memorandum of Understanding with each Durham and Newington addressing blasting that may be required to construct the Project. The Applicant also agrees to the following conditions:

Further Ordered that, the Applicant shall provide each host town and the Administrator of the SEC with copies of Applicant's proposed construction plans, blasting plans, schedule and other public information (Ref. RSA 91-A:5) to be made available to the public.

App. 193, ¶13.

The Certificate is conditioned upon the Applicant's compliance with each of the Memorandums of Understanding, including the Addendum to the Memorandum of

Understanding executed with Newington, and Paragraph 13 of the Stipulated Conditions.

Subject to the Applicant's compliance with these conditions, the Subcommittee finds that the blasting associated with the Project will not have an unreasonable effect on public health and safety.

With regard to contractor safety, the Applicant will develop health and safety plans that dictate the proper protective equipment. A Soil and Groundwater Management Plan addressing potential PFOA and PFOS contamination will be developed and will be approved by NHDES.

The Applicant also agrees to comply with the following condition:

Further Ordered that, the Applicant shall require construction contractors and field personnel to be trained in Safety/Occupational Safety and Health Administration ("OSHA"), Basic First Aid/cardio-pulmonary resuscitation ("CPR"), Environmental Compliance and other relevant topics. In addition, the Applicant shall provide Project specific training.

App. 193, ¶6.

The Certificate is conditioned upon the Applicant's compliance with Paragraph 6 of the Stipulated Conditions. Considering testimony of the Applicant's experts about the contractors' safety and having no evidence demonstrating otherwise, the Subcommittee finds that the Project will not have an unreasonable adverse effect on health and safety of the contractors.

The parties raised concerns about the Project's effect on oysters and the effect contaminated oysters may have on health and safety. The Subcommittee addresses the effect on oysters in Section V.D.4.b., above.

The Applicant also addresses unanticipated emergency situations that may affect public health and safety by agreeing to comply with these conditions:

Further Ordered that, in the event of significant unanticipated changes or events during construction that may impact the public, the environment, compliance with the terms and conditions of the

Certificate, public transportation or public safety, the Applicant shall notify the Board of Selectmen or Town Council of all affected host towns or their respective designee and Administrator of the SEC in writing as soon as possible but no later than seven (7) days after the occurrence.

Further Ordered that, in the event of emergency conditions which may impact public safety, the Applicant shall notify the host town's appropriate officials and the Administrator of the SEC immediately.

App. 193, ¶15-16.

To protect public health and safety and to ensure that any events identified in Paragraphs 15 and 16 are addressed promptly, the Applicant is ordered to notify first responders and state agencies with the jurisdiction over the issue. The Certificate is conditioned upon the Applicant's compliance with these conditions:

In the event of significant unanticipated changes or events during construction that may impact the public, the environment, compliance with the terms and conditions of the Certificate, public transportation or public safety, the Applicant shall notify the Board of Selectmen or Town Council of all affected host towns or their respective designee, appropriate first responders, and the Administrator of the Committee in writing as soon as possible, but no later than seven (7) days after the occurrence.

In the event of emergency conditions which may impact public safety, the Applicant shall notify the host towns' appropriate officials, appropriate first responders, appropriate state agencies with the jurisdiction over the issue involved, and the Administrator of the Committee immediately.

The Applicant also agrees to avoid, minimize, and mitigate the potential impacts on public health and safety by agreeing to comply with the following condition:

Further Ordered that, prior to any construction activity, the Applicant shall file with the New Hampshire Site Evaluation Committee ("SEC") **and all relevant state agencies**³⁴ a copy of all Best Management

³⁴ See analysis in Section D.5.b., below for modification of this condition.

Practices (“BMPs”) to be utilized for the Project for all construction activity, to the extent they have not already been provided to the SEC; including, without limitation BMPs for entering and exiting the ROW or any construction site; sweeping paved roads at access points; BMPs relating to Applicants’ Storm Water Pollution Prevention Plan; BMPs for specific locations such as steep slopes near water bodies; BMPs for submarine and shoreland cable installation; and BMPs for work near archaeological and historic sites. During construction, the Applicant shall adhere to the BMPs consistent with all state and federal permit requirements.

App. 193, ¶8.

Paragraph 8, however, does not require the Applicant to file the BMPs with relevant state agencies. The Applicant shall comply with Paragraph 8 of the Stipulated Conditions and shall also file the identified BMPs with the Committee and all relevant state agencies.

Having considered the testimony and evidence presented, subject to the conditions stated, the Subcommittee finds that the Applicant will not have an unreasonable adverse effect on public health and safety.

E. Orderly Development of the Region

RSA 162-H:16, IV(b) requires the Subcommittee to consider whether the proposed Project will not unduly interfere with the orderly development of the region with due consideration given to the views of municipal and regional planning commissions and municipal governing bodies.

Site 301.15(a)-(c), provides that when determining whether the Project will unduly interfere with the orderly development of the region, the Subcommittee is required to consider the following:

- (a) the extent to which the siting, construction, and operation of the proposed facility will affect land use, employment, and the economy of the region;

- (b) the provisions of, and financial assurances for, the proposed decommissioning plan for the proposed facility; and
- (c) the views of municipal and regional planning commissions and municipal governing bodies regarding the proposed facility.

1. Orderly Development – Construction

a. Positions of the Parties

(1) Applicant

The Applicant identifies 21 road crossings, including: (i) one crossing of the Spaulding Turnpike; (ii) crossings over two Spaulding Turnpike ramps; (iii) four crossings over State-maintained roads; and (iv) crossings over locally-maintained roads. App. 1, at 112; App. 93.

As to the crossings over state-maintained roads, the Applicant submitted requests for the required permits with DOT and will implement traffic controls in accordance with DOT requirements. App. 37; App. 1, at 112-113.

The Applicant requests that the Subcommittee authorize the installation of electric transmission lines, including related conduit, cable, wires, poles, structures and devices across, over and along 14 locally-maintained roadways. App. 1, at 113. One crossing over Main Street (Route 155A) in Durham will not require excavation of the roadway and will be conducted via installation of the underground cable using a “pipe jacking” technique. App. 1, at 112; App. 93.

In Newington, installation of the underground cable will require trenching to install conduit duct banks beneath the paved surfaces of Gundalow Landing Circle, Little Bay Road, and Nimble Hill Road. App. 1, at 113; App. 93; Tr., Day 3, 09/17/2018, Afternoon Session, at 24. Installation of the Project will require aerial crossings over the following locally-maintained roads: (i) Mill Road (Durham); (ii) Timber Brook Lane (Durham); (iii) Cutts Road (Durham); (iv) Frost Drive (Durham); (v) Sandy Brook Drive (two crossings) (Durham); (vi) Longmarsh Road (Durham); (vii) Durham Point Road; (viii) Fox Point Road (Newington); and (ix) Gosling

Road (Portsmouth). App. 93, Part A. The Applicant states it will comply with DOT standards applicable to state-maintained highways while constructing the Project over locally-maintained roads. App. 1, at 113.

The Applicant asserts that Portsmouth raised no clearance concerns about the design of the Project as it relates to the crossing of its roads. App. 140, at 9. Newington and Durham have each entered into a Memorandum of Understanding addressing road crossings and restoration standards. App. 140, at 9; App. 168l App. 270.

As to Class VI roads and driveways used for construction, the Applicant agrees to restore them to their preconstruction condition and/or make improvements that would be agreeable to town public works or the property owners. Tr., Day 2, 08/30/2018, Morning Session, at 128-29; Tr., Day 2, 08/30/2018, Afternoon Session, at 111; App. 168, 270. The Applicant also agrees to eliminate ruts, if they are created as a result of construction. Tr., Day 2, 08/30/2018, Afternoon Session, at 99.

The Applicant confirms that it will be conducting some vegetation clearing on scenic roads and requests that the Subcommittee authorize such clearing. Tr., Day 2, 08/30/2018, Afternoon Session, at 121.

To address the impact of construction on traffic, the Applicant filed the Supplemental Testimony of Lynn Frazier and a report entitled “Traffic Impact Analysis Report.” App. 141, Att. A. According to the report and Ms. Frazier’s testimony, construction of the Project will not have a noticeable impact on traffic on Little Bay Road and along Route 125. App. 141, at 2; App. 141, Att. A, at 9. At least one lane will be open and available for traffic during construction at Little Bay Road. Tr., Day 3, 09/17/2018, Afternoon Session, at 24-25. Construction at Gundalow Landing Circle will require the temporary closing of sections of the

circle. Detours will be provided, as necessary. Tr., Day 3, 09/17/2018, Afternoon Session, at 25-29. As to construction under Nimble Hill Road, local residents and visitors will be provided with a detour that will require them to drive around Fox Point Road and Nimble Hill Road. Tr., Day 3, 09/17/2018, Afternoon Session, at 30. Access to business and residences will not be eliminated or restricted because of construction. Tr., Day 3, 09/17/2018, Afternoon Session, at 179-180.

The Applicant also addresses construction concerns raised by Jeffrey and Vivian Miller. App. 237, at 3. Construction near their property will be conducted from 7:00 a.m. to 6:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturday. App. 237, at 3. If weekend work is required, the Millers will be provided with advance notice. App. 237, at 3. The Applicant agrees to document the pre-existing condition of their driveway and to repair it to the same or better condition following construction. App. 237, at 2.

(2) Counsel for the Public

The Applicant stipulated with Counsel for the Public agreeing to comply with the following construction related conditions:

Further Ordered that, the Applicant shall construct the Project in accordance with good utility practice, in such a manner to best accommodate the public, and to avoid interference with existing utility facilities, as required by the New Hampshire Public Utilities Commission. Administrative Rule Puc 306.01 (a).

Further Ordered that, the Project shall be constructed in accordance with all Eversource Policies, National Electric Safety Code (“NESC”) requirements for transmission lines, and national and regional reliability standards.

Further Ordered that, the Applicant shall implement safety measures, including traffic officers and flaggers, to mitigate any temporary traffic impacts due to construction of the Project.

Further Ordered that, the Applicant shall construct the Project in accordance with the New Hampshire Department of Transportation (“NHDOT”) Utility Accommodation Manual (“UAM”).

Further Ordered that, the Applicant shall implement traffic controls to ensure that materials are delivered safely to the site, and such traffic controls shall be conducted in accordance with NHDOT policies including the 2009 edition of the Manual on Uniform Traffic Control Devices (“MUTCD”).

Further Ordered that, the Project shall re-submit FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Federal Aviation Administration (“FAA”) at least 45 days before commencing construction to address any changes that have been made to the original design.

Further Ordered that, the Applicant shall comply with all terms and conditions of all Memoranda of Understanding entered into between the Applicant and host communities or other entities.

Further Ordered that, to the extent the Applicant requires the use of local roads for deliveries of heavy equipment and/or materials that exceed the weight limits of locally maintained roads, the Applicant shall comply with specific terms and conditions of any Memorandum of Understanding (“MOU”) with the host municipality. To the extent the MOUs do not cover oversize and overweight equipment and deliveries, the Applicant shall work with the local Town or City to reach an agreement on the use of local roads. If an agreement cannot be reached, the Applicant and the Town or City shall resolve any such issues with the SEC Administrator.

Further Ordered that, to the extent not already addressed by a Memorandum of Understanding, the Applicant shall coordinate with the municipal engineer, road agent or other authorized municipal officer for any municipality through which the Project will pass in order for the Applicant to comply to the extent possible with existing municipal construction rules and regulations. Such coordination shall include the provision of any information necessary for the municipality to assess compliance, but shall not require the Applicant to apply for or obtain local permits. If it is not practicable for the Applicant to comply with such municipal rules and regulations, the Applicant shall work with the municipal officials to reach an agreement. In the event a dispute arises as to the Applicant's compliance with any rule or regulation that the Applicants are unable to resolve directly with the municipal

officials, the Applicant and/or the municipality may refer the matter in writing to the SEC Administrator for resolution.

Further Ordered that, to the extent not already addressed by a Memorandum of Understanding, the Applicant shall coordinate with all host municipalities to restore all municipal roads that are damaged by construction of the Project to the same or better condition, subject to the review of the municipal engineer, road agent or other authorized municipal officer. In the event a dispute arises as to the Applicant's compliance with this condition, the municipality may refer the matter in writing to the SEC Administrator for resolution.

Further Ordered that, the Applicant shall provide each host town and the Administrator of the SEC with copies of Applicant's proposed construction plans, blasting plans, schedule and other public information (Ref. RSA 91-A:5) to be made available to the public.

Further Ordered that, the construction plans, schedule and other information provided to each host town and Administrator of the SEC shall be updated at least monthly or sooner if necessary to reflect changes in the Project's schedule or other changes during construction.

Further Ordered that, in the event of significant unanticipated changes or events during construction that may impact the public, the environment, compliance with the terms and conditions of the Certificate, public transportation or public safety, the Applicant shall notify the Board of Selectmen or Town Council of all affected host towns or their respective designee and Administrator of the SEC in writing as soon as possible but no later than seven (7) days after the occurrence.

App. 193, ¶¶1-5, 7, 9-15.

Counsel for the Public agrees that the Memorandum of Understanding with Newington, Durham, and UNH adequately address construction impacts to local infrastructure. *See* Post-Hearing Brief, at 21. He asserts that the Subcommittee should decide whether the Applicant, as a matter of law, must obtain approval from the municipalities for use of the right-of-way in locally maintained roads pursuant to RSA 231:160. *See* Post-Hearing Brief,

at 85. Counsel for the Public argues that nothing in RSA 162-H specifically preempts RSA 231:160. *See* Post-Hearing Brief, at 87. Counsel for the Public concludes that, notwithstanding how the Subcommittee interprets the correlation between RSA 162-H and RSA 231:160, it should leave the permitting and monitoring of the local roads impacted by the Project to the local officials. *See* Post-Hearing Brief, at 89-90.

(3) Town of Newington

Newington argues that the Subcommittee cannot delegate to NHDES authority to approve locations for marshalling yards and laydown areas. *See* Post Hearing Brief, at 54.

Originally, Newington complained about the effect of construction on the roads. NEW 1, at 31-34. The Town regulates excavation on its Town roads and requires contractors to comply with the Town's "Regulations for Excavations on Town Streets and Right-of-Way." NEW 1, at 31; NEW 1-10. The regulations ensure that the roads are properly restored. NEW 1, at 31. To ensure this, the Town requires the contractors to allow onsite inspections by the Town's engineer at the contractors' expense. NEW 1, at 31. The contractors are also required to post a performance guarantee acceptable to the Board of Selectmen. New 1, at 32. Newington was concerned about the impact on the Town roads by heavy loads required for construction of the Project. NEW 1, at 35-36. It was also concerned about the adequacy of the Applicant's restoration efforts. NEW 1, 31-33.

On January 31, 2018, Newington and the Applicant executed a Memorandum of Understanding addressing Newington's construction-related concerns. App. 168. The Applicant agreed to provide to the Selectmen and adjacent property owners the construction schedule at least thirty-days prior to construction. App. 168, §V.B. At least fourteen-days before construction, the Applicant will provide notification of construction in each particular

neighborhood to the Selectmen and abutting property owners. App. 168, §V.B. Except for construction in Little Bay, the Crossings at Fox Run shopping center, and the crossing of the Spaulding Turnpike, the Applicant agreed to limit construction to ten hours, between 7:00 a.m. and 7:00 p.m. Monday through Saturday, and agreed to adhere to all applicable federal standards regarding construction noise. App. 168, §V, E. Upon agreement between the Applicant and the Selectmen, oversized vehicles delivering equipment and supplies can travel the Town roads between 7:00 p.m. and 6:00 a.m. on Sundays. App. 168, §IV.E. The Applicant addressed Newington's concerns about the impact of oversized vehicles on local roads by agreeing to:

- Roadway Roads and Vehicle Load Notification/Road Inspections. No less than forty days prior to the commencement of travel over Town roads by vehicles that shall exceed the Town's applicable road weight limits, Eversource shall file a road weight limit exceedance notification with the Selectmen that identifies the proposed portions of all Town roads over which any Project related vehicles whose weight and load exceeds the applicable road weight limits will be traveling. The notification shall include projected vehicle weights with loads, indicating which vehicles shall be traveling over which roads. The Town shall engage S.W. Cole Engineering, a mutually agreed upon professional engineering firm, to conduct a series of explorations/borings, as necessary and where previous documentation is not available or insufficient. These explorations/borings shall be made only to the roads proposed to be used for construction access by such heavy vehicles to determine the thickness of the pavement section materials (pavement and aggregate base) and to characterize the grain size distribution and strength of the aggregate base and supporting subgrade materials. All reasonable and necessary costs associated with the engineering and investigations, after review and approval by the SEC Administrator, shall be paid directly by Eversource. These roads used for construction access shall also be subject to a pre- and post-construction survey, conducted by S.W. Cole Engineering, the mutually agreed upon professional engineering firm, to document the visual surface conditions that characterize seven types of road conditions: 1) alligator cracking; 2) longitudinal cracking; 3) edge cracking; 4) patching any potholes; 5) roughness; 6) rutting; and, 7) roadside drainage. Based on the results of the explorations and pre-construction survey, the Selectmen reserve the right to suggest that Eversource use certain roadways or routes to access the proposed Project destination in order to minimize damage to certain Town roads. Should the selectmen suggest that certain roadways or routes be used, Eversource will work with the Selectmen to the greatest extent practicable, to conform use of Town roadways to the Town's preferences. The pre- and post- construction explorations and surveys shall be utilized by the Town to inform the Town's engineers' judgments whether road damage has occurred from Eversource's heavy vehicle traffic which requires repair. S.W. Cole's pre-construction and post-construction road condition exploration/boring and visual survey work shall be

provided simultaneously to the Selectmen and to Eversource. Eversource shall be included in all communications between any Town representative and S.W. Cole including meetings, emails, documentation and reports (draft, preliminary, final or any other status of documentation). The Town contract with S.W. Cole will explicitly define the communication requirements to include Eversource. The scope of work and costs associated with the pre- and post- construction surveys shall not exceed \$25,000 and must be submitted to Eversource for review and mutual agreement prior to the contract Notice to Proceed. Eversource's use of the Town's roadways by heavy vehicles that exceed the Town's weight limits shall not begin until 40 days after the Notice to Proceed, so that S. W. Cole shall have sufficient time to perform its pre-construction survey and inspections.

- All roads shall be restored to its pre-existing condition or as close as practical, consistent with such standards under the inspection and supervision of the Town Engineer.
- Financial Guarantee for Damage Due to Road Weight Limit Exceedance and to Ensure Proper Town Road and Right-of-Way Excavation and Restoration. Prior to commencing road weight limit exceedance tract travel in Town and prior to any Town road excavation, Eversource shall provide the Board of Selectmen with a bond for a period of twenty-four months from the date of completion. The Parties agree the bond value shall be \$500,000.
- In accordance with the New Hampshire Department of Transportation Utility Accommodation Manual and prior to commencing construction, Eversource may take photographs or videos in sufficient detail to show the existing condition of the roads to be utilized by Eversource, including any area to be disturbed with the right-of-way, and shall furnish a copy of any such photographs or videos to the Town prior to the start of work.
- As soon as possible, temporarily repair, at Eversource's expense, any Town road damage caused directly by Eversource (or its contractors) at any time to ensure safe passage. Final repair of Town roads shall be subject to the inspection and approval by the Town Engineer or his designee.
- Reimburse the Town for reasonable costs associated with special police details, if required to direct or monitor traffic within the Town limits during construction of the Project Facilities.
- Upon a determination by S.W. Cole that there has been damage to Town roads arising from project related heavy vehicle traffic, that will require repairs of restoration below the wearing course of the roadway, Eversource may (within 90 days) present to the Town its own information as to heavy vehicle road traffic causality or the Town's road damage repair cost determination and the Town shall consider such information. Should there be a dispute after the Town makes its final determination as to causality and repair cost, Eversource may within 90 days appeal the Town's determination to the Committee's Administrator, who shall hear the Parties' information and shall make such determination as fairness and equity shall require.

As to access roads, the Applicant agreed to restore the municipal roads to pre-existing conditions and, unless otherwise agreed to by the property owners, restore privately owned access roads. App. 168, §IV.B. The Applicant agreed to advise the Town of all property in Newington that it will use for marshalling yards or laydown areas. App. 168, §IV.C. Newington and the Applicant agreed that the use of the yards and laydown areas that were not disclosed to the Subcommittee during the hearing should be subject to approval by the Committee's Administrator. App. 168, §IV.C.

Relative to the underground construction, the Applicant agreed to:

- Proper inspection, at Eversource's sole expense, by the Town Engineer or his designee, shall be required for all excavation and right-of-way restoration and roadway repair work. The Town Engineer/Inspector shall check in and check out with the construction contractors when arriving and departing the inspection site. The inspector shall record the date and time of all inspecting work. The contractor shall notify the inspector for inspections of the work as directed by the Town Engineer.
- All authorized road excavation and restoration work shall be performed Monday through Saturday, 7 a.m. – 7 p.m. from April 15th through November 15th unless Eversource obtains written permission from the Board of Selectmen to do work at another time. Such permission shall be granted only in the case of an emergency, in the event the work authorized by the permit is to be performed in a high traffic and congested area, or if in the best interest of the Town.
- Where it is necessary to cut and remove pavement, curb sidewalk and/or other surface improvements, the material shall be cut and removed by means of equipment and tools suitable to the type of material to be removed, and in a manner that results in a minimum amount of damage to adjacent improvements. NOTE: saw cuts shall be required for all roadway excavations, and shall be a minimum of two (2) feet from the edge of the excavation. The first cut shall be for construction and the second shall be for the permanent patch.
- A minimum of one lane of traffic shall be provided on streets at all times, unless a temporary detour is available. No opening or excavation in any street shall extend beyond the centerline of the roadway before being backfilled and the surface of the roadway made passable to traffic.
- All trenches shall be backfilled with suitable material in a thickness and material as specified by the Town of Newington's Construction Specifications for Residential

Roadways, or Construction Specifications for Non-Residential Roadways, whichever is applicable.

- Any excavation shall be backfilled, compacted and temporarily patched or plated at the completion of work. In no case, shall an open excavation be left overnight. All temporary patches shall be of an acceptable hot patch material depending on the location of the opening; plating is also an acceptable alternative. The contractor shall maintain effective 24/7 dust control measures in accordance with best management practices.
- The surface of the street shall be permanently restored as soon as possible after completion of the work for which the permit has been given. No permanent street restoration will be allowed between November 15th and April 15th. Eversource will be responsible for a permanent patch that meets the specifications of the Town of Newington for a period of two years from the date of final inspection. Final restoration shall occur no sooner than one year after permanent installation to the required standards. If at any time during this 24-month period the excavation requires any additional work (repair of settlement, loaming, seeding, etc.) Eversource will be responsible to complete this work in a timely manner following written notification by the Town.
- Any sidewalk affected shall be restored with a minimum of 6 inches of compacted crushed gravel placed beneath the pavement material. The pavement material shall be matched in kind, except that hot top shall be at least 2 inches thick and 3000 psi concrete a minimum of 4 inches thick.
- With the approval of the underlying landowner on land outside of the municipal right-of-way, any existing grassland or landscaped area that is disturbed shall be restored with the stockpiles, original loam stored on site, with a minimum of 6 inches of compacted screened loam, fertilized, with a matching seed and mulched. No original loam shall be taken off site. Within the municipal right-of-way, any existing grassland or landscaped area that is disturbed shall be restored with the stockpiled, original loam, fertilized, with a matching seed and mulched. No original loam shall be taken off site.
- Eversource will furnish the Town with an as-built plan certified by a registered land surveyor or licensed professional engineer in PDF and CAD format for all underground installations.
- Eversource shall take all appropriate measures to assure that during performance of the excavation work, so far as practical, normal traffic conditions including vehicular, bicycle, and pedestrian traffic shall be maintained so as to cause as little inconvenience as possible to the occupants of the adjoining properties and to the general public.
- It shall be the responsibility of Eversource to provide all necessary cones, barricades, flashing lights, signs, qualified uniformed police officers and flaggers. Requests for uniform police officers shall be made at least 24 hours prior to the commencement of a traffic control assignment.

- Maintenance of traffic shall be accomplished by the use of flaggers or qualified uniformed police officers wherever construction restricts the flow of traffic on frequently traveled roads, or as required to direct traffic through or around the work or as ordered.
- When the work area encroaches upon a sidewalk, walkway or crosswalk area, protective barriers, together with warning and guidance devices and signs, must be utilized so that the passageway is safe and well defined.
- If acceptable traffic control is not maintained, as determined by the Selectmen, the Police Chief or their designee, the contractor may be required to suspend work that interferes with traffic.

App. 168, §V.F.

The Applicant also agreed to identify the individuals that will be available for the public to contact with inquiries and comments and documentation identifying such individuals will be posted at the Town Hall. App. 168, §I, A

On July 12, 2018, Newington and the Applicant entered into an Addendum to the Memorandum of Understanding that addressed Newington's blasting related concerns. NEW 2-2.

Mr. Hebert, on behalf of Newington, advised the Subcommittee that the Memorandum of Understanding and the Addendum to the Memorandum satisfactorily address Newington's construction related concerns. NEW 2, at 3. Mr. Hebert requests that the Subcommittee, if it grants the Certificate, condition the Certificate upon the Applicant's compliance with the Memorandum of Understanding and the Addendum to the Memorandum of Understanding. NEW 2, at 3.

Newington requests that the Subcommittee order the Applicant to advise Newington and other parties in this docket of any proposed or actual material change in the location, configuration, design, specifications, constructions, operation, or equipment components of the Project. *See* Post-Hearing Brief, at 58-59. It also requests that the Subcommittee require the

Applicant to consult and work with Newington before changing route alignment. *See* Post-Hearing Brief, at 58-59.

(4) Town of Durham

The Town of Durham and the Applicant entered into a Memorandum of Understanding addressing, in relevant part, the potential construction impacts. App. 270. The Applicant agreed to provide Durham with an overall schedule for construction activities and, at the request of the Town, to meet or participate in conferences with the Durham Public Works Director or Town Engineer on a weekly basis. App. 270, §V.B.C. The Applicant also agreed to pay for a mutually agreed upon engineer consultant to observe the Project and to act as a liaison between the Applicant and the Town. App. 270, §V.D. Construction will be conducted between 7:00 a.m. and 6:00 p.m. Monday through Friday and between 9:00 a.m. and 6:00 p.m. on Saturdays. App. 270, §V, H2. Exceptions to the timing of the construction will be approved by the Durham Public Works Director or the Town Engineer. App. 270, §V, H2. Upon agreement between the Applicant and the Durham Public Works Director or the Town Engineer, over-sized vehicles delivering equipment and supplies may travel the Town roads between 7:00 p.m. and 6:00 a.m. on Sundays. App. 270, §V, H4. The Memorandum of Understanding addresses the use of Town roads and states, in relevant part, as follows:

- The Town and the Applicant have identified all local public roads that may require the use of oversized and overweight vehicles (including dump trucks) in Durham to transport equipment and parts for construction of the Project Facilities that provide adequate and reasonable access for construction. The Town reserves the right to deny the use of Town roads but will not do so unreasonably, providing at least 30-days notification during weekly construction meetings with the Town.
- No less than forty-days prior to the commencement of travel over Town roads by vehicles that exceed the Town's applicable road weight limits, Eversource shall file a road weight limit exceedance notification with the Town Department of Public Works that identifies the proposed portions of all Town roads over which any project related vehicles whose weight and load exceeds the applicable road weight limits will be traveling.

- At the weekly Project Meetings the Town shall inform the Project of any Town-planned road-related construction activities (i.e. paving) on Town roads that have been identified for use by Eversource pursuant to the road weight limit exceedance notification.
- If the Town identifies planned road-related construction activities on any of the Town roads that require oversized or overweight equipment identified pursuant to the weight limit exceedance notification, and the Town prefers that Eversource use different Town roads to access the Project, Eversource shall work with the Durham Public Works Director or Town Engineer to reach agreement upon alternative access ways.
- The Town agrees to provide Eversource with 30-days notice of any Town- planned road-related construction activities for Town roads.
- Prior to commencing construction, Eversource shall document, photograph and take videos of local road conditions prior to construction and as soon as possible after construction is completed or as weather permits.
- As soon as possible, temporarily repair, at Eversource's expense, any Town road damage caused directly by Eversource (or its contractors) at any time to ensure safe passage. Final repair of Town roads shall be accomplished following completion of construction of the Project. Any Town roads impacted by the Project shall be restored to pre-construction conditions.

App. 270, §IV.A.

Access roads will be restored to the pre-existing conditions, unless otherwise agreed by the property owners. App. 270, §IV, B. The Applicant also agreed to restore municipal roads where underground portions of the Project will be constructed “to conditions contained in the Certificate of Site and Facility issued by the Site Evaluation Committee.” App. 270, §V.I. The Memorandum states that the Applicant will comply with traffic control plans consistent with the Manual of Uniform Traffic Control Devices. App. 270, §VI.B,2, C.2.

The Applicant agreed to maintain a public outreach program to inform the Town and abutting and nearby property owners of the status of the Project and to respond to any concerns. App. 270, §I.A.

Disputes arising from implementing the Memorandum of Understanding will be reviewed and resolved by the Administrator. App. 270, §X.

(5) University of New Hampshire

The Applicant and UNH entered into a Memorandum of Understanding addressing, in part, issues related to construction of the Project. App. 267. The Applicant agreed to conduct aboveground construction of the Project between 7:00 a.m. and 7:00 p.m. Monday through Saturday. App. 267, §II.A. Underground construction will be conducted between May 19, 2019 and August 22, 2019 between 7:00 a.m. and 8:00 p.m. App. 267, §II, A.,B.,F. Underground construction will not impede on the UNH playing fields or surrounding drainage systems. App. 267, §II.E. The Applicant agreed to work with the UNH Project Manager to ensure safe pedestrian travel paths are created and maintained during construction. App. 267, §III, A. The Applicant agreed to repair and/or replace any utilities that may be impacted by construction and reimburse UNH for additions or modifications of existing utilities if they will be required to construct the Project. App. 267, §IV.B. It also agreed to repair and/or replace roadways, parking areas, and walkways impacted by construction or heavy vehicle traffic. App. 267, §IV.

The Applicant agreed to minimize impact on 22 out of 24 stone walls located on UNH property by not traversing them, traversing them through existing breaches, traversing them by using timber matting to bridge over walls, or placing the work pads on top of timber matting to elevate work pads above the walls. App. 267, §III.H. As to the remaining 2 walls, the Applicant agreed to temporarily widen existing breaches and to restore them to pre-construction condition once construction is completed. App. 267, §III.H.

(6) Individual Intervenors

Keith Frizzell argues that construction of the Project will cause significant noise and traffic. KF 1, at 2.

Regis Miller complains about her ability to access her property and mailbox during construction. DR 10, at 4. 6. Dr. Miller is also concerned about the impact of construction noise. DR 10, at 3. Dr. Miller requests that the Applicant advise her when construction will be conducted on her property. DR 10, at 6.

Matthew and Amanda Fitch expressed concerns about the impact of construction on enjoyment of their property. DR 4, at 3-6. They request that the Applicant: (i) repair and maintain their private road/driveway to the same or better condition as prior to construction; (ii) repair and compensate them for any damages that may be caused by blasting, tree removal, staging of construction equipment on their driveway and property during and after construction; (iii) implement appropriate landscaping and planting after construction; (iv) provide advance notification of the date and time when construction activities will be conducted on their property; and (v) provide daily rate compensation for the construction's impact on their ability to work at their property. DR 4, at 9-10.

Jeff and Vivian Miller complain about the impact of construction on their property at 297 Durham Point Road in Durham. DR 7, at 9. They are concerned about their ability to access the driveway and enjoy boating and kayaking. DR 7, at 9-11; DR 8, at 4. They are also concerns about impacts on driveway; impacts associated with blasting and construction noise; and impacts to the shoreline, dock, and boat. DR 7, at 9-11; DR 8, at 4. They request that the Subcommittee order the Applicant to inspect their property prior to any blasting and implement a procedure for

reimbursement of damages to their property and driveway. DR 7, at 9, 15. They want to be notified of the construction schedule near their property. DR 7, at 10.

b. Deliberations

Newington and Durham each entered into a Memorandum of Understanding addressing, minimizing, and mitigating the construction impacts. Both Towns request that the Subcommittee condition the Certificate upon the Applicant's compliance with the Memorandum of Understanding. The Applicant also entered into a Memorandum of Understanding addressing the potential impact on UNH.

Beside the potential impacts on Little Bay, the Subcommittee is not aware of any construction issues identified by the Towns and UNH not addressed and resolved by each of the Memorandums of Understanding. The Town of Newington, however, indicated in its Memorandum of the Understanding that the Administrator should be authorized to establish the laydown area and marshalling yards that were not identified by the Applicant in its Application, as amended. Authorization to establish additional laydown areas and marshalling yards will require various permits from various agencies. The Administrator does not have authority to grant such permits. The Subcommittee is confident in the ability of the respective agencies to review the required permit applications and issue required permits without the oversight of the Administrator. The Applicant shall obtain permits from agencies with permitting and other regulatory authority for establishing marshalling yards and laydown areas that are not identified in the Application, as amended. The permits shall be filed with the Administrator to be posted on the Committee's website.

The Certificate is conditioned upon the Applicant's compliance with the Memorandum of Understanding executed by the Applicant, Newington (as amended), Durham, and UNH and the

Addendum to the Memorandum of Understanding executed by the Applicant and Newington. The Administrator is authorized to retain consultants to assist her with conducting the duties assigned to her by: (i) the Memorandum of Understanding between the Applicant and the Town of Durham; (ii) the Applicant and the Town of Newington; (iii) the Applicant and UNH; and (iv) conditions of the Certificate. The Applicant shall be responsible for all costs associated with retention of consultants by the Administrator.

The Administrator, at her discretion, is authorized to retain any consultants that may assist her with satisfying the duties assigned to her by the Memorandums of Understanding. The Applicant shall bear the costs associated with retention of consultants by the Administrator.

The Applicant entered into an Option Agreement, in part, addressing the Project's impact on soils of the Darius Frink Farm. App. 251. The Certificate is conditioned upon the Applicant's compliance with the Option Agreement. The Applicant also entered into a Memorandum of Understanding with Rockingham County Conservation District. App. 219. The Certificate is conditioned upon the Applicant's compliance with this Memorandum of Understanding.

The Applicant also entered into informal agreements with Mr. Frizzell and Mr. Fitch addressing the Project's potential impacts on their properties. The Applicant agreed that construction activities adjacent to Jeff and Vivian Miller's property will be conducted only from 7:00 a.m. to 6:00 p.m., Monday through Friday, and between 9:00 a.m. and 6:00 p.m. on Saturday and that if weekend work is required, that the Millers will be provided with advance notice.

As to other Intervenors, the Applicant conducted a comprehensive outreach campaign where it contacted almost every intervenor who raised his/her concerns about the Project's

impact and offered the variety of avoidance and mitigation measures that can be implemented to address their concerns. The Subcommittee implemented the Dispute Resolution Procedure³⁵ that will be available to any property owner to prevent and/or address the Project's potential and actual impacts on their properties.

The Applicant also agreed to avoid, minimize, and mitigate impacts of construction by agreeing to the following conditions:

Further Ordered that, prior to any construction activity, the Applicant shall file with the New Hampshire Site Evaluation Committee ("SEC") a copy of all Best Management Practices ("BMPs") to be utilized for the Project for all construction activity, to the extent they have not already been provided to the SEC, including, without limitation: BMPs for entering and exiting the ROW or any construction site; sweeping paved roads at access points; BMPs relating to Applicants' Storm Water Pollution Prevention Plan; BMPs for specific locations such as steep slopes near water bodies; BMPs for submarine and shoreland cable installation; and BMPs for work near archaeological and historic sites. During construction, the Applicant shall adhere to the BMPs consistent with all state and federal permit requirements.

Further Ordered that, the Applicant shall provide each host town and the Administrator of the SEC with copies of Applicant's proposed construction plans, blasting plans, schedule and other public information (Ref. RSA 91-A:5) to be made available to the public.

Further Ordered that, the construction plans, schedule and other information provided to each host town and Administrator of the SEC shall be updated at least monthly or sooner if necessary to reflect changes in the Project's schedule or other changes during construction.

App. 193, ¶¶8, 13-14. The Certificate is conditioned upon the Applicant's compliance with these agreed upon conditions.

³⁵ See Section V.E.3.b.

The Applicant also agreed to comply with a number of construction related conditions that are addressed in Section V.D.5.b., above (public health and safety).

Construction of the Project will cause some permanent and temporary impacts on Little Bay. Such impacts, however, as described in Sections V.D.3.b.(2) and V.D.4.b., above (water quality/natural environment/economy), will be effectively minimized and mitigated.

The Subcommittee received no evidence indicating that the construction impacts, as mitigated, will rise to the level of unduly interfering with the orderly development of the entire region.

Considering the testimony and evidence presented as well as the mitigation and minimization measures agreed to by the Applicant, including the Dispute Resolution Procedure that will be available to address the Project's potential impacts on individual properties, the Subcommittee finds that impacts of the Project's construction will not unduly interfere with the orderly development of the region.

To ensure that the Project is constructed as proposed, the Applicant shall promptly notify the Committee of any proposed or actual material change in the location, configuration, design, specifications, construction, operation, or equipment component of the Project and shall request approval of the Committee of such change. The Applicant shall construct the Project within five-years of the date of the Certificate and shall file as-built drawings of the Project with the Committee no later than the date of commercial operation of the Project. The Administrator is delegated with the authority to review these drawings and to confirm their conformity with the proposed Project. The Administrator is authorized to retain experts to assist her with evaluating the drawings submitted under this condition. The Applicant shall pay all costs associated with the review of as-built drawings by the Administrator. The Applicant shall advise the

Administrator of the date of commencement of construction of the Project at least two-weeks prior to the start of construction. The Applicant shall notify the Administrator of the date of commencement of commercial operation of the Project at least two-weeks in advance.

2. Employment

a. Positions of the Parties

(1) Applicant

The Applicant's expert, Dr. Lisa K. Shapiro, testified that, during construction of the Project, the total number of direct³⁶, indirect³⁷ and induced³⁸ jobs will be between 54 and 97. App. 83, at 7. Dr. Shapiro also opines that the estimated annual average total of New Hampshire jobs during construction of the Project will be between 30 and 46. App. 83, at 7. Dr. Shapiro identifies these industries where the jobs (direct, indirect, and induced) will be created and estimates the following annual average total number of jobs for each industry: (i) construction industry – from 13 to 24 (28 to 58 in the peak year of construction); (ii) professional and services industry – from 6 to 7 (7 to 9 in the peak year of construction); (iii) retail trade industry – from 2 to 4 (3 to 7 in the peak year of construction); and (iv) all other industries (manufacturing, wholesale trade, finance and real estate) – from 7 to 10 (13 to 20 in the peak year of construction). App. 83, at 8.

As to the operation of the Project, the Applicant asserts there will be minimal impacts on direct, indirect, and induced jobs. App. 68 at 30.

³⁶ Direct jobs are defined as jobs that tie directly to the construction of the Project. App. 83 at 7-8.

³⁷ Indirect jobs are defined as jobs at companies supplying goods and services to the Project. App. 83 at 8.

³⁸ Induced jobs are defined as jobs resulting from spending in the local economy direct and indirect workers employed due to the Project. App. 83 at 8.

(2) Counsel for the Public

Counsel for the Public opines that, although job creation is a positive factor, it is “fairly modest” for this Project. *See* Post-Hearing Brief, at 22. Jobs will be created only during construction of the Project and no long-term jobs are predicted. *See* Post-Hearing Brief, at 22. Counsel for the Public also opines that, to the extent inputs to the REMI model exaggerated net economic input from the Project, the job estimates overestimated the number of jobs created. *See* Post-Hearing Brief, at 22.

b. Deliberations

The Project will have a positive impact on employment by creating a number of temporary jobs. The jobs still have value even though they are temporary. There is credible evidence that the Project will have some positive impact on employment by creating a modest number of jobs. The Subcommittee finds that the Project will have a positive impact on employment and such employment will not unduly interfere with the orderly development of the region.

3. Economy

a. Positions of the Parties

(1) Applicant

Dr. Shapiro and Mr. Varney address the impact of the Project on the economy. App. 83; App. 146, at 8-9. Dr. Shapiro used the Regional Economic Models, Inc. (REMI) econometric model to ascertain the economic impacts of the Project. App. 1, at 123; App. 64; App. 101.

Dr. Shapiro opines that the Project will benefit the economy by increasing jobs, economic output (sales)³⁹, gross state product (GSP), and personal income during its construction. App. 83, at 6.

Dr. Shapiro asserts that the Project will cause an increase in average annual sales by approximately \$6.7 million to \$7.1 million per year and an increase in average annual GSP by approximately \$4.3 million to \$5.0 million per year during the estimated four-years of construction. App. 83, at 8. Dr. Shapiro estimates that in the peak year of construction, sales will increase by \$13.9-\$14 million and GSP will increase by \$8.8-\$9.8 million. App. 83, at 8. Dr. Shapiro opines that, on a cumulative basis over the construction phase of the Project, the State's economic output will be approximately \$26.9-\$28.3 million higher and GSP will be approximately \$17.3-\$19.9 million higher than they would be without the Project. App. 83, at 8.

Dr. Shapiro further opines that, as a result of direct, indirect, and induced economic activity that will be caused by the Project, personal income in New Hampshire will increase by approximately \$8.1-\$12.3 million on a cumulative basis over the construction period. App. 83 at 9. It will result in an average annual increase of approximately \$3.0 - \$3.1 million during the construction period. App. 83, at 9. She estimates that personal income will peak in 2017 and will be approximately \$3.5-\$6.1 million. App. 83, at 8.

Dr. Shapiro also opines that, during its operation, the Project will benefit local communities by paying property taxes. App. 83, at 6-7. Dr. Shapiro states that the Applicant will pay the following municipal and local education taxes within the first year of its operation: (i) Madbury - \$59,091.00-\$88,091.00; (ii) Durham - \$748,785.00-\$1,098,217.00; (iii) Newington - \$132,853.00-\$194,851.00; and (iv) Portsmouth - \$41,796.00 - \$61,300.00. App. 101; Tr., Day 6, 09/21/208, Afternoon Session, at 54-55.

³⁹ "Economic output, or sales, captures all of the intermediate goods purchased as well as all of the final goods and services that are captured in Gross State Product. App. 83, at 8.

Dr. Shapiro also opines that the Applicant will pay approximately \$122,000.00-\$135,000.00 in taxes to Strafford County and approximately \$36,000.00-\$40,000.00 in taxes to Rockingham County. App. 83, at 4. She also estimates that the Applicant will pay approximately \$500,000.00-\$612,000.00 to the State as utility education property tax during its first year of operation. App. 83, at 4. Dr. Shapiro did not estimate the total property taxes that will be paid by the Applicant during the Project's existence. App. 83, at 5. She testifies that it will depend on the value of the Project over time, local and county spending levels, the total tax base, and other sources of revenue. App. 83, at 5. Dr. Shapiro did not consider the impact on taxes that may be caused by abatements. Tr., Day 6, 09/21/2008, Afternoon Session, at 30-31. She testifies, however, that it is unlikely that such impacts will rise to the level that will significantly offset the Applicant's tax payments. Tr., Day 6, 09/21/2008, Afternoon Session, at 30-31.

Mr. Varney opines that the Project will not have an adverse effect on local businesses. App. 83, at 8. Mr. Varney acknowledges that the Project will cross Ms. McCosker's gardening business. Tr., Day 8, 10/11/2018, Morning Session, at 73. Mr. Plante testifies that it is unclear how long construction at this area will take and estimates that it may take up to nine-months. Tr., Day 2, 08/30/2018, Afternoon Session, at 103-04. Mr. Nelson estimates that timber mats on the easement traversing Ms. McCosker's property will remain in place for approximately one year. Tr., Day 5, 09/20/2018, Afternoon Session, at 72. Mr. Plante and Mr. Nelson testified that during this time, Ms. McCosker will have access to the right-of-way and will be able to access the easterly section of her property after communicating with the construction team and addressing safety related issues. Tr., Day 2, 08/30/2018, Afternoon Session, at 130-132; Tr., Day 5, 09/20/2018, Afternoon Session, at 72-73. The Applicant proposed mitigating the impact

of construction on Ms. McCosker's gardening business by: (i) conducting an inventory of plant stock located within the right-of-way; (ii) developing a relocation plan; and (iii) relocating plant stock to a location where it will survive, as determined by the landscaper's opinion, to a location southerly of the current location within the right-of-way, any other location on Ms. McCosker's property, or to another nursery or amenable location off her property. App. 229, at 2.

The Applicant advised Ms. McCosker that it marked her water well and water line and will instruct its contractors to protect the existing water line. App. 203, at 2. It offered to provide a source of emergency water in the form of a mobile water truck and/or tank during construction of the Project, regardless if there is damage to the well. App. 203, at 2.

The Applicant also advised Ms. McCosker that she may file a claim for damages with the Applicant if the Project causes irreparable harm to her plant stock. App. 229 at 2.

In Newington, the Project will cross the commercial area east of the Spaulding Turnpike. App. 83 at 9. Mr. Varney testifies that the Applicant is communicating with the representatives of the Crossings at Fox Run and will coordinate with businesses that may be impacted by construction of the Project in order to minimize the impacts. App. 8,3 at 9.

The Applicant's experts address the potential impact on oyster farms. Ms. Pembroke testifies that, based on the fact that the character of the sediments indicates very low levels of contaminants and the sediment plume will disperse quickly and will be extremely ephemeral, oysters that can be harvested from the mixing zones will be safe for human consumption. Tr., Day 5, 09/20/2018, Morning Session, at 20. Ms. Pembroke confirms that construction of the Project can decrease the quality of the oysters due to grid concentration. Tr., Day 5, 09/20/2018, Morning Session, at 61-62. She opines, however, that it is highly unlikely that construction will cause such grid concentration and an associated decrease in the quality of oysters. Tr., Day 5,

09/20/2018, Morning Session, at 61-62. Ms. Pembroke testifies that silt that is associated with the Project may cause mortality to oysters if it is approximately half an inch thick. Tr., Day 5, 09/20/2018, Morning Session, at 51. Mr. Swanson testifies, however, that the modelling demonstrated that the highest predicted concentration thickness of silt will be from 0.04 to .2 inches. Tr., Day 6, 09/21/2018, Morning Session, at 143-45. He testifies that, based on an area of operation by Fat Dog, it is unlikely that sediment will cause mortality to the business' juvenile bottom planted oysters. Tr., Day 5, 09/20/2018, Morning Session, at 63. Ms. Nelson testifies that the Applicant reached out to the owner of Fat Dog and offered to minimize the Project's impact on his business by assisting him with cleaning the cages or by providing a cold storage to allow him to harvest above his normal qualities so that no harvest will be needed and no impact on business will be caused by the construction of the Project. Tr., Day 6, 09/21/2018, Morning Session, at 48-49.

Mr. Nelson also testifies that the owner of another oyster farm, Tim Henry, does not oppose the Project and indicated his willingness to accept the Applicant's assistance with relocating his farm. Day 6, 09/21/2018, Morning Session, at 132. The owner of another farm, Nick Brown, was notified about the Project and was aware of the potential need to relocate his farm when he received the license authorizing him to conduct his business. Day 6, 09/21/2018, Morning Session, at 132. The Applicant indicates its willingness to assist Mr. Brown with relocating his stock, if needed. Day 6, 09/21/2018, Morning Session, at 134. The last oyster oriented business that may be impacted by the Project is Joe King. Day 6, 09/21/2018, Morning Session, at 133. Ms. Allen testifies that the owner of this business was advised of the Project and expressed no concerns. Day 6, 09/21/2018, Morning Session, at 133.

Project construction costs should not overburden New Hampshire ratepayers. The cost of constructing the Project will be regionalized across New England and New Hampshire ratepayers will be pay approximately nine percent of these costs. Tr., Day 1, 08/29/2018, Morning Session, at 29-30; Tr., Day 1, 08/29/2018, Afternoon Session, at 4-5. It will result in an increase for an average ratepayer who uses 600 kV per month by approximately 8 to 11 cents per month. Tr., Day 1, 08/29/2018, Afternoon Session, at 6-8. Mr. Quinlan and Mr. Andrew acknowledge that ISO-NE may localize some costs and determine that they should be paid by New Hampshire ratepayers or some group of New Hampshire ratepayers. Tr., Day 1, 08/29/2018, Afternoon Session, at 8-9; Tr., Day 4, 09/18/2018, Morning Session, at 128; Tr., Day 4, 09/18/2018, Afternoon Session, at 17-18. Mr. Quinlan testifies, however, that he is confident that the cost of the Project will be regionalized because the Applicant's decisions that affected the Project's costs were consistent with good utility practice and were necessary for siting the Project. Tr., Day 1, 08/29/2018, Afternoon Session, at 9-15.

(2) Counsel for the Public

Counsel for the Public submits that, while assessing the Project's impact on economy, Dr. Shapiro failed to consider potential business losses or the increase on electricity rates for New Hampshire electric ratepayers. *See* Post-Hearing Brief, at 16.

Counsel for the Public and the Applicant stipulated to the following conditions of the Certificate addressing potential impacts on local businesses and property owners:

Further Ordered that, the Applicant shall publicize, on its website and through its Project outreach communications, contact information for business and property owners concerned about the potential impacts of construction or operation of the Project on their business or property to communicate their concerns. Within 10 calendar days of contact by such business or property owner, the Applicant shall initiate direct discussions with said business or

property owners to identify and implement appropriate strategies to avoid or mitigate potential Project impacts on a case by case basis.

Further Ordered that, if a business or property owner remains unsatisfied with the outcome of the Applicant's mitigation efforts, such party may request an executive review, including an investigation and determination through the Eversource customer resolution process, independent of the Project team ("Executive Review"). Such Executive Review shall be initiated within 10 calendar days of a request and shall be completed no later than 30 calendar days thereafter.

Further Ordered that, if a business or property owner remains unsatisfied with the outcome of the Applicant's mitigation efforts and the Executive Review, the Applicant agrees to participate in non-binding mediation ("Mediation") with such business or property owner. An independent mediator shall be selected from among the list of NH Superior Court Neutrals found at <https://www.adrp/superior/index.htm>.

Further Ordered that, if business or property owner concerns remain unresolved following Mediation, a business or property owner may elect to have the dispute resolved through the Dispute Resolution Process described below. While the Dispute Resolution Process is not mandatory, if a party elects to utilize the Dispute Resolution Process, that party waives the right to file suit on disputed issues in court, and the Dispute Resolution Process becomes the exclusive forum for deciding all disputed issues.

Further Ordered that, the SEC shall appoint an attorney or retired judge (the "Dispute Resolution Administrator") who shall independently administer a dispute resolution process for all disputes relating to damage to property, loss of business or loss of income, and/or diminution in value of real property, caused by the construction or operation of the Project (the "Dispute Resolution Process") that have not been resolved through Applicant's mitigation efforts, Executive Review or Mediation. Counsel for the Public and Applicants shall jointly or separately file with the SEC proposed procedures for filing and deciding said disputes, including criteria for eligibility, a procedure for filing claims, required proof of the damage, loss, or diminution, the presentation and consideration of claims, the basis for recovery and the manner of deciding claims. Applicants shall establish a fund for the payment of claims ("Dispute Resolution Fund") which fund shall be solely administered by the Dispute Resolution Administrator, who shall provide to the SEC a quarterly report of the Dispute

Resolution Fund, including all disbursements with a copy to the Applicant. The Dispute Resolution Administrator shall be paid an hourly rate to be determined by the SEC, and said compensation and all expenses of the Dispute Resolution Administrator shall be paid from the Dispute Resolution Fund, subject to approval by the SEC. Upon issuance of a certificate, Applicants shall deposit One Hundred Thousand (\$100,000) Dollars to establish the Dispute Resolution Fund and shall thereafter deposit any additional funds necessary to pay all awards made by the Dispute Resolution Administrator and to pay the Dispute Resolution Administrator's compensation and expenses. The Dispute Resolution Administrator shall accept written requests for dispute resolution until the two-year anniversary date of the date when the transmission line is placed in service. The Dispute Resolution Administrator shall process and provide to the requesting party, the Applicant and the SEC Administrator a confidential written decision ("Decision") on all written requests for dispute resolution filed with the Dispute Resolution Administrator prior to said deadline. The Decision and any reconsideration thereof shall be final, non-appealable and non-precedential. All funds remaining in the Dispute Resolution Fund after the payment of all awards and the payment of the Dispute Resolution Administrator's compensation and expenses shall be returned to Applicants.

App. 193, ¶¶17-21.

(3) Conservation Law Foundation

CLF submits that the Project will have an unreasonable adverse effect on the local oyster aquaculture industry by exposing oysters to contaminants, including viruses and pathogens, and sediments. *See* Post-Hearing Brief, at 4-5, 78.

(4) Town of Durham

Mr. Selig testifies that the Project will not have a meaningful negative impact on Durham business. Tr., Day 10, 10/16/2018, Afternoon Session, at 185. The Town asserts that it is unclear as to what extent the Project will benefit the economy of the local communities as opposed to the State of New Hampshire. *See* Post-Hearing Brief, at 20. The Town argues that

Dr. Shapiro failed to calculate tax benefits after the first year of operation and failed to account for the fact that they will decrease over time. *See* Post-Hearing Brief, at 20.

(5) Individual Intervenors

Jason Baker, on behalf of Fat Dog, argues that the Project will have a negative impact on Fat Dog. FDS 1. Mr. Baker explains that Fat Dog is a 9-acre oyster farm located in Little Bay. FDS 1, at 1. Its primary 4.5-acre licensed location is on the Durham side of Little Bay approximately 1,000 meters north of the proposed Little Bay cable crossing. FDS 1, at 1. Fat Dog uses two primary culture methods on the site: (i) cage culture – containing the oysters in enclosed structures (cages) during grow out to maturity; and (ii) bottom planting – scattering oysters on the mud substrate and raking them off the bottom once they reach maturity. FDS 1, at 1-2. Mr. Baker testifies that jet plowing may result in harvest closure for some unidentified period of time and potential closure of his business because of: (i) bacterial contamination of oysters; (ii) diminishing quality of oysters due to grit accumulation; (iii) dispersal of some previously undetected toxic contaminant; (iv) immediate mortality due to sediment deposition; and (v) overwintering mortality due to sediment deposition/anoxia. FDS 1, at 3-4; Tr., Day 14, 10/25/2018, Morning Session, at 26. Mr. Baker asserts that the extent of the impact is unknown and may range from moderate to severe. FDS 1, at 4.

Mr. Baker requests that the Subcommittee order the Applicant to develop and implement a proxy monitoring protocol in the form of an oyster farm in miniature (monitoring station similar to the stations that will be installed along the edge of the mixing zone) at the southern boundary of the current site of Fat Dog. FDS 1, at 4; Tr., Day 14, 10/25/2018, Morning Session, at 34-35. The protocol for monitoring should include measurements of impact on all oyster classes, including bottom-seeded oysters, and should assess direct mortality, overall health of the

oysters, and product quality. FDS 1, at 4. Mr. Baker also argues that the Applicant should be required to develop a monitoring program for Fat Dog that may detect the Project's impact on all oysters cultivated by the farm and all gear types and classes. FDS 1, at 4.

Mr. Baker asserts that the Applicant should consider an alternative route for the Project or should use HDD. FDS 1, at 5; Tr., Day 14, 10/25/2018, Morning Session, at 20-21.

Mr. Baker requests that the Applicant consider jet plowing during growing season (May – October) and implement all available minimization measures. FDS 1, at 5.

Mr. Baker acknowledges that the Applicant offered to assist Fat Dog with purchasing a refrigerated storage unit so that Fat Dog can harvest prior to construction in Little Bay and provide stored oysters to its customers while construction is active. Tr., Day 14, 10/25/2018, Morning Session, at 22. The Applicant also offered to assist Fat Dog with cleaning the cages after construction. Tr., Day 14, 10/25/2018, Morning Session, at 22, 48. Fat Dog was also offered to submit claims for any subsequent losses. Tr., Day 14, 10/25/2018, Morning Session, at 22.

Mr. Baker testifies that the proposed mitigation measures address only some of the short-term concerns and their implication will involve significant logistical challenges. Tr., Day 14, 10/25/2018, Morning Session, at 22. Mr. Baker expresses concerns about the possibility of conducting post-construction cage cleaning if the construction is not completed by the end of October due to the limited access to the cages associated with ice. Tr., Day 14, 10/25/2018, Morning Session, at 53. He also states that, if he is required to remove the cages from the deep water for the cleaning, it may be complicated by weather conditions and his ability to provide required personnel. Tr., Day 14, 10/25/2018, Morning Session, at 66-67, 70, 76-77. The effect

of cleaning conducted in water by divers on oysters is unclear. Tr., Day 14, 10/25/2018, Morning Session, at 70.

As to the refrigerated storage units, Mr. Baker testifies that they may contain oysters for a week only before oysters have to be sold and can be used only if such use is permitted by Health and Human Services. Tr., Day 14, 10/25/2018, Morning Session, at 71. As to compensation for losses, Mr. Baker testifies that the Applicant has mentioned a claim submission process, but it is unclear what the process will look like. Tr., Day 14, 10/25/2018, Morning Session, at 23. He asserts that the claims process will not address the loss of customers. Tr., Day 14, 10/25/2018, Morning Session, at 56-57, 83-84.

Donna McCosker testified that she is self-employed as a professional gardener. DR 1, at 2. She resides and conducts her business at 220 Longmarsh Road in Durham. DR 1, at 1. The Project will cross her property along its eastern boundary. DR 1, at 3. Ms. McCosker's plant stock is located within the right-of-way. DR 1, at 4. Ms. McCosker asserts that her plant stock is extensive and contains such unique species like Marylyniana and Marty Wray as named cultivars. DR 1, at 6. The value of the plants and nursery stock is hard to assess due to its uniqueness and variation of values depending on the season. DR 1, at 6.

Ms. McCosker argues that construction of the Project will impede her ability to conduct her gardening business where she will have constrained access to the plants on the east side of the easement during construction and will have to find other alternatives to fulfill her orders. DR 1, at 7-8; DR 2, at 2. She is also concerned about the direct impact the construction may have on the plants and the damage to soils. DR 1, at 8-9; DR 2, at 3-4. Ms. McCosker requests that the Subcommittee order the Applicant, immediately preceding construction of the Project, to hire a qualified landscape architect who has experience in identifying perennials and shrubs to:

(i) inventory her plant stock during the growing season; and (ii) quantify and value the plant stock that will be affected by the Project. DR 2, at 4. She argues that the inventory should be conducted over a period of time to ensure that the plants that can be observed only in particular seasons are identified and inventoried. DR 2, at 4. She also argues that the landscape architect that will be retained by the Applicant should develop a relocation plan and plan to return the plants to the sunny portion of the property after construction. DR 2, at 4. The relocation plan should account for and address plants' different growing needs. DR 2, at 4-5.

Ms. McCosker argues that she should be compensated for the time she will have to spend on overseeing the relocation. DR 2, at 5. Finally, she states that the Applicant should be required not to replant the disturbed area with invasive plants or plants foreign to the easement. DR 2, at 5. She argues that the Applicant should ensure that the disturbed area will be restored to the condition it was prior to construction. DR 2, at 5.

Ms. McCosker acknowledges that the Applicant offered to move the plants to an area it will clear 10 feet off the edge of the right-of-way. DR 1, at 10-11. She argues, however, that this area does not have sufficient sunlight to support proper plant growth. DR 1, at 11.

As to the direct impact of construction on soils and plants, Ms. McCosker requests that the Subcommittee order the Applicant to remove currently existing and future ruts and return the soil to its pre-construction state. DR 2, at 7. In order to further mitigate the potential impact on her plants, Ms. McCosker asks the Subcommittee to order the Applicant to access the easement along the east side of the right-of-way. DR 2, at 8.

Ms. McCosker also claims that the Applicant will clear vegetation between the right-of-way and Longmarsh Road exposing her plant stock to the views from Longmarsh Road. DR 1, at 10. She is concerned that that may increase the possibility of theft. DR 1, at 10. She

requests that the Applicant plant small trees and large shrubs along Longmarsh Road that are equivalent to the size of currently existing trees and shrubs. DR 1, at 10; DR 2, at 7.

Ms. McCosker asserts that her well is located on the opposite side of the right-of-way (east side) and the water line from her well to her property crosses the right-of-way. DR 1, at 11. She expresses concerns about the impact of construction of the Project on availability of water for her personal use and for her business. DR 1, at 11-12. She also testifies that she believes that she will not be able to access the east side of her property during construction and will not be able to conduct maintenance and/or repairs of the well when needed. DR 1, at 5-6. She acknowledges that the Applicant agreed to mark her water line and stated that there is a low probability of damage to her water line. DR 1, at 12. Ms. McCosker argues that the Applicant should construct a well on the west side of her property to ensure that she has an adequate water supply during construction of the Project. DR 2, at 5-6.

Ms. McCosker also expresses concerns about the impact construction workers may have on her plants and requests that the Applicant advise her in advance of the time when construction will be conducted at her property. DR 1, at 12-13; DR 2, at 3. She also requests that the Applicant flag the boundaries of the easement prior to construction, the areas that will be disturbed, and areas that will not be disturbed. DR 1, at 13; DR 2, at 8.

She requests that the Subcommittee order the Applicant to hire an independent licensed appraiser to value the loss of access to her property and compensate her for such loss. DR 2, at 6.

Ms. McCosker also argues that the Applicant failed to carry its burden of proof and failed to demonstrate the impact of the Project on the economy by failing to assess negative impacts that requests for abatements may have on real estate taxes. *See* Post-Hearing Brief, at 7-8.

b. Deliberations

The Applicant argues that the Project will have a positive impact on the economy. The Subcommittee is required to assess the impact on the economy in order to determine whether such impact will unduly interfere with the orderly development of the region. The region in this docket is not limited to the municipalities where construction will be conducted. It encompasses the entire Seacoast Region that the Project will serve.

Dr. Shapiro was criticized for her failure to account for the negative impacts of the Project on the economy. She explained, however, that she did not account for such impacts because she saw no negative economic impacts that were not being mitigated or that rose to the level of being able to model. In addition, she believed that the increase in transmission rates would be minimal and that the benefits of a reliable electrical system would offset the effect of the rate increase.

The Subcommittee did not receive testimony indicating that the impacts on the economy will unduly interfere with the orderly development of the entire region. The Subcommittee did receive testimony, however, from two business owners, Mr. Baker and Ms. McCosker, arguing that the Project will have negative impacts on their business.

The Applicant exercised extensive efforts to resolve the parties' concerns. It reached out to Mr. Baker and Ms. McCosker and offered a number of suggestions that it agreed to implement in order to mitigate and minimize the Project's impacts. Both Mr. Baker and Ms. McCosker expressed their dissatisfaction with the Applicant's offers. They request that the Subcommittee order the Applicant to comply with some other mitigation and minimization measures, as determined by the Subcommittee.

The impact on Mr. Baker's and Ms. McCosker's businesses will not cause undue interference with the orderly development of the region. The Subcommittee recognizes, however, that construction and operation of the Project may directly or indirectly impact them and other similarly situated businesses. It is paramount to have a process in place through which the business owners (and property owners) may address these impacts through avoidance, mitigation, minimization, and/or compensation, when appropriate. The Applicant agreed to comply with the following resolution procedure:

17. Further Ordered that, the Applicant shall publicize, on its website and through its Project outreach communications, contact information for business and property owners concerned about the potential impacts of construction or operation of the Project on their business or property to communicate their concerns. Within 10 calendar days of contact by such business or property owner, the Applicant shall initiate direct discussions with said business or property owners to identify and implement appropriate strategies to avoid or mitigate potential Project impacts on a case by case basis.

18. Further Ordered that, if a business or property owner remains unsatisfied with the outcome of the Applicant's mitigation efforts, such party may request an executive review, including an investigation and determination through the Eversource customer resolution process, independent of the Project team ("Executive Review"). Such Executive Review shall be initiated within 10 calendar days of a request and shall be completed no later than 30 calendar days thereafter.

19. Further Ordered that, if a business or property owner remains unsatisfied with the outcome of the Applicant's mitigation efforts and the Executive Review, the Applicant agrees to participate in non-binding mediation ("Mediation") with such business or property owner. An independent mediator shall be selected from among the list of NH Superior Court Neutrals.

20. Further Ordered that, if business or property owner concerns remain unresolved following Mediation, a business or property owner may elect to have the dispute resolved through the Dispute Resolution Process described below. While the Dispute Resolution Process is not mandatory, if a party elects to utilize the Dispute Resolution Process, that party waives the right to file suit on

disputed issues in court, and the Dispute Resolution Process becomes the exclusive forum for deciding all disputed issues.

21. Further Ordered that, the SEC shall appoint an attorney or retired judge (the “Dispute Resolution Administrator”) who shall independently administer a dispute resolution process for all disputes relating to damage to property, loss of business or loss of income, and/or diminution in value of real property, caused by the construction or operation of the Project (the “Dispute Resolution Process”) that have not been resolved through Applicant's mitigation efforts, Executive Review or Mediation. Counsel for the Public and Applicants shall jointly or separately file with the SEC proposed procedures for filing and deciding said disputes, including criteria for eligibility, a procedure for filing claims, required proof of the damage, loss, or diminution, the presentation and consideration of claims, the basis for recovery and the manner of deciding claims. Applicants shall establish a fund for the payment of claims (“Dispute Resolution Fund”) which fund shall be solely administered by the Dispute Resolution Administrator, who shall provide to the SEC a quarterly report of the Dispute Resolution Fund, including all disbursements with a copy to the Applicant. The Dispute Resolution Administrator shall be paid an hourly rate to be determined by the SEC, and said compensation and all expenses of the Dispute Resolution Administrator shall be paid from the Dispute Resolution Fund, subject to approval by the SEC. Upon issuance of a certificate, Applicants shall deposit One Hundred Thousand (\$100,000) Dollars to establish the Dispute Resolution Fund and shall thereafter deposit any additional funds necessary to pay all awards made by the Dispute Resolution Administrator and to pay the Dispute Resolution Administrator's compensation and expenses. The Dispute Resolution Administrator shall accept written requests for dispute resolution until the two-year anniversary date of the date when the transmission line is placed in service. The Dispute Resolution Administrator shall process and provide to the requesting party, the Applicant and the SEC Administrator a confidential written decision (“Decision”) on all written requests for dispute resolution filed with the Dispute Resolution Administrator prior to said deadline. The Decision and any reconsideration thereof shall be final, non-appealable and non-precedential. All funds remaining in the Dispute Resolution Fund after the payment of all awards and the payment of the Dispute Resolution Administrator's compensation and expenses shall be returned to Applicants.

The condition suggested by the Applicant, however, is internally inconsistent. It allows the property and business owners with “potential” damages to contact the Applicant and attempt to address the damages. App. 193, ¶17. It further allows only the owners who are dissatisfied with informal resolution of their concerns (owners with “potential” damages) to request an executive review. App. 193, ¶18. Only the owners who are dissatisfied with informal resolution and the executive review (owners with “potential” damages), may request mediation. App. 193, ¶19. Only owners who participated in mediation (owners with “potential” damages) may elect the dispute to be resolved through the Dispute Resolution Process. App. 193, ¶20. Dispute resolution is available for the owners with damages that were “caused by the construction or operation of the Project” and were not resolved through an informal review, executive summary, and mediation. App. 193, ¶21.

Paragraph 20 does not state that only the owners with actual damages can utilize the Dispute Resolution Process. Paragraph 21 specifically states this process is available only to the owners with actual damages. This ambiguity should be clarified. Paragraph 20 should specifically state that only the owners with actual damages can utilize the Dispute Resolution Process.

The availability of the executive review and mediation is conditioned upon the owners’ dissatisfaction with the “outcome of the Applicant’s mitigation efforts.” This condition is ambiguous and may be read either as the final mitigation offer or as requiring the owners to wait until the Applicant implements the mitigation efforts as a condition precedent to the availability of the executive review and mediation. It also fails to address avoidance measures that may be proposed or may be implemented by the Applicant. The owners should be able to address the proposed avoidance and mitigation measures through informal dispute resolution procedures

before and after the measures are implemented. The condition should clearly state that the executive review and mediation are available to the owners who disagree with proposed mitigation and avoidance measures as well as measures that were actually implemented by the Applicant.

The Stipulated Conditions also do not identify who shall bear the costs of the mediation. The owners should not be allowed to abuse the process and cause undue and unjustifiably long mediation just because they are not responsible for the costs. The owners, however, also should not be denied the opportunity to resolve their disputes through mediation simply because they do not have sufficient funds to pay for it. Both owners with funds and owners without sufficient funds shall be treated equally and shall be allowed an equal opportunity to resolve their disputes through mediation. The Applicant demonstrated its financial capability to construct and operate the Project in accordance with the Certificate. Requiring the Applicant to pay for costs of mediation will not cause undue financial hardship to the Applicant. The Applicant shall pay for the cost of mediation.

To preclude any ambiguity in understanding as to what the owners waive when they decide to undergo the Dispute Resolution process, the condition should clearly state that, if they decide to utilize the Dispute Resolution process, they waive the right to file suit on disputed issues in court and the right to request trial by jury.

Finally, it is insufficient simply to provide the Applicant's contact information to the owners. To provide sufficient notice to the owners of the available dispute resolution process the Applicant should be required to publicize a summary of the process as well as its contact information.

As to the duration of initiating the dispute resolution, considering that it will be available during construction of the Project, the Subcommittee finds it reasonable to require the Applicant to accept written requests for dispute resolution for two years following completion of the Project.

The Certificate is conditioned upon the following dispute resolution procedure:

Further Ordered that, the Applicant shall publicize, on its website and through its Project outreach communications, a summary of the process for resolving disputes and contact information for business and property owners concerned about the potential or actual impacts of construction or operation of the Project on their business or property to communicate their concerns. Within 10 calendar days of contact by such business or property owner, the Applicant shall initiate direct discussions with said business or property owners to identify and implement appropriate strategies to avoid, mitigate, or compensate for potential or actual Project impacts on a case by case basis.

If a business or property owner remains unsatisfied with the proposed avoidance, mitigation or compensation measures and/or measures that were implemented by the Applicant in response to the contact initiated by a business or property owner, such party may request an executive review, including an investigation and determination through the Eversource customer resolution process, independent of the Project team (Executive Review). Such Executive Review shall be initiated within 10 calendar days of a request and shall be completed no later than 30 calendar days thereafter.

If a business or property owner remains unsatisfied with the proposed avoidance, mitigation or compensation measures and/or measures that were implemented or proposed by the Applicant as a result of an Executive Review, a business or property owner may elect to participate in non-binding mediation (Mediation) with the Applicant. The Applicant shall participate in such mediation. An independent mediator shall be selected from among the list of NH Superior Court Neutrals.

Further Ordered that, if a business or property owner's concerns remain unresolved following Mediation and a business owner or property owner suffers damage to property, loss of business, or loss of income, and/or diminution in value of real property, as a

result of construction or operation of the Project, a business or property owner may elect to have the dispute resolved through the Dispute Resolution Process described below. The Dispute Resolution Process is not mandatory, but, if a party elects to utilize the Dispute Resolution Process, that party waives the right to file suit on the disputed issues in court and request trial by jury, and the Dispute Resolution Process becomes the exclusive forum for deciding all disputed issues.

Further Ordered that, the Administrator shall appoint an attorney or retired judge (the "Dispute Resolution Administrator") who shall independently administer a dispute resolution process for all disputes relating to damage to property, loss of business, or loss of income, and/or diminution in value of real property, caused by the construction or operation of the Project (the "Dispute Resolution Process") that have not been resolved through Applicant's mitigation efforts, Executive Review, or Mediation. Counsel for the Public and Applicants shall jointly or separately file with the Administrator proposed procedures for filing and deciding said disputes, including criteria for eligibility, a procedure for filing claims, required proof of the damage, loss, or diminution, the presentation and consideration of claims, the basis for recovery and the manner of deciding claims. The Applicant shall establish a fund for the payment of claims ("Dispute Resolution Fund") which fund shall be solely administered by the Dispute Resolution Administrator, who shall provide to the Administrator a quarterly report of the Dispute Resolution Fund, including all disbursements with a copy to the Applicant. The Dispute Resolution Administrator shall be paid an hourly rate to be determined by the Administrator, and said compensation and all expenses of the Dispute Resolution Administrator shall be paid from the Dispute Resolution Fund, subject to approval by the Administrator. Upon issuance of a certificate, Applicants shall deposit One Hundred Thousand (\$100,000) Dollars to establish the Dispute Resolution Fund and shall thereafter deposit any additional funds necessary to pay all awards made by the Dispute Resolution Administrator and to pay the Dispute Resolution Administrator's compensation and expenses. The Dispute Resolution Administrator shall accept written requests for dispute resolution until the two-year anniversary date of the date when the transmission line is placed in service. The Dispute Resolution Administrator shall process and provide to the requesting party, the Applicant and the Administrator a confidential written decision ("Decision") on all written requests for dispute resolution filed with the Dispute Resolution Administrator prior to said deadline. The Decision and any reconsideration thereof shall be final, non-appealable and non-

precedential. All funds remaining in the Dispute Resolution Fund after the payment of all awards and the payment of the Dispute Resolution Administrator's compensation and expenses shall be returned to Applicants.

The Subcommittee also finds that site visits may be beneficial and provide relevant and important evidence that should be considered by the Dispute Administrator. Either party participating in the Dispute Resolution Procedure may request the Dispute Resolution Administrator to conduct a site visit and the Dispute Resolution Administrator, at his/her own discretion, based on the arguments presented, may decide whether to conduct the site visit.

Subject to the conditions stated above, the Subcommittee finds that the Project's impacts on the economy will not unduly interfere with the orderly development of the region.

4. Real Estate Values

a. Positions of the Parties

(1) Applicant

The Applicant asserts that the Project will not have an unreasonable adverse effect on real estate values. App. 1, at 124-126. The Applicant pre-filed the testimony of Dr. James Chalmers and reports entitled "High Voltage Transmission Line and New Hampshire Real Estate Markets: A Research Report" (as revised on July 15, 2018) and "High Voltage Transmission Lines and Real Estate Market in Massachusetts and Connecticut: A Research Report." App. 12, 82, 147, 65; App. 147, Att. A, B.

Dr. Chalmers testifies that he determined the impact of the Project on values of real estate in New Hampshire by: (i) summarizing existing knowledge and literature on the effects of high voltage transmission lines (HVTL) on real estate markets; and (ii) supplementing this knowledge with New Hampshire-specific research initiatives. App. 12, at 2.

Dr. Chalmers asserts that studies and literature indicate that high voltage transmission lines generally do not affect the value of commercial and industrial properties. App. 12, at 3; App. 65, at 11. The only exemption is when the development is constrained so it reduces the income-producing potential of the property. App. 12, at 3.

As to vacant land, Dr. Chalmers asserts that studies and literature indicate that the vacant land's value rarely is impacted by the lines. App. 12, at 3. He identifies, however, two exceptions to said conclusion: (i) development is constrained by the right-of-way; or (ii) the lines are the principal differentiating feature of otherwise similar parcels. App. 12, at 3.

As to the residential properties, Dr. Chalmers asserts that only half of the studies found some negative proximity effects. App. 12, at 4. Dr. Chalmers claims that effects found are small (1-6% range) and decrease rapidly with distance from the lines. App. 12, at 4; App. 65, at 7-8.

Dr. Chalmers further asserts that he reviewed the following studies to ascertain the Project's potential impact on real estate values: (i) case studies – analyses of 78 individual residential sales of properties crossed by or bordered by the lines in New Hampshire and 42 residential sales in Massachusetts and Connecticut; (ii) subdivision studies – analyses of the sale of unimproved lots before homes have been built; and (iii) market activity research – a review of Multiple Listing Service data to see if there is evidence of market resistance to “for sale” properties based on their location to the high transmission lines corridors. App. 12, at 4-9; App. 147, at 1-2, 5.

As to the subdivision studies, Dr. Chalmers asserts that 8 out of 13 subdivision studies demonstrated no marketing time effect associated with the lines. App. 12, at 9; App. 65, at 93. The effect on the marketing time was observed where lots were heavily encumbered by the lines. App. 12, at 9; App. 65, at 93.

As to the market activity research, Dr. Chalmers acknowledges that “caution must be used in drawing conclusions based on relatively small numbers of observations.” App. 12, at 10. He asserts, however, that the market activity research indicates no systematic market disadvantage of properties abutting, encumbered or proximate to the lines as compared with properties at a greater distance from the lines. App. 12, at 10; App., at 126.

Dr. Chalmers asserts that case studies demonstrate that, of the 120 properties studied: (i) 25 properties had a sale price effect; (ii) 75 properties had no sale price effect; and (iii) 20 cases had mixed evidence and no conclusion of effect or no effect could be made. App. 147, at 6. Out of 25 properties with the sale price effect: (i) 23 properties had homes within 100 feet of the right-of-way boundary; (ii) 19 properties had clear visibility of one or more structures; and (iii) 22 were encumbered by the right-of-way. App. 147, at 7. Dr. Chalmers opines that the number of cases and the consistency of the results provide the basis for reliable generalization about how groups of properties with certain characteristics will experience adverse sale price effects due to the lines. App. 147, at 8.

The effect on the value of 25 properties varied from 1.6% to 17.9% with an average of 7.3%. App. 147, at 9. Dr. Chalmers opines these values cannot be taken literally as evidence of the effect because a conclusion of the effect in any particular case “would require a more complete evaluation of the strength of the comparable sales in the appraisal, the interview evidence, other particular characteristics for the property and its location and possible atypical motivations of the buyer and seller.” App. 147, at 9.

Dr. Chalmers acknowledges that statistical research is better suited than the case studies to identify the magnitude of possible sale price effects. App. 147, at 8. The multiple regression work in the study areas in Massachusetts and Connecticut has found no evidence of price effects.

App. 147, at 8. No comparable statistical studies were conducted in New Hampshire. App. 147, at 9.

Dr. Chalmers further acknowledges that no case studies were conducted for the effect of transmission lines constructed in the right-of-way with previously existing distribution lines. Tr., Day 7, 09/24/2018, Morning Session, at 25-26.

Specific to the Project, Dr. Chalmers provides the following general statement:

Should these properties come to market subsequent to Project construction under conditions similar to those that characterized the case study research, I would expect that some would experience adverse sale price effects and some would not. To the extent that there were adverse effects, some would be due to the pre-existing condition and some to the Project. What would actually happen in the sale of a particular property, however, cannot be presumed. The result for any individual property would be specific to the characteristics of the property relative to what was available in the market at that time, to the particular motivations of the seller and potential buyers, to overall market conditions at the time of the sale and to the extent that mitigation actions had successfully reduced the effect of the HVTL on the property.

App. 147, at 3.

Based on the results of the case studies and on the fact that the Project will be within the existing right-of-way, Dr. Chalmers concludes that three factors may impact the value of the properties: (i) the proximity of the house to the right-of-way; (ii) the visibility of the structures before and after construction of the Project; and (iii) the extent to which the property is encumbered by the right-of-way easement. App. 147, at 11; Tr., Day 7, 09/24/2018, Morning Session, at 7-8. Dr. Chalmers considered these factors and analyzed the effect the Project may have on the value of residential real estate (residences) within 300-feet of the Project right-of-way. App. 147, at 11; Tr., Day 7, 09/24/2018, Afternoon Session, at 23. Dr. Chalmers identified 63 homes within 300-feet of the right-of-way. App. 147, at 19. He and his assistants

ascertained the extent of change in visibility of the transmission structures that will be caused by the Project. App. 147, at 11; Tr., Day 7, 09/24/2018, Afternoon Session, at 63. Dr. Chalmers assessed visibility of existing power lines and the Project's potential visibility by conducting the site visits, observing the properties and the right-of-way from public roads or the right-of-way, examining aerial imagery, and examining engineering plans and profile sheets. App. 147, at 11; Tr., Day 7, 09/24/2018, Afternoon Session, at 5-6. The visibility was assessed as it will appear from the perimeters of the houses. Tr., Day 7, 09/24/2018, Morning Session, at 87-88.

Dr. Chalmers identified 12 out of 63 properties that are within 100-feet of the right-of-way, have clear visibility of the existing line, and all but one is encumbered by the right-of-way. App. 147, at 20. Dr. Chalmers asserts that the implication of a case study demonstrates that, if these properties came to market over some period of time before construction of the Project and if the circumstances of the sales were similar to what was observed on the historical case studies, "as many as half" might experience some adverse sale price effect due to the existing right-of-way. App. 147, at 20; Tr., Day 7, 09/24/2018, Morning Session, at 43-45.

Within 100-feet of the right-of-way, after construction of the Project: (i) 1 property out of 12 will have a change in visibility of the transmission line from none to clear; and (ii) 3 properties will have a change in visibility from partial to clear. App. 147, at 21; Tr., Day 7, 09/24/2018, Morning Session, at 124-25. Dr. Chalmers concludes that the Project may "incrementally" increase the chance of the sales price effect for these properties. App. 147, at 21. He states, however, that what would happen in fact "would depend on the specific circumstances of the parties to the transaction, the property and the market at the time of the sale." App. 147, at 21.

Dr. Chalmers acknowledges that he did not evaluate the effect of the Project on values of houses for which the partial visibility of the Project will increase drastically but will not rise to the level of “clear” visibility. Tr., Day 7, 09/24/2018, Morning Session, at 103, 125. He also testifies that he assessed the impact of the Project on values of houses only and did not consider the impact on other value defining features of the properties. Tr., Day 7, 09/24/2018, Afternoon Session, at 27-28.

Specific to the Intervenor’s properties, Dr. Chalmers testifies that, although he looked and considered the potential impact on the Intervenor’s properties, he did not independently assess the impact on individual properties. Tr., Day 7, 09/24/2018, Afternoon Session, at 54-55.

He confirms that, depending on the tide, the concrete mattresses may be visible from the properties owned by Jeff and Vivian Miller for up to a couple of hours. Tr., Day 3, 09/17/2018, Afternoon Session, at 126-128. He opines, however, that the Project likely will not impact the value of the Millers’ property. Tr., Day 7, 09/24/2018, Afternoon Session, at 13-14, 56.

Dr. Chalmers did not address the impact on the value of Mr. Frizzell’s property because, while his property is encumbered by the right-of-way, his house is located approximately 400-feet from the right-of-way. Tr., Day 7, 09/24/2018, Morning Session, at 80-81. Dr. Chalmers also did not evaluate the effect on Ms. Frink’s property, also encumbered by the right-of-way, because Ms. Frink’s house is located beyond 300-feet from the right-of-way. Tr., Day 7, 09/24/2018, Morning Session, at 92-94. Dr. Chalmers opines that the Project will have a positive impact on the value of the Darius Frink Farm where it will eliminate several existing structures and associated infrastructure. Tr., Day 7, 09/24/2018, Afternoon Session, at 64.

Dr. Chalmers opines that the underground sections of the Project will not affect property value because the Project will not be visible. App. 147, at 7.

As to the impact on the value of UNH, Dr. Chalmers opines that the value of UNH is defined by the function it serves. App. 147, at 10. The Project will not affect its function and, therefore, will not affect its value. App. 147, at 10.

He also opines that the Project will not affect the value of commercial and industrial properties because it will be located within the existing right-of-way. App. 147, at 10.

As to vacant land, Dr. Chalmers argues that it is unlikely that the vacant land through which the Project passes will experience new development. App. 147, at 10. Dr. Chalmers disputes the validity of the study conducted by Chris Mothorpe and David Wyman which determined that vacant lots adjacent to high-voltage transmission lines sell for approximately 45 percent less than the lots that are not adjacent to the lines. Tr., Day 7, 09/24/2018, Morning Session, at 33-34. Dr. Chalmers opines that this study failed to differentiate between types of sales and provided unreliable and unsupported conclusions. Tr., Day 7, 09/24/2018, Morning Session, at 33-35. Dr. Chalmers admits that he did not conduct a separate study of the potential effect of the Project on vacant land along the route. Tr., Day 7, 09/24/2018, Morning Session, at 29-30. He also did not analyze the impact of the Project on the value of conservation easements. Tr., Day 7, 09/24/2018, Morning Session, at 95-96. Dr. Chalmers concludes, however, that the Project will have no impact on the value of vacant land. App. 147, at 10-11; Tr., Day 7, 09/24/2018, Morning Session, at 58.

Based on his research and studies, Dr. Chalmers concludes that “[g]iven the small number of properties involved . . . there will be no discernable effects in local or regional real estate markets due to the Seacoast Reliability Project.” App. 147, at 23.

(2) Counsel for the Public

Counsel for the Public argues that “Dr. Chalmers’ opinion that the Project will not have a negative impact on the value of properties that are encumbered by the Project, that abut the Project, or that are non-abutters with significant views of the Project is, however, only a generalized opinion not adequately supported and based on a subjective, coarse, and inaccurate methodology.” *See* Post-Hearing Brief, at 17. Counsel for the Public opines that Dr. Chalmers’ methodology is overly simplistic and relies on subjective determination of change in visibility that was not verified by objective metric such as a viewshed modeling. *See* Post-Hearing Brief, at 18.

Counsel for the Public and the Applicant agreed that the property owners claiming that the value of their properties are effected by the Project may utilize the dispute resolution procedure in Section V.E.3.b., above.

(3) Town of Newington

Newington requests that the Subcommittee order the Applicant to implement the property value guarantee that was proposed in Northern Pass docket. *See* Post Hearing Brief, at 57.

(4) Individual Intervenors

Keith Frizzell disagrees with Dr. Chalmers’ conclusion that the Project will have no discernible effect on property values or marketing time. KF 1, at 3. Mr. Frizzell argues that, all being equal, a property with a visual effect caused by a transmission line will have lower value and will stay on the market longer than property without such impact. KF 1, at 3. The Project will cross Mr. Frizzell’s property at 24 Fox Point Lane in Newington. KF 1, at 1-2. He argues that it will have a negative impact on his property value, but the degree of such impact can be determined only at the time of the sale of his property. KF 1, at 3.

Donna McCosker opines that Dr. Chalmers' report is unreliable where he failed to determine the visibility of the Project at leaf-off condition, based determination of visibility not from the properties impacted, and failed to account for the change in visibility that does not result in "clear" visibility. *See* Post-Hearing Brief, at 10-12. She argues that the Project will have an adverse effect on the value of her property at 220 Longmarsh Road in Durham. DR 1, at 20. Her property is within the parameters set forth by Dr. Chalmers as it is located less than 100-feet from the right-of-way and will have clear visibility of the transmission infrastructure that it currently does not have. DR 1, at 20. She opines that the impact on her property may be minimized by reconfiguring the Project so its structures are moved away from her house. DR 1, at 21-22. She requests that the Subcommittee order the Applicant to compensate her for permanent and temporary loss of the value caused by the Project. DR 2, at 8. She opines that the Subcommittee should order the Applicant to hire an independent appraiser who can determine the value of such loss. DR 2, at 8.

Matthew and Amanda Fitch reside at 291 Durham Point Road in Durham. DR 4, at 1. They assert that the Project will be constructed within the right-of-way that crosses their property and will be visible from their property. DR 4, at 4. They argue that the Project will change the rural character of their property, making it less marketable. DR 5, at 2. They claim that their property qualifies under Dr. Chalmers' criterion. DR 4, at 8. They criticize Dr. Chalmers' report based on a Washington Post article reporting that it was not reliable and on the fact that Dr. Chalmers was reimbursed for his services by the Applicant. DR 5, at 3-4. They estimate that the Project may cause their property to decrease in value by up to 30%. DR 5, at 2-4. They request that the Subcommittee order the Applicant to implement a property value guarantee that would compensate them for the negative impact on the value of their real estate. DR 4, at 9.

Regis Miller owns real estate adjacent to the right-of-way in Little Bay and the right-of-way off of Durham Point Road. DR 10, at 1. Dr. Miller asserts that she cannot see existing structures from her home. DR 10, at 4-5. She argues that the Project will be visible from her home. DR 10, at 5. She states that vegetation clearing will also make her neighbors visible from her property. DR 10, at 5. She opines that visibility of the Project and her neighbors will have a negative impact on the value of her real estate. DR 10, at 3.

Jeff and Vivian Miller argue that the Project will have an adverse effect on the value of their property at 297 Durham Point in Durham. DR 7, at 1. They assert that a new seventy-three foot transition pole will be constructed within fifteen-feet of their driveway and entrance to their home and will be clearly visible from their property. DR 7, at 7; DR 8, at 4. They argue that their property will be located closer than 100-feet to the Project and will have visibility of the structure they previously did not have. DR 7, at 14. They conclude that their property qualifies under criterion set forth by Dr. Chalmers. DR 7, at 14; DR 8, at 4. They request that the Subcommittee order the Applicant to implement a property value guarantee. DR 7, at 15.

b. Deliberations

Dr. Chalmers limited the area of impact to 100-feet, while his analysis demonstrates that values of the houses located beyond 100-feet may be impacted. He opined that the value will be impacted only if the Project was not previously visible and will become visible from the property or was partially visible and will become clearly visible. He failed to account, however, for significant change in visibility that will not result in clear visibility. He did not analyze the impact on property values by concrete mattresses, but provided a conclusory statement that there will be none. He did not consider and evaluate specific features of the New Hampshire economy and real estate market. Ultimately, Dr. Chalmers' reports demonstrate that the Project will be

partially or clearly visible from 29 properties. It is reasonable to conclude, depending on the extent of increase in visibility of the Project, that the Project will have some effect on values of some of these properties.

Considering the shortcomings of Dr. Chalmers' testimony and report, it is reasonable to conclude that the Project will have some effect on values of additional properties, whether from visibility change or other Project impacts.

The effected property owners, however, may address and mitigate such impacts by utilizing the Dispute Resolution Procedure. The procedure will allow them to either mitigate the impacts or receive financial reimbursement for such impacts. It will be available to all property owners who can verify the impact on the value of their property and may be initiated up to two-years after construction of the Project is completed. Counsel for the Public does not dispute this procedure will allow for effective mitigation of the Project's impacts on values of real estate. Considering Dr. Chalmers' conclusion that only a limited number of properties will be impacted and property owners may mitigate such impacts, regardless of its degree and location of the property, through Dispute Resolution Procedure, the Subcommittee finds that the impacts of the Project on the value of real estate will not unduly interfere with the orderly development of the region.

5. Tourism

a. Positions of the Parties

(1) Applicant

The Applicant argues that the Project will have no adverse impact on tourism in the region. App. 1, at 126-127. The Applicant filed a report entitled "Review of Tourism and

Regional Recreation on the Seacoast Region” and the testimony of Mr. Varney to support its position. App. 146, at 14; App. 146, Att. B.

Mr. Varney identified tourist-oriented sites near the Project by reviewing information provided by the New Hampshire Division of Travel and Tourism, regional chambers of commerce, local communities, businesses, and other organizations. App. 146, at 14; App. 146, Att. B, at 5-7. He visited each tourist-oriented site in the vicinity of the Project. App. 146, at 14. He concludes that, while there are numerous destinations, activities, and events in the Seacoast region, there are no major tourist attractions located adjacent to or near the right-of-way. App. 146, at 15.

Mr. Varney did not perform a survey or other analyses to determine construction impacts on tourism. Tr., Day 8, 10/11/2018, Morning Session, at 106-07. He did consider, however, whether parking spaces will be available during construction of the Project for the tourists who will visit tourism-oriented businesses and trails. App. 146, at 14; Tr., Day 8, 10/11/2018, Morning Session, at 106-08.

Mr. Varney concludes that construction of the Project will have a temporary impact on UNH events and athletic facilities,⁴⁰ water-based activities on Great Bay/Little Bay (including tours conducted by Portsmouth Harbor Cruises and Gundalow Company), the historic district in Newington, and the Crossing Mall in Newington. App. 146, at 15. The impact, however, will be limited and temporary and will be minimized through outreach and communications with affected parties. App. 146, at 15.

⁴⁰ The Whittemore Center, Dairy Bar/Amtrak Station, UNH Field House/Wildcat Stadium, and Paul Creative Arts Center. App. 146, at 15.

Mr. Varney concludes that the Project will not have an adverse effect on tourism or recreation in the region. App. 146, Att. B, at 27.

(2) Counsel for the Public

Counsel for the Public did not file testimony addressing the impact on tourism. Counsel for the Public, however, criticizes Mr. Varney's testimony and states that "his analysis is based solely on his personal opinion, with no supporting analysis." *See* Post-Hearing Brief, at 20. Mr. Varney did not conduct surveys to verify his conclusion of no effect and did not analyze how visibility of the Project from the number of tourism attractions will change. *See* Post-Hearing Brief, at 20. Counsel for the Public concludes that "[w]hile Mr. Varney expressed an opinion that the Project will have no effect on recreational activities or tourism-based businesses, his analysis was not based on any particular expertise nor was it rooted in a sound analytical methodology." *See* Post-Hearing Brief, at 22.

(3) Town of Durham

Mr. Selig opines that, based on the topography of Little Bay and his observations of the shore, the Applicant underestimates the amount of concrete mattresses that will be installed and, consequently, underrepresents their impact on recreation. Day 10, 10/16/2018, Afternoon Session, at 112.

(4) Individual Intervenors

Regis C. Miller argues that the Project will have an adverse effect on Little Bay and, consequently, will have an adverse effect on tourism activities in this area. DR 10, at 2-3.

b. Deliberations

Mr. Varney demonstrated that he is very familiar with the tourism industry and tourist destinations in the Seacoast area. He demonstrated that he understands and appreciates the

importance of recreational resources in New Hampshire and an understanding of developmental patterns and tourism in the Seacoast. He has personal knowledge of the UNH campus. The Subcommittee finds Mr. Varney credible and gives due consideration to his testimony.

Mr. Varney did not conduct surveys. He demonstrated, however, the level of familiarity with tourism destinations that the Subcommittee considers while addressing his conclusions of the impacts.

Mr. Varney's report was also criticized because it failed to specifically address the impact of the Project on recreational trails. A review of the record demonstrates, however, that Mr. Varney analyzed the impact on trails and concluded in his report on land use that the Project will not interfere with recreational use of trails.

Durham and Newington argue that the Project will have an unreasonable adverse effect on tourism related businesses in the Towns. They fail, however, to quantify such impacts. The effect caused by construction of the Project will be temporary and limited in scope. It does not rise to the level of unduly interfering with the orderly development of the entire region.

The Project will have some impact on aesthetics of tourism destinations, but it will not have an unreasonable adverse effect on aesthetics or tourism. It is unlikely that views of the Project will preclude the public from going to and enjoying various tourism destinations. Nothing in the record indicates that the modest tourism impacts will unduly interfere with the orderly development of the region.

6. Financial Assurances for Decommissioning

The Applicant does not anticipate the need for decommissioning of the Project. App. 4, at 6. If, however, the Project must be decommissioned, the Applicant will begin collecting future decommissioning costs through the FERC-approved transmission tariff. App. 4, at 6.

As provided in the Order on Applicant's Motion for Partial Waiver of the Requirements of N.H. Code Admin. Rules, Site 301.08(d)(2), the Subcommittee determined that the Applicant, through the Application, the pre-filed testimony of Michael Ausère,⁴¹ and under the FERC-approved transmission tariff, provided a satisfactory alternative mechanism for recovering the cost of decommissioning if it becomes necessary at some future date.

7. Land Use and Views of Municipal and Regional Planning Commissions and Municipal Governing Bodies

a. Positions of the Parties

(1) Applicant

(a) Land Use

The Applicant argues that the Project will have a "minimal" effect on land use in the region. App. 1, at 117. The Applicant declares that the right-of-way where the Project will be constructed was in place and used for the siting and operation of distribution and transmission lines since early to mid-20th century. App. 1, at 116. The Applicant acknowledges that the land usage along the right-of-way significantly changed since the time when it was put in place. App. 1, at 116. It asserts that, even considering recent developments, the construction and operation of the Project will have an insignificant effect on land use in the region. App. 1, at 117.

⁴¹ Adopted by Aaron Cullen.

In support of its position, the Applicant filed a report entitled “Review of Land Use and Local and Regional Planning, The Seacoast Reliability Project” (Land Use Report). App. 63, 100; App. 146, Att. A. The Applicant also pre-filed the testimony of Robert Varney (original, amended, and supplemental). App. 13, 81, 146.

Mr. Varney opines that the existing electric transmission right-of-way is the prevailing land use for the Project corridor. App. 146, at 3. He acknowledges that 34.5 kV distribution line currently existing within the right-of-way is different in size and appearance from the Project. Tr., Day 8, 10/11/2018, Morning Session, at 44-46. He submits, however, that adding the Project to the right-of-way will not change the character and use of the easement where it will continue to be used for electric lines purposes. Tr., Day 8, 10/11/2018, Morning Session, at 49-51, 78-79.

Mr. Varney also concludes that adding the Project to the right-of-way will not change the character of adjacent land uses. App. 143, at 4; Tr., Day 8, 10/11/2018, Morning Session, at 49. Specifically, Mr. Varney identifies the following prevailing land uses in the area crossed by the right-of-way: (i) forests; (ii) agriculture; (iii) aquaculture; (iv) residential; (v) commercial/industrial; (vi) recreation; (vii) transportation; (viii) utilities; (ix) conservation; (x) historical and archaeological; (xi) wetlands and water resources; (xii) wildlife habitat; and (xiii) institutional/government. App. 1, at 116; App. 100; App. 143, at 3; App. 143, Att. A, at 5.

Mr. Varney testifies that the Project will not interfere with the management or timber harvesting of forests located along the right-of-way because it will be located within or along an existing corridor in which routine maintenance of the right-of-way occurs according to established management practices. App. 100, at 7; App. 146, Att. A., at 6-7.

Mr. Varney explains that there are few agricultural uses, *i.e.* hay, pasture or corn, within or near the right-of-way. App. 1, at 116; App. 146, Att. A., at 7. He concludes that the Project “will not have an adverse impact on agricultural uses and will not interfere with ongoing operations.” App. 100, at 7; App. 146, Att. A., at 9. Mr. Varney also asserted that the Applicant will work with agricultural landowners to minimize and mitigate any temporary impacts the Project may have during construction. App. 100, at 7; App. 146, Att. A., at 9.

Mr. Varney testifies that residential development along the right-of-way is primarily low density single family dwellings, moderate density suburban single family neighborhoods constructed around cul-de-sac roads and other newer roadways, and some areas with denser development. App. 146, Att. A., at 10. Mr. Varney asserts that there are relatively few homes in close proximity or adjacent to the right-of-way. App. 146, Att. A., at 12. The majority of residential dwellings were constructed after the existing right-of-way was established. App. 100, at 8; App. 146, Att. A., at 6-7. The Applicant will coordinate with land owners near the corridor to address concerns about impacts associated with construction of the Project. App. 100, at 8; App. 146, Att. A., at 12.

Mr. Varney avers that construction and operation of the Project will not interfere with ongoing commercial or industrial activities present near the existing right-of-way. App. 146, Att. A., at 13; Tr., Day 7, 09/24/2018, Afternoon Session, at 125. He testifies that the Applicant has already conducted an extensive outreach to local businesses and residents and accommodated some of the expressed concerns by reconfiguring the Project. App. 146, Att. A., at 13. The Applicant is committed to continue to work with the municipalities, UNH, and nearby businesses to minimize any temporary impacts from construction of the Project. App. 100, at 8; App. 146, Att. A., at 13.

Mr. Varney testifies that a number of licensed aquaculture sites may be impacted by construction of the Project in Little Bay. App. 146, Att. A., at 10. Based on reports addressing the Project's impact in Little Bay, Mr. Varney opines that sediment concentrations will be within the natural variability observed in the estuary. App. 146, Att. A., at 10.⁴²

Mr. Varney opines that the Project will not interfere with rail, airport, and transit facilities. App. 146, Att. A., at 14-21. The Applicant will cooperate and coordinate with Pan Am Railways, Amtrak, UNH, and DOT to ensure that the Project meets all appropriate requirements and will not affect railroad operations. App. 146, Att. A., at 14. The Project will not interfere with the operation of the Portsmouth International Airport. App. 146, Att. A., at 14-15. He also opines that the Project will not interfere with traffic on municipal roads because the Applicant will coordinate with the local communities and will implement avoidance, mitigation, and minimization measures for traffic on these roads. App. 146, Att. A., at 15-21.

Mr. Varney acknowledges that the Project will cross a number of underground utility systems, including natural gas transmission, water distribution, and steam pipes. App. 100, at 10; App. 146, Att. A., at 21. The Applicant will coordinate with UNH, Pease International Tradeport, municipalities, and other entities to ensure that construction of the Project will not impact their utilities. App. 146, Att. A., at 22.

Mr. Varney opines that the Project will not affect the use of recreational facilities in Madbury, Durham, Newington, and Portsmouth. App. 146, Att. A., at 22-25. Construction of the Project will have a temporary impact on recreational facilities at UNH – the Whittemore Center Arena, UNH Hamel Recreation Center, Wildcat Stadium, and Fieldhouse. App. 146, Att. A., at 22-23. A Memorandum of Understanding between the Applicant and UNH contains

⁴² The Project's impact on local business, including oyster farms, is addressed in detail in Section V.E.3., above.

measures designed to minimize and mitigate the Project's impact on these facilities. App. 146, Att. A., at 23; App. 267.

Regarding impacts to open space and trails, Mr. Varney identifies parcels that are accessible to the public for outdoor recreation and that are located near or within the existing right of way: (i) Durham - UNH Horticulture Farm (Old Reservoir), College Woods, East Foss Farm, West Foss Farm, Thompson Farm, LaRoche and Woodman Brook, Surry Lane Open Space, Kitfield Tract, Longmarsh Preserve, Chase Preserve, and Rollins III; and (ii) Newington – the Flynn Pit and the Darius Frink Farm Parcel. App. 100, at 11-13; App. 146, Att. A., at 27. Mr. Varney concludes that the Project will not have an adverse impact on conservation or open space land because it will be located within the existing right-of-way that, in many cases, predates the conservation designation and provides a suitable location for minimization of the visual impacts. App. 146, Att. A., at 28. The Applicant will work with parcel owners and municipalities to minimize visibility of the Project. App. 146, Att. A., at 28. The Project will not impact the on-going management of these properties. App. 146, Att. A., at 28.

Mr. Varney testifies that the Memorandum of Understanding executed by the Applicant and UNH contains mitigation and minimization measures addressing the impact on institutional and government land use at UNH. App. 146, Att. A., at 33-34.

The Applicant acknowledges that construction of the Project will cause some temporary adverse effect on land use by causing traffic-related noise, traffic diversion, clearing of vegetation, use of laydown areas for equipment and materials, installation of soil erosion control, dust control, excavation, use of heavy equipment, and other associated construction activities. App. 1, at 117; Tr., Day 7, 09/24/2018, Afternoon Session, at 127-128. Mr. Varney asserts, however, that these activities will be temporary and will be conducted in accordance with best

management practices. App. 146, at 7; App. 146, Att. A., at 37; Tr., Day 7, 09/24/2018, Afternoon Session, at 128-129. The Applicant will coordinate the construction process with the host communities and property owners to minimize the impact. App. 146, at 6-7; App. 146, Att. A., at 37.

Mr. Varney reports that the Applicant conducted extensive outreach to municipalities, residents, businesses, regional planning commissions, and other entities, and modified the configuration and appearance of the Project in response to concerns. App. 146, at 3-4.

According to the Land Use Report, “[t]he Project is generally consistent and reasonably compatible with prevailing land uses.” App. 146, Att. A., at 34.

Mr. Varney concludes that “[d]ue to the context of the landscape and the final Project design – which accounts for significant design modifications made by the Applicant in consultation with host communities – the addition of [the Project] to the existing [right-of-way] will not change the character of the adjacent land uses.” App. 146, at 4.

(b) Views of Municipal and Regional Planning Commissions and Municipal Governing Bodies

To address the views of municipalities and regional planning commissions, as expressed in their governing documents, the Applicant filed reports entitled “Review of Master Plans in Abutting Municipalities: Seacoast Reliability Project” (Master Plans Report) and “Review of Land Use and Local and Regional Planning, The Seacoast Reliability Project” (Land Use Report). App. 102, 63, 100; App. 146, Att. A, B. The Applicant also pre-filed the testimony of Robert Varney (original, amended, and supplemental). App. 13, 81, 146.

As to the regional plans, Mr. Varney asserts that the Strafford Regional Planning Commission’s regional plan (“Local Solutions for the Strafford Region”) does not directly address the Project. App. 146, Att. A, at 40. He opines, however, that the Project will be

consistent with the plan because it will protect and reinforce existing land use development patterns and will provide regional reliability of the electric grid that will cause further economic growth of the region. App. 146, Att. A, at 40.

The Rockingham Planning Commission's 2015 Regional Master Plan contains the energy chapter that discusses grid modernization, the potential benefits of better outage response time, increased reliability, and improved efficiencies for transmission utilities. App. 146, Att. A, at 41. Mr. Varney opines that the Project will follow this regional plan because it will improve grid reliability. App. 146, Att. A, at 42.

As to the municipal plans, Mr. Varney argues that, in general, the Project is in line with the overall planning principals and goals expressed in the master plans that do not specifically address energy projects. App. 146, at 9.

Durham's Master Plan's vision statements states:

In 2025 and beyond, Durham is a balanced community that has successfully maintained traditional neighborhoods, natural resources, rural character, and time-honored heritage, while fostering a vibrant downtown, achieving energy sustainability, and managing necessary change. Durham has effectively balanced economic growth, which has been essential in supporting our schools, resources, and town services, and stabilized property taxes. Durham has encouraged mixed residential and commercial development in and near the downtown including retail establishments, offices, services, eateries, and other businesses that serve local needs and interests while attracting visitors from neighboring vicinities. In designated areas beyond downtown, balanced development was accomplished by prudently integrating our community's range of values. Through forward-thinking engagement on the part of our citizens and town government, in tandem with continued pursuit of a productive partnership with UNH, our vision for Durham was realized.

App. 146, Att. A, at 49.

Factors that contribute to community character and the quality of life, as identified by the Town, include natural beauty; recreation; strong school system; cultural, agricultural and historic resources; engaged citizenry; and the university. App. 146, Att. A, at 49. Quality of life factors that the Town wants to achieve include diversity; better integration with the university; a vibrant downtown; finding balance between economic development and retaining small town characteristics; and finding a balance in the partnership with the university. App. 146, Att. A, at 49.

The Energy Chapter of the Master Plan discusses “three pillars” of energy policy: (i) building design and land use; (ii) transportation; and (iii) alternative and renewable energy sources. App. 146, Att. A, at 49. Mr. Varney asserts that the Applicant has addressed several concerns raised by the Town by reconfiguring the Project and reducing its visual impact. App. 146, Att. A, at 51. He opines that many of these changes addressed the visual elements of community character and quality of life as expressed in the Master Plan. App. 146, Att. A, at 51. The Applicant’s outreach efforts were consistent with the goal of strengthening the partnership between the Town and UNH because they involved joint meetings. App. 146, Att. A, at 52. Mr. Varney also argues that, because the Project will be constructed within the existing right-of-way, it will support the goal of the Natural Resources Chapter of reduction of the trend of continued lost forestland and other natural areas. App. 146, Att. A, at 52.

Durham’s Zoning Ordinance defines a “Public Utility Facility” as:

A public service corporation performing some public service and subject to special governmental regulations, or a governmental agency performing similar public services, the services by either of which are paid for directly by the recipients thereof. Such services shall include, but are not limited to, water supply, electric power, telephone, television cable, gas and transportation for persons and freight.

App. 146, Att. A, at 53.

Mr. Varney asserts that it is unclear whether this definition applies to linear projects. App. 146, Att. A, at 53. If it does, it would prevent the development of lines for cables, telephone, gas, transportation, and electricity throughout the Town. App. 146, Att. A, at 53. Public utility facilities are not permitted in the Residence B District. App. 146, Att. A, at 54. The Project will cross the railroad tracks and will pass through the Residence B District near Mill Road in Durham. App. 146, Att. A, at 53.

Mr. Varney acknowledges that Newington's Master Plan requires construction of electric utility services, including transmission lines, underground and states that under no circumstances should utility infrastructure improvements such as high voltage transmission lines be permitted to be constructed aboveground within an existing easement that bisect the residential district. Tr., Day 8, 10/11/2018, Morning Session, at 33-34.

Mr. Varney acknowledges that Newington's Master Plan's Developmental Policies seek to maintain and improve resources within the Town, while responsibly expanding commercial development. App. 146, Att. A, at 55. It also identifies the protection of the quality of the Town's residential areas as central to the Master Plan. Tr., Day 8, 10/11/2018, Morning Session, at 32. Mr. Varney concludes that the Project "appears to be reasonably consistent" with the Development Policies in Newington's Master Plan. App. 146, Att. A, at 56.

Mr. Varney acknowledges that Newington requests construction of the Project underground. App. 1, at 118-119; App. 100, at 21; App. 146, at 10; Tr., Day 8, 10/11/2018, Morning Session, at 46-47. He argues that the Applicant has considered and partially addressed the Town's concerns by locating the Project underground at Gundalow Landing, Little Bay Road, the pond on the Flynn Pit Town Forest parcel, the Darius Frink Farm, and Hannah Lane

neighborhood. App. 100, at 22; App. 146, at 10; Tr., Day 8, 10/11/2018, Morning Session, at 46-49. Mr. Varney also asserts that the Applicant accommodated the Town's concerns by placing portions of the existing distribution line along roadways. App. 100, at 22.

As to the overhead sections of the Project, Mr. Varney argues that the Applicant addressed Newington's concerns by reducing visibility of the Project by reconfiguring it. App. 146, at 10-11. The first section that will be located parallel to Little Bay Road before it transitions underground, was reconfigured so the height of the structures will be between 65 and 70-feet. App. 146, at 5. The existing hedgerows that grow along the sides of the roadway will block most of the views of the corridor. App. 146, at 5. The Applicant will work with residential property owners and will plant vegetative screening to further reduce visibility of the Project. App. 146, at 5. The second section that will run parallel to, and south of, Nimble Hill Road was also reconfigured. App. 146, at 5. Two structures were eliminated and longer spans between the structures were created. App. 146, at 5. The Newington Station power plant will also be visible from this area of Nimble Hill Road. App. 146, at 5. Mr. Varney concludes that, considering the minimization of the impact on the aesthetics of Nimble Hill Road and the fact that the Newington Station power plant will be visible from this portion of the road, the Project will not have a significant adverse effect on the scenic qualities of Nimble Hill Road. App. 146, at 5.

Mr. Varney opines that the Project will be generally consistent with the goals expressed in the Master Plan of Portsmouth because it will minimize impacts to land use and the environment by being constructed within the existing right-of-way. App. 146, at 11.

The Madbury Master Plan's vision statement recommends: (i) water quantity and quality protection; (ii) preservation of open space and rural character; and (ii) town center

improvements. App. 146, Att. A, at 47. Mr. Varney opines that the Project will promote the goal to preserve Madbury's rural atmosphere and landscape by using the preexisting right-of-way. App. 146, at 10.

Based on a review of the Master Plans and Zoning Ordinances, Mr. Varney opines that the Project will not interfere with their implementation and will be consistent with the policies and spirit of the planning process because: (i) it will be located along existing corridors that pre-date a lot of development in the communities; and (ii) will be consistent with the established character and land development patterns of affected municipalities. App. 1, at 118-119; App. 100, at 18-19, 26. Mr. Varney concludes that the Project will not unduly interfere with the orderly development of the region. App.13, at 7-9.

(2) Counsel for the Public

Counsel for the Public did not present witnesses with testimony specific to the orderly development of the region. In his brief, Counsel for the Public opines that "Mr. Varney's testimony and report offer limited analysis of this issue beyond his conclusory opinion that siting within an existing electric corridor will not prevent adjacent land uses." *See* Post-Hearing Brief, at 14. Counsel for the Public argues that the Subcommittee "should look beyond the narrow conception of the type of use to the actual change caused by the Project to assess whether it is consistent or inconsistent with prevailing land uses." *See* Post-Hearing Brief, at 14.

Counsel for the Public and the Applicant have stipulated to and asked the Subcommittee to adopt the following findings of fact:

Construction and operation of the overhead portion of the Project will occur entirely within existing distribution and transmission rights-of-way. Appl. 60. Construction and operation of the underground portion of the Project will occur in locally maintained roads, on the former Getchell property in Durham now owned by Eversource, and on private property on the UNH campus area in

Durham, and on the Gundalow Landing area, Flynn Pit area, the Darius Frink Farm and the Hannah Lane area in Newington, all areas where the Project has contracted to acquire new easements.

The Project will be located in four host communities: Madbury, Durham, Newington, and Portsmouth. Neither Madbury nor Portsmouth have sought to intervene in this docket or submitted any concerns to the Site Evaluation Committee about the Project. Appl. 60.

The Applicant has entered into a Memorandum of Understanding (MOU) with the Town of Newington. The Applicant indicates that it is working with the Town of Durham and the University of New Hampshire to execute MOUs.

The Applicant anticipates that it will invest approximately \$84 million in local and State infrastructure improvements with approximately \$19.1 million spent with local and state businesses and labor. Amend. to Appl. 28.

App. 184, ¶¶32-35.

Counsel for the Public and the Applicant stipulated that the Subcommittee should require the Applicant to comply with all terms and conditions of all Memorandum of Understanding entered into between the Applicant and host communities or other entities. App. 193, ¶9.

(3) Views of Municipalities and Regional Planning Commissions and Municipal Governing Bodies

On May 3, 2016, the Committee forwarded correspondence notifying the following municipalities of receipt of the Application: Newington, New Castle, Madbury, Greenland, Durham, Portsmouth, Dover, Barrington and Lee.

Newington and Durham participated as intervenors in this docket.

(a) Town of Newington

The Board of Selectmen and Planning Board of the Town of Newington argue that the Project will unduly interfere with the orderly development of the region. NEW 1, at 6-14.

Denis Hebert, on behalf of Newington, states that the Town's Master Plan, as amended by the Planning Board in February, 2015, specifically addresses the Project by stating the following:

The proposed installation of an electric transmission line between the Gundalow Landing neighborhood, through the Frink Farm heritage site, the Hannah Lane neighborhood, and continuing through the Fox Point Road neighborhood towards the Spaulding Turnpike would interject a significant visual blight upon Newington's small residential district. Such a transmission line development with utility towers at heights from 65' to 90' or higher, would have considerable negative view impacts from many homes and upon the view shed of the Town's Historic District.

It has been the town's policy to require land developers to place their electric utility service improvements in the Residential District underground. This policy should extend also to electric transmission line improvements. It is strongly recommended that electric transmission line improvements, if they must pass through Newington from East to West, that the transmission line follow the approximate route used by the PNGTS gas transmission lines that skirts the northwestern boundary of the Pease Development Authority. Such utility infrastructure improvements should be kept at the very periphery of the Residential District[,] should be placed underground, and under no circumstances should such improvements be permitted to be constructed above ground within existing easements that bisect the heart of the Residential District.

NEW 1, at 10-11; NEW 1-4; Tr., Day 11, 10/17/2018, Morning Session, at 164-165.

Mr. Hebert asserts that the Project also will be inconsistent with the goals set forth in the Town's Master Plan. NEW 1, at 6-14. The "Development Policies" section of the Master Plan states that, to ensure that the quality of life in Newington's residential areas is protected from incompatible uses, the Town's rural residential character should be preserved. NEW 1, at 7; NEW 1-3. It specifically states that electric transmission lines are "generally viewed as uses incompatible with residential uses." NEW 1, at 7; NEW 1-4; NEW 2, at 6-7.

The Master Plan expressly prohibits aboveground transmission facilities in the residential district by stating that under no circumstances should electric transmission improvements “be permitted to be constructed above ground within existing easements that bisect the heart of the Residential District.” NEW 1, at 7; NEW 1-4; NEW 2, at 7.

The “Future Land Use” section of the Master Plan states that the Town supports improvements to electrical transmission infrastructure. NEW 2, at 8-9; NEW 2-3. It further states, however, that it applies only to the improvements performed outside the residential district and would help to attract electrical generating plants to Newington’s industrial waterfront. NEW 2, at 8-9; NEW 2-3.

Mr. Hebert argues that construction and operation of the Project on the shoreline of Little Bay and in the Newington Historic District is inconsistent with the development policies requiring protection of the shoreline of Great Bay and Little Bay and preservation of the Town’s historic resources. NEW 1, at 8; NEW 2, at 7-8.

The Project will contravene the Master Plan Developmental Policy Nine that encourages the establishment of conservation areas to protect wetlands, forest, agricultural land, and open space. NEW 1, at 8.

The Master Plan also states that every effort should be made to preserve the Knights Brook Corridor (250-acre tract comprising the Frink, Pickering, Histop and former Rowe properties). NEW 1, at 9-10; NEW 1-6. The Town is conserving the property in Knights Brook and issued a warrant article to raise money to place land owned by the Ripley Family into conservation. NEW 1, at 10. Mr. Hebert states that construction of the Project in this area will be inconsistent with the Master Plan and conservation efforts of the Town. NEW 1, at 10.

Mr. Hebert argues that the Project will be inconsistent with the Town's Zoning Ordinance. NEW 1, at 8. The Zoning Ordinance designates as "scenic roads" all roads in Newington located west of the Spaulding Turnpike and north of the Newington/Greenland town line. NEW 1, at 8; NEW 1-5. The Scenic Road Ordinance states that tree cutting and removal of stone walls along scenic roads should follow RSA 231:158 which requires the utility companies to obtain written consent of the planning board, after notice and hearing, prior to the removal of vegetation or stone walls along the scenic roads. NEW 1, at 8-9. The Master Plan states that the Scenic Road Ordinance should be strictly enforced. NEW 1, at 8.

The Project will also contravene provisions of the Zoning Ordinance that do not identify public utility, communication, or transportation facilities as permitted uses in a residential zone and contain height restrictions of 35-feet for buildings and structures in a residential zone. Tr., Day 11, 10/17/2018, Morning Session, at 9-10. Mr. Hebert acknowledges that the height limitation does not apply to "transmission towers." Tr., Day 11, 10/17/2018, Morning Session, at 149. He testifies, however, that as used in the Ordinance, the term "transmission towers" refers to transmission cell towers. Tr., Day 11, 10/17/2018, Morning Session, at 149-151.

Mr. Hebert argues that the Project will be inconsistent with the Ordinance and the Master Plan where it will be constructed through a stone wall between the Abbott property and the Sabine Property (near Hannah Lane and Nimble Hill Road) and may impact the stone wall off Hannah Lane between the Abbott and Lee properties (on Hannah Lane). NEW 1, at 9. Mr. Hebert asserts that it is the Town's position that the Applicant should not impact these stone walls or any other stone walls it may cross. NEW 1, at 9. Mr. Hebert argues that, if a portion of the stone wall is removed, the Applicant should employ a professional stone wall builder to re-establish the wall to its prior appearance. NEW 1, at 9.

Mr. Hebert criticizes Mr. Varney's original testimony. NEW 2, at 4-6. He argues that Mr. Varney assumed that the Project will be consistent with the prevailing land uses because it will be constructed within the existing transmission right-of-way. NEW 2, at 4-6. He asserts that the Subcommittee in the Northern Pass Docket (No. 2015-06) rejected the premise that, as long as the transmission project is constructed within the existing right-of-way, it will be consistent with the prevailing land uses. NEW 2, at 4-6. Mr. Hebert urges the Subcommittee to consider the determination in the Northern Pass docket and refuse to find that the Project will be consistent with the prevailing uses simply because it will be constructed within the existing right-of-way. NEW 2, at 4-6.

Newington asserts that the Subcommittee should give "due consideration" to other alternative transmission line routes from Madbury to Portsmouth that will be consistent with the orderly development of the Town of Newington and Little Bay. *See* Post-Hearing Brief, at 31; NEW 7.

Mr. Hebert concludes that the Project contradicts goals and specific provisions of the Master Plan and Zoning Ordinance and its construction and operation will unduly interfere with the orderly development of the region. NEW 1, at 12-14.

Mr. Hebert argues that, if the Subcommittee grants the Certificate, it should require the Applicant to bury the Project under the existing and known future roadways in all areas of Newington's residential and historic districts. NEW 2, at 9. He clarifies that it will require burying of an additional 5,000 feet of the Project under land to which the Applicant has no legal rights. Tr., Day 11, 10/17/2018, Morning Session, at 160.

Mr. Hebert requests that the Subcommittee, if it grants the Certificate, condition the Certificate upon the Applicant's compliance with the Memorandum of Understanding and the

Addendum to the Memorandum of Understanding executed by the Applicant and Newington.
NEW 2, at 3.

(b) Town of Durham

Durham pre-filed the testimony of the Town Manager, Todd Selig. TD.UNH 1. Mr. Selig expresses the Town's position that the Project, as proposed, will unduly interfere with the orderly development of the region. TD/UNH 1, at 2-3, 11. Durham argues that the Project will be contrary to the Town's Master Plan and Zoning Ordinance. *See* Post-Hearing Brief, at 18-19.

The purpose of master plans is to "set down as clearly and practically as possible the best and most appropriate future development of the area under the jurisdiction of the planning board, to aid the board in designing ordinances that result in preserving and enhancing the unique quality of life and culture of New Hampshire, and to guide the board in the performance of its other duties in a manner that achieves the principles of smart growth, sound planning, and wise resource protection." *See* Post-Hearing Brief, at 18-19 (quoting RSA 674:2, I). The Town argues that the Project will be contrary to its Master Plan because it will have an adverse effect on the Town's aesthetics and scenic resources. *See* Post-Hearing Brief, at 19. As to the Zoning Ordinance, Durham asserts that the Town's Zoning Ordinance does not allow use of transmission lines in the districts that the Project will traverse. *See* Post-Hearing Brief, at 18. It permits the use of transmission lines as conditional uses only in the Wetland Conservation Overlay District and in the Shoreland Protection Overlay District. *See* Post-Hearing Brief, at 18. The Town avers, however, that the Project would not be approved by the Town as conditional use even at these Districts. *See* Post-Hearing Brief, at 18.

Mr. Selig states that the Gosling Road Autotransformer Solution presents a better and less impactful alternative to the Project. TD/UNH 1, at 2. If this alternative is not possible, the Town requests that the Subcommittee order the Applicant to use HDD under the Little Bay. TD/UNH 1, at 2. If the Subcommittee determines that it is not feasible either, the Town requests that the Subcommittee order the Applicant to revise its plans as requested by the Town's experts "to adequately demonstrate that cable laying will occur under impact controls that will ensure adequate protection of the Little Bay ecosystem, and thus assure the residents of Durham that there will be no unreasonable adverse effects on water quality and the natural environment of Little Bay or that the impact on natural resources will be manageable in the Little Bay." TD/UNH 1, at 2.

As to the land use, Durham opines that the Project will interfere with swimming, kayaking, paddle boarding, and the overall enjoyment of Little Bay. *See* Post-Hearing Brief, at 20.

(c) Other Municipalities and Regional Planning Commissions

Town of Madbury filed a written comment indicating that the Applicant adequately considered wetlands in the area and the need to minimize these impacts. The Town acknowledges that the Project will likely impact aesthetics at a crossing at the railroad. It stated, however, that "[a]lternatives to this impact would likely shift to other areas and not solve any issues."

The City of Portsmouth submitted a written comment indicating that the Applicant has been collaborating with the City and is committed to working with the City through construction of the Project.

The City of Somersworth indicates its support of the Project as a reliability Project needed for electric reliability, stability, and economic development of the seacoast region.

The Strafford Regional Planning Commission acknowledges the importance of Great Bay Estuary and indicates that physical/human activities, such as dredging, are stressors that may have a negative impact on the key habitat due to suspended sediments.

The Subcommittee also received comments expressing support of the Project from the Greater Dover Chamber of Commerce and the Greater Rochester Chamber of Commerce.

(4) Conservation Law Foundation

CLF asserts that the Project will undermine regional efforts to reduce pollution loads to the estuary by: (i) releasing substantial quantities of sediment; (ii) releasing a substantial amount of nitrogen and other pollutants that are harmful to eelgrass; (ii) releasing contaminants, including pathogens; and (iii) eliminating eelgrass habitat. *See* Post-Hearing Brief, at 21-22. CLF opines that the Applicant's reliance on the usage of the existing corridor in Little Bay is unfounded. *See* Post-Hearing Brief, at 23-24.

(5) Individual Intervenors

Jeff and Vivian Miller argue that construction and operation of the Project will be contrary to Durham's Master Plan and Zoning Ordinance. *See* Post-Hearing Brief, at 2. The Project will change the use of the right-of-way and will undermine Durham's attempts to improve the quality of the estuary. *See* Post-Hearing Brief, at 2. They argue that the Applicant should have to file the decommissioning plan. *See* Post-Hearing Brief, at 2.

Ms. Frink opines that the Project will contravene the conservation and agricultural use of the Darius Frink Farm. HF 29, at 3-5. She asserts that the overhead and underground portions of the Project and transmission structure will be constructed within the Farm property. HF 29, at

1-3. She claims that construction of the underground section of the Project within the Farm property may cause groundwater and soil contamination rendering the farm unfit for conservation and agricultural use. HF 29, at 4-6. She also argues that the soil may be compacted along the trucking route rendering it not useful for agricultural use. HF 29, at 5. She requests that the Subcommittee require the Applicant to “remediate” compacted conditions. HF 29, at 5. Ms. Frink acknowledges that the Applicant agreed to pay up to \$233,635.00 for conservation easement improvements consisting of vegetative clearing along the fences, reseeding hay fields, improving pasture management, and improving drainage where it is appropriate at the Farm. Tr., Day 11, 10/17/2018, Afternoon Session, at 25, 54-55; App. 169, §§2.1, 2.3; App. 169, §2.3, Att. A, at 3; App. 218, D.

Mr. Fitch argues that the Subcommittee should consider the opposition of the municipalities to the Project and should find that the Project will unduly interfere with the orderly development of the region. *See* Post-Hearing Brief, at 3.

b. Deliberations

The Applicant filed an extensive report analyzing existing lands uses and the potential impacts on such uses. Mr. Varney’s opinion in this matter was not based solely on the claim that the Project will not interfere with prevailing land uses in the region because it will be constructed in the right-of-way. Mr. Varney analyzed each land use in the region and the impacts on such land uses, including the land use of the right-of-way. His analysis was thorough and extensive.

The Project will convert the use of the right-of-way from a distribution line to a transmission line. It will require construction of higher structures with different configurations. The Project, however, as proposed and including Certificate conditions, will not impact land use to the extent that it would unduly interfere with the orderly development of the region. The main

impacts will be caused by its appearance in discrete locations. Overall it will not have an unreasonable adverse effect on aesthetics and historic properties. Its impact on aesthetics and historic attractions of the region will not interfere with the recreational use of such attractions. It will not prevent property owners from using lands for agricultural, residential, or other purposes. Its potential interference with the operation of businesses will be temporary and will be addressed through a dispute resolution process. It will be consistent with the use of lands for conservation where it is constructed within a conservation area.

Although the Project will entail construction of taller and different structures, it will not impact the use of the right-of-way and land uses of the region to an extent that will unduly interfere with the region.

The Subcommittee gives due consideration to the views of municipalities. Construction and operation of the Project, as proposed, will be contrary to the Master Plans and Zoning Ordinances of Newington and Durham. Both Newington and Durham state their opposition to the Project. Newington went so far as to amend its Master Plan to exclude the Project after plans to construct the Project were disclosed. The Subcommittee understands and respects the Towns' desire to define their vision and to establish districts with characteristics they want. But due consideration of these views does not require that the Subcommittee deny a project inconsistent with such views.

The Subcommittee must consider the views of municipal and regional planning commissions and municipal governing bodies while deciding whether the Project will unduly interfere with the orderly development of the region. *See* RSA 162-H:16, VI(b). But the Subcommittee is not required to adopt the views of local governing bodies. The decision whether

to allow construction and operation of the Project is within the Subcommittee's exclusive jurisdiction.

The region in this docket is not limited to Newington and Durham. It encompasses the entire service region of the Project. App. 46. Notably, Madbury and Portsmouth support the Project. The Project will contribute to the reliability of the electric grid and thereby promote orderly development. Keeping in mind the entire region and, after considering the views expressed by various municipalities and the impacts of the Project on land use, employment, and the economy, the Subcommittee finds that the Project will not unduly interfere with the orderly development of the region.

F. Public Interest

1. Positions of the Parties

a. Applicant

The Applicant argues that, while considering whether the Project will be in a public interest, the Subcommittee must consider only the benefits of the Project.

The Applicant asserts that the Project will serve the public interest by increasing the reliability of the power supply in the region. App. 1, at 59. The Applicant avers that, based on the ISO-NE Needs Assessment, the Seacoast Region faces significant violations of the transmission system criteria under some system operating conditions that, if not addressed, will cause system overloads leading to power outages or brownouts. App. 1, at 59; App. 3, at 4-5; Tr., Day 1, 08/29/2018, Afternoon Session, at 19-20. ISO-NE also determined that additional measures should be implemented to address the growing Seacoast Region's electric demand. App. 1, at 59; App. 3, at 3. Mr. Quinlan and Mr. Andrew testify that the need for the solution of a reliability problem in the Seacoast region has grown since ISO-NE's Assessment and remains

current. Tr., Day 1, 08/29/2018, Morning Session, at 34, 42-45; Tr., Day 1, 08/29/2018, Afternoon Session, at 30; Day 4, 09/18/2018, Afternoon Session, at 37-38. As to the future demand, Mr. Andrew testifies that it is estimated that demand in the Seacoast area will increase by a little under one percent per year. Tr., Day 4, 09/18/2018, Morning Session, at 27-28, 42.

Mr. Quinlan acknowledges that ISO-NE considered the Project as part of the Seacoast Solution,⁴³ and the Gosling Road Autotransformer solution as two potential solutions of reliability problems in the Seacoast region. Tr., Day 1, 08/29/2018, Morning Session, at 59; Tr., Day 1, 08/29/2018, Afternoon Session, at 21-22. He testified that ISO-NE chose the Project because it represents a better technical and lower cost alternative. Tr., Day 1, 08/29/2018, Morning Session, at 59. He testified that Gosling Road Autotransformer Solution provides far more capacity than the system needs. Tr., Day 4, 09/18/2018, Morning Session, at 11; Tr., Day 4, 09/18/2018, Afternoon Session, at 21-22.

The Applicant argues that the Project, as part of the Seacoast Solution, will provide the least-cost solution to ensure the reliability and operation of the electric system in the region. App. 1, at 59; App. 3, at 5. It will improve reliability for the customers served by Madbury⁴⁴ and Portsmouth⁴⁵ substations and will improve reliability for the entire Seacoast Area. App. 139, at 1. Mr. Bowes and Mr. Andrew testified that seven out of ten projects of the suite of projects have been constructed. Tr., Day 1, 08/29/2018, Afternoon Session, at 128-29; Tr., Day 4, 09/18/2018, Morning Session, at 16. The remaining three projects are the part of the Project. Tr.,

⁴³ The Project is a part of a suite of projects in the preferred solution for the Seacoast Project. App. 3, at 5. “These projects are dependent on each other to solve the criteria violations and continue to provide reliable electric service to the customers in the Seacoast Region.” App. 3, at 5. Other reliability projects in the area that were part of the suite of projects have been constructed. App. 139, at 3.

⁴⁴ Madbury substation serves all or parts of the following Towns (approximately 30,000 customers): (i) Madbury; (ii) Barrington; (iii) Durham; (iv) Lee; (v) Dover; (vi) Newmarket; (vii) Newfields; (viii) Nottingham; (ix) Pittsfield; (x) Epsom; (xi) Northwood; (xii) Strafford; (xiii) Barnstead; and (xiv) Deerfield. App. 139, at 2-3.

⁴⁵ Portsmouth Substation serves the City of Portsmouth, the Town of Newington, and Pease. App. 139, at 2.

Day 1, 08/29/2018, Afternoon Session, at 129, 135; Tr., Day 4, 09/18/2018, Morning Session, at 16.

The estimated cost of construction of the entire Seacoast Solution is \$135 million. Tr., Day 4, 09/18/2018, Morning Session, at 17. \$50 million has been spent on the construction of seven required projects. Tr., Day 4, 09/18/2018, Morning Session, at 16-17. According to Mr. Quinlan and Mr. Andrew, each of the ten projects addresses, to some degree, a reliability problem. Tr., Day 1, 08/29/2018, Morning Session, at 34; Tr., Day 1, 08/29/2018, Afternoon Session, at 30-31; Tr., Day 4, 09/18/2018, Morning Session, at 18. The combination of all ten projects, however, is required to address violations of the transmission system identified by ISO-NE. The Project constitutes the most significant and impactful element of the entire suite. Tr., Day 1, 08/29/2018, Afternoon Session, at 30-31; Tr., Day 1, 08/29/2018, Morning Session, at 84; Tr., Day 4, 09/18/2018, Morning Session, at 113-14; Day 4, 09/18/2018, Afternoon Session, at 28-29.

The Applicant also argues that the Project will be in the public interest because it will provide an increase to the local and State tax base, create jobs, and increase economic output (sales), gross state product, and personal income during construction of the Project. App. 1, at 59-60. Finally, the Applicant avers that the Project will be in the public interest because it will not interfere with the orderly development of the region and will not have an unreasonable adverse effect on aesthetics, historic resources, water and air quality, and the natural environment. App. 1, at 60-61.

b. Counsel for the Public

Counsel for the Public opines that, while deciding whether the Project will be in the public interest, the Subcommittee should balance the totality of the Project's benefits and

impacts across the areas enumerated in the purpose section and Site 301.16. *See* Post-Hearing Brief, at 72. Counsel for the Public argues that plain language of RSA 162-H:16, IV requires the Subcommittee, in order to issue a certificate, to provide “due consideration of all relevant information regarding the potential siting or routes of a proposed facility, including potential significant impacts and benefits.” *See* Post-Hearing Brief, at 75. The statute further states that, in order to issue a certificate, the Subcommittee must find that “[i]ssuance of a certificate will serve the public interest.” RSA 162-H:16, IV(e). The Statute does not state that, while deciding whether the Project will be in the public interest, the Subcommittee should consider only the Project’s benefits. *See* Post-Hearing Brief, n. 220. Counsel for the Public concludes that clear language of the statute requires the Subcommittee to consider and balance the Project’s impacts and benefits while deciding if the Project will be in the public interest. *See* Post-Hearing Brief, at 75-79.

Counsel for the Public argues that his position is supported by RSA 162-H:1 which sets forth the purposes for establishment of the Committee and states that “the legislature finds it is in the public interest to maintain a balance among those potential significant impacts and benefits in decision about the siting, construction, and operation of energy facilities in New Hampshire.” *See* Post-Hearing Brief, at 75.

Counsel for the Public also submits that the Subcommittee should consider that the public comments were overwhelmingly against the Project. *See* Post-Hearing Brief, at 73.

Counsel for the Public asserts that the benefits that are associated with the Project, that the Subcommittee should consider, include economic and employment benefits during construction, property tax benefits, and solving reliability of the regional electric transmission grid. *See* Post-Hearing Brief, at 84. As to potential impacts, they include possible diminution in

property values for some properties along the right-of-way, degradation of the scenic quality of the region, interference with private property during construction, and negative impacts on historic sites and environment. *See* Post-Hearing Brief, at 84. Counsel for the Public concludes that the Subcommittee can issue the Certificate only if it finds that the balance of all the benefits and impacts of the Project serves the public interest. *See* Post-Hearing Brief, at 84.

c. Conservation Law Foundation

CLF argues that the Applicant failed to demonstrate that the Project continues to be required to address reliability needs of the Seacoast region. *See* Post-Hearing Brief, at 24. The Applicant failed to give proper consideration to other less impactful alternatives (HDD, Autotransformer Solution, alternative routes, and alternatives to concrete mattresses) to improve reliability of the Seacoast region. *See* Post-Hearing Brief, at 25-31. CLF concludes that the Project is not in the public interest because the impacts on water quality, natural environment, and aesthetics outweigh the benefits. *See* Post-Hearing Brief, at 31.

d. Town of Newington and Town of Durham

Newington argues that the Project is not the best available for grid reliability. NEW 1, at 14. Mr. Hebert opines that, as compared to the Autotransformer Solution, the Project is not in the public interest. NEW 1, at 14. According to Mr. Hebert, construction of the Autotransformer Solution would require installation of 3-miles of new transmission lines and the upgrade of 18-miles of existing lines. NEW 1, at 19. It would require crossing the Piscataqua River in Dover. NEW 1, at 19. The impact on the natural environment and aesthetics associated with such crossing and construction would be much smaller as compared to the Project's impacts. NEW 1, at 19-20. Mr. Hebert further argues that the Autotransformer Solution would provide an additional 400 MW as opposed to 190 MW that will be provided by the Project.

NEW 1, at 16. By providing an additional 210 MW, the Autotransformer Solution would be able to accommodate future demands without the need for construction of additional projects and would attract more businesses. NEW 1, at 16-17, 20.

As to the costs of construction, Mr. Hebert argues that the Autotransformer Solution would cost 22.5% or \$25 million more than the Project. NEW 1, at 16. Mr. Hebert opines, however, that the difference in cost is not significant considering the additional capacity of the Autotransformer Solution and the fact that it would require the New Hampshire ratepayer to pay only an additional 0.0035 cents per kWh for the Autotransformer Solution. NEW 1, at 16-17. He also argues that these costs may be decreased if the Autotransformer Solution is constructed without a second back-up transformer. NEW 1, at 18-19.

Mr. Hebert also asserts that two other transmission line routes should be considered by the Subcommittee because they would avoid an impact on Little Bay and Newington. *See Post-Hearing Brief*, at 16; NEW 7.

Mr. Hebert concludes that, considering the availability of another less impactful and more beneficial alternative, approval of the Project will not serve the public interest. NEW 1, at 21.

Newington requests that the Subcommittee consider the Project's impact on private property and order the Applicant to implement a property value guarantee. *See Post-Hearing Brief*, at 51. It also asserts that the impacts on historic sites in Newington will outweigh the Project's benefits where the impact that will be caused by relocation of a line is unknown and it is unclear what the section of the Project buried at Darius Frink Farm will look like. *See Post-Hearing Brief*, at 52.

The impact of water quality cannot be ascertained where it is based on estimates and assumptions. *See Post-Hearing Brief*, at 52. The Project will have a negative impact on the use

of Little Bay for recreational and oyster farming activities and will convert its use to a transmission corridor. *See* Post-Hearing Brief, at 52-53. Newington concludes that the Project's impact outweighs its benefits causing it to be not in the public interest. *See* Post-Hearing Brief, at 53.

Durham argues that, while determining whether the Project will be in the public interest, the Subcommittee should consider the Project's benefits, impacts, public comments, and all other relevant evidence. *See* Post-Hearing Brief, at 26. Durham submits that public comments that were provided to the Subcommittee were overwhelmingly against the Project. *See* Post-Hearing Brief, at 26-28. The Project will have a negative impact on the environment, water quality, historic sites, aesthetics, natural resources, and private property. *See* Post-Hearing Brief, at 28. The Autotransformer Solution presents a better alternative to the Project and reliability of the Seacoast region has already been improved through construction and operation of other sections of the Seacoast Solution. TD/UNH 1, at 6-7; *see* Post-Hearing Brief, at 28. The need for a reliable solution is much lower than was estimated by the Applicant and ISO-NE. *See* Post-Hearing Brief, at 34. The Town concludes that, after considering the Project's impacts and benefits together with the public comments, the Subcommittee should conclude that the Project will not serve the public interest. *See* Post-Hearing Brief, at 29.

e. Individual Intervenors

Mr. Frizzell opines that the Project will have an unreasonable adverse effect on views and aesthetics of his property located at 24 Fox Point Lane in Newington, New Hampshire. KF 1, at 1-3. Mr. Frizzell testifies that his property will be bound on both sides by the Project and the Project will be visible from his house, driveway, and immediately upon exit from his house. Tr., Day 14, 10/25/2018, Afternoon Session, at 76, 80-82, 92-93. He opines that burial of the line

would be an appropriate mitigation measure that should be utilized at this location. Tr., Day 14, 10/25/2018, Afternoon Session, at 76-77.

Ms. McCosker asserts that the Applicant will construct a 103-foot tall structure, 110-feet from her house located at 220 Longmarsh Road in Durham. DR 1, at 2, 16. At least one structure will be visible from Ms. McCosker's home and two structures will be visible from most locations at her property. DR 1, at 16. She objects to the proposed locations of the poles and argues that they will impute on her ability to enjoy her property. DR 1, at 16-17. Ms. McCosker concludes that the Project will have an adverse effect on aesthetics of her house. DR 1, at 19. She acknowledges that, as mitigation measures of the visual effect of the tallest pole, the Applicant proposed to plant three 5-foot Hemlock, five 5-foot Yew trees, and assorted 3-foot shrubs. DR 1, at 18. She argues, however, that such measures are inadequate. DR 1, at 18. She opines that the Applicant should be required to plant more mature trees to mitigate the impact of the poles on her property. DR 1, at 18-19.

Ms. McCosker also asserts that the Applicant should be required to mitigate the impact of vegetative clearing between her house and her neighbor's house. DR 1, at 19.

Ms. Frink expresses her concerns about the Project's impact on views of the historic Darius Frink Farm. HF 29, at 2-3; Tr., Day 3, 09/17/2018, Morning Session, at 40-46; Tr., Day 11, 10/17/2018, Afternoon Session, at 28. She opines that the top of the transition structure that will be installed on the Farm will be visible from upstairs inside the house and vegetation that was proposed by the Applicant for screening purposes will not be high enough to cover the view of the structure. Tr., Day 11, 10/17/2018, Afternoon Session, at 30, 85. Ms. Frink confirms, however, that the Applicant agreed to decrease the visual impact on the Farm by removing

currently existing overhead structures from the property. Tr., Day 11, 10/17/2018, Afternoon Session, at 87-88.

Matthew and Amanda Fitch argue that the Project will be constructed within the right-of-way that crosses their property located at 291 Durham Point Road in Durham. DR 4, at 1, 4. It will be visible from their property. DR 4, at 4. They express their concerns about the lack of mitigation plans that would screen the Project and would decrease its visibility. DR 4, at 4. They argue that the Applicant should be required to establish appropriate screening/landscaping following the construction of the Project. DR 4, at 9. They also argue that public comments support the conclusion that the Project will not be in the public interest and the Applicant should have considered some other less impactful alternatives to the Project. *See Post-Hearing Brief*, at 6.

Jeff and Vivian Miller argue that the Project will have an adverse effect on views of their property located at 297 Durham Point in Durham. DR 8, at 1. They assert that one of the structures will be constructed at the entrance to their property and will be clearly visible. DR 8, at 7. They acknowledge that the Applicant offered to screen the structure. DR 8, at 13; App. 237. They argue that proposed screening is inadequate considering the height of the structure and its proximity to their property. DR 8, at 9, 13. They also express their concerns about the impact on aesthetics by concrete mattresses. DR 8, at 5. They request that the Subcommittee order the Applicant to properly mitigate the impacts on their property. DR 8, at 13. They opine that the Project will not be in the public interest because it will provide redundant and unnecessary power and its impacts on Little Bay will outweigh its benefits. They state that this conclusion is supported by the public comments received by the Subcommittee. *See Post-Hearing Brief*, at 3.

3. Legal Standard

The Subcommittee may issue a Certificate only if it finds that issuance of a certificate will serve the public interest. *See* RSA 162-H, IV(e). While determining whether issuing a certificate will serve the public interest, the Subcommittee must consider:

- (a) The welfare of the population;
- (b) Private property;
- (c) The location and growth of industry;
- (d) The overall economic growth of the state;
- (e) The environment of the state;
- (f) Historic sites;
- (g) Aesthetics;
- (h) Air and water quality;
- (i) The use of natural resources; and
- (j) Public health and safety.

See Site 301.16(a)-(j).

The rules of statutory construction are well-settled:

When construing statutes and administrative regulations, we first examine the language used, and, where possible, we ascribe the plain and ordinary meanings to words used. Words and phrases in a statute are construed according to the common and approved usage of the language unless from the statute it appears that a different meaning was intended. Additionally, we interpret disputed language of a statute or regulation in the context of the overall statutory or regulatory scheme and not in isolation. We seek to effectuate the overall legislative purpose and to avoid an absurd or unjust result. We can neither ignore the plain language of the legislation nor add words which the lawmakers did not see fit to include.

Bovaird v. N.H. Dep't of Admin. Servs., 166 N.H. 755, 758-59 (2014) (citations and quotations omitted).

There is no language within the statute prohibiting the consideration of adverse impacts in determining whether a project will serve the public interest under RSA 162-H:16, IV(e). The Subcommittee refuses to add language that the legislature did not see fit to include. The plain language of RSA 162-H provides the Subcommittee with the authority to consider and weigh

both impacts and benefits of a project. *See* RSA 162-H:16, IV(e). A review of the statute in its entirety supports the same conclusion. RSA 162-H:1 sets out the purpose of the statute and states that maintaining “a *balance* among those potential significant *impacts and benefits* in decisions about the siting, construction, and operation of energy facilities in New Hampshire” is one of the important purposes of the statute. RSA 162-H:1 (emphasis added). While considering whether the Project will be in the public interest, the Subcommittee should consider and weigh both impacts and benefits of a Project.

4. Deliberations

The Subcommittee received numerous comments from the Intervenors and members of the public indicating that the Project will have an adverse effect on aesthetics, historic sites, water quality, natural environment, value of real estate, tourism, land use, and public health and safety. The Applicant agreed to comply with a comprehensive and unprecedented set of conditions to ensure that impacts of the Project will be appropriately avoided, minimized, and mitigated. The Applicant conducted a comprehensive outreach campaign to identify concerns raised by various parties and to mitigate and minimize their impacts. The Applicant committed to implementing extensive vegetation measures and to underground the Project in some sections of the route to address and mitigate the Project’s effect on aesthetics of scenic resources and resources identified by Counsel for the Public’s experts. The Applicant also agreed to comply with the following condition to address the Project’s impact on private properties:

Further Ordered that, the Applicant shall work with all landowners along the Project route that will be affected by tree trimming, tree clearing, or from the construction of taller structures in the right-of-way to develop vegetation planting plans that do not interfere with the safe operation and maintenance of the new line. The Applicant shall work in good faith with all affected landowners to reach agreement on vegetation planting plans. In the event a dispute arises as to the Applicant’s compliance with this Condition,

the Applicant and/or the landowner may submit a claim for resolution as part of the Mitigation and Dispute Resolution Process.

The Certificate is conditioned upon the Applicant's compliance with this condition. The Applicant agreed to comply with the conditions enumerated into "Stipulated Proposed Conditions of Approval" executed by the Applicant and Counsel for the Public. The Certificate is conditioned upon the Applicant's compliance with the "Stipulated Proposed Conditions of Approval Conditions" (App. 193), as amended by the Subcommittee. The Applicant executed the Memorandum of Understanding with DHR and the Memorandum of Agreement with the Army Corps of Engineers where it committed to implement extensive avoidance and mitigation measures to address and minimize the Project's impact on historic sites.

The Applicant agreed to conduct a jet plow trial run and to cooperate with NHDES to minimize the impact on the water quality of Little Bay. It also agreed to comply with various conditions imposed by NHDES, including implementation of BMPs and development of various monitoring programs, to avoid and mitigate the Project's impact on the natural environment in general and on Little Bay specifically.

The Applicant developed and agreed to comply with the extensive dispute resolution process that would allow property owners and business owners whose properties and businesses may be impacted by the Project to bring their concerns to the Applicant's attention and undergo informal and formal proceedings that would allow them to address their concerns through avoidance or mitigation of potential or actual impacts.

The Applicant entered into Memorandums of Understanding with Durham, Newington, and UNH addressing their concerns related to the construction impact and potential impacts of health and safety. Various agencies with regulatory and other authority requested that the

Applicant comply with additional conditions designed to minimize and mitigate the impact of the Project impact on roads, water quality, natural environment, and public health and safety. The Subcommittee relies on the experience and expertise of the state agencies to develop conditions for compliance with applicable state laws and rules.

Considering the testimony, evidence, and public comments the Subcommittee finds that the Project will have some negative impacts on aesthetics, historic sites, natural environment, water quality, private properties, and public health and safety. These impacts will be minimized and mitigated through implementation of the conditions of the Certificate, various Memorandums of Understanding, the Dispute Resolution Procedure, and administrative agency permit conditions.

The economy of the Seacoast region is growing. The need for a reliable source of energy is important for continued growth in the region. ISO-NE has determined that additional infrastructure is required to assure the reliability of the electric grid. Construction of the Project will resolve reliability issues of the grid and will ensure that extreme emergency situations will not cause the Seacoast region to face blackouts. Construction of the Project will address the reliability issues existing in the region and it will improve the welfare of the population and stimulate growth and the economy by increasing the reliability of the electric system.

The Subcommittee received a number of arguments suggesting that an alternative project (Gosling Road Autotransformer Solution) or other locations (southern and northern routes) would present the better alternative to the Project before the Subcommittee. ISO-NE did not choose the Gosling Road Autotransformer Solution as the appropriate solution for addressing the reliability needs in the region.

Some parties complained about the lack of transparency with the ISO-NE process. Although the Subcommittee is sympathetic with some of the concerns expressed, we rely on the expertise of ISO-NE to identify the project that presents the best solution for addressing reliability needs.

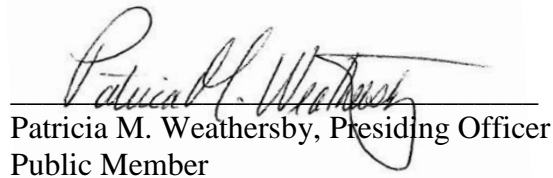
As to different routes of the Project, the Subcommittee is without evidence about impacts on aesthetics, historic sites, natural environment, air and water quality or the development of the region. Those impacts cannot be addressed and quantified by the Subcommittee. The Applicant does not have property rights required to construct the Project at these locations. Requiring the Applicant to construct the Project at either of these locations would result in requiring the siting and construction of an entirely different project with different and unknown impacts.

After considering the Project's impacts and benefits and all other relevant information pertaining to the factors set-forth in Site 301.16(a)-(j) the Subcommittee finds that the Project will serve the public interest.

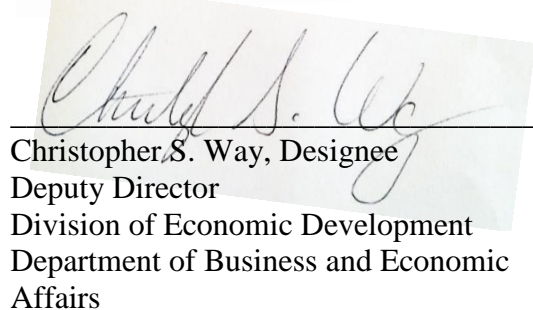
VI. CONCLUSION

For the reasons set forth herein, the Application for a Certificate of Site and Facility is approved, subject to the conditions contained herein and in the Order and Certificate of Site and Facility issued contemporaneously herewith.

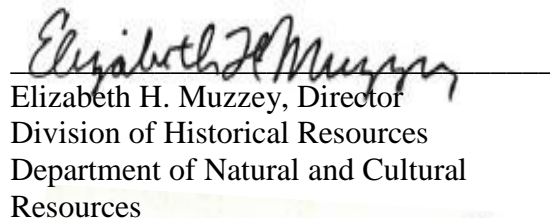
SO ORDERED this thirty-first day of January, 2019.



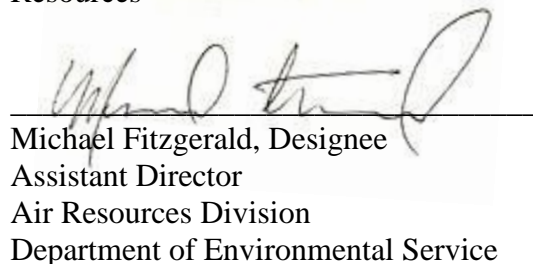
Patricia M. Weathersby, Presiding Officer
Public Member



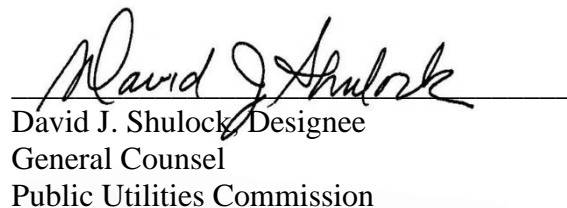
Christopher S. Way, Designee
Deputy Director
Division of Economic Development
Department of Business and Economic
Affairs



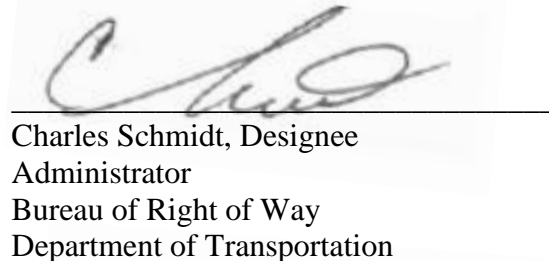
Elizabeth H. Muzzey, Director
Division of Historical Resources
Department of Natural and Cultural
Resources



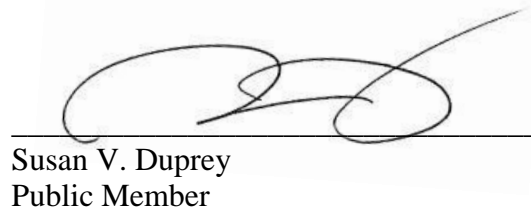
Michael Fitzgerald, Designee
Assistant Director
Air Resources Division
Department of Environmental Service



David J. Shulock, Designee
General Counsel
Public Utilities Commission



Charles Schmidt, Designee
Administrator
Bureau of Right of Way
Department of Transportation



Susan V. Duprey
Public Member

APPEAL PROCESS

Any person or party aggrieved by this decision or order may file an appeal to the New Hampshire Supreme Court by complying with the following provisions of RSA 541.

R.S.A. 162-H: 11 Judicial Review. – Decisions made pursuant to this chapter shall be reviewable in accordance with RSA 541.

R.S.A. 541:3 Motion for Rehearing. - Within 30 days after any order or decision has been made by the commission, any party to the action or proceeding before the commission, or any person directly affected thereby, may apply for a rehearing in respect to any matter determined in action or proceeding, or covered or included in the order, specifying in the motion all grounds for rehearing, and the commission may grant such rehearing if in its opinion good reason for the rehearing is stated in the motion.

R.S.A. 541:4 Specifications. - Such motion shall set forth fully every ground upon which it is claimed that the decision or order complained of is unlawful or unreasonable. No appeal from any order or decision of the commission shall be taken unless the appellant shall have made application for rehearing as herein provided, and when such application shall have been made, no ground not set forth therein shall be urged, relied on, or given any consideration by the court, unless the court for good cause shown shall allow the appellant to specify additional grounds.

R.S.A. 541:5 Action on Motion. – Upon the filing of such motion for rehearing, the commission shall within ten days either grant or deny the same, or suspend the order or decision complained of pending further consideration, and any order of suspension may be upon such terms and conditions as the commission may prescribe.

R.S.A. 541:6 Appeal. Within thirty days after the application for a rehearing is denied, or, if the application is granted, then within thirty days after the decision on such rehearing, the applicant may appeal by petition to the supreme court.

FINDINGS OF FACT

Counsel for the Public and the Applicant filed a “Stipulated Facts and Requested Findings” (App. 184) and an “Amended Stipulated Facts and Requested Findings” (App. 194). The requests and the rulings of the Subcommittee are set forth below.

The Project

1. The Applicant proposes to construct and operate a new 12.9 mile 115 kV electric transmission line between existing substations in Madbury and Portsmouth, New Hampshire (the “Project”). The new transmission line is comprised of above ground, underground and underwater segments. The Project is located entirely in New Hampshire, and traverses portions of Madbury, Durham, Newington and Portsmouth. The Project includes a submarine cable crossing from Durham to Newington under Little Bay. Appl. E-1.
Granted.
2. The proposed Project is a reliability project selected by the Independent System Operator of New England (“ISO-NE”) to address identified transmission capacity needs for the continued reliability of the electric transmission system in the New Hampshire Seacoast Region. Appl. E-1. ISO-NE concluded, based on a study commenced in 2010, that additional transmission capacity is necessary in this area to support the reliable delivery of electric power. Appl. E-3.
Granted.
3. ISO-NE considered a range of alternatives to increase transmission system thermal capacity, to increase transformer thermal capacity, and to improve system voltage performance. ISO-NE chose the present project, in 2012, as the preferred solution “as it is much less costly than the other alternative and addresses the needs in the area.” Appl. E-3; New Hampshire Vermont Transmission Solutions Study Report, published by ISO-NE in 2012.
Granted.
4. For the overhead portion of the Project, the Project corridor is currently occupied by a 34.5 kV distribution line for approximately 9.7 miles and by a transmission line for 0.8 miles. For the underground portion of the Project the Project is proposed to be constructed for an approximate aggregate total distance of 1.3 miles partially below an existing utility corridor currently occupied by a 34.5 kV distribution line, and partially within private property easements acquired or to be acquired outside of the existing corridor. The submarine portion of the Project will be constructed for approximately 1.1 miles within a designated cable corridor under Little Bay.
Granted.

Financial Capability

5. New Hampshire Public Service Company is a wholly-owned subsidiary of Eversource Energy. Appl. 62.
Granted.
6. The Applicant estimates that the overall cost of the Project will be \$84 million. Substitute Pre-Filed Testimony of Aaron J. Cullen at p. 1.
Granted.
7. The Applicant has experience securing funding for and financing the construction, operation, and maintenance of similar transmission line projects. Appl. 62.
Granted.

Technical/Managerial Capability

8. The Applicant has constructed and currently operates thousands of miles of high voltage transmission lines. Eversource and its subsidiaries serve approximately 3.6 million customers across three states. Specifically, in New Hampshire, Eversource is responsible for operating approximately 780 circuit miles of 115 kV, 8 miles of 230 kV, and 252 miles of 345 kV transmission lines and about 204 active transmission and distribution substations. Appl. 64.
Granted.
9. Examples of transmission projects completed by Eversource include the Merrimack Valley Reliability Project; the Y138 Transmission Line Project; the J125 Transmission Line Project; the Y 170 Transmission Line Project; the Long Island Replacement Cable Project; and the Falmouth to Martha's Vineyard Cable Project. Appl. 64-65.
Granted.
10. The Applicant and its selected contractors have experience in designing, constructing, operating, and maintaining similar transmission facilities throughout New England. Appl. 65-66; Substitute Pre-Filed Direct and Amended Testimony of Kenneth Bowes at p. 1-2 and Att. A; Pre-Filed Testimony and Amended Pre-Filed Testimony of David Plante; Substitute Pre-Filed Testimony of William Wall at p. 2, Att. A-B; Pre-Filed Testimony and Amended Pre-Filed Testimony of Lynn (Farrington) Frazier at p. 1-2, Att. A.
Granted.

Aesthetics

11. The Applicant has submitted a Visual Assessment ("VA"), prepared by LandWorks, that analyzed a 10-mile wide linear corridor on either side of the proposed transmission Project's centerline--an overall 20-mile wide corridor. *See Appendix 32 at 1.* The VA thus analyzed a total area of 361 square miles through 20 towns, four of which are where the Project will be physically located. *See Appendix 32 at 1.*
Granted.

12. The Parties agree that the Applicant's commitments to developing vegetation planting plans will, as described in Eversource and Counsel for the Public's Stipulated Proposed Conditions of Approval 32 and 33, result in reasonable visual mitigation measures. The Parties further agree that after consulting with the underlying landowners and the development and implementation of the vegetation planting plans, the Project will not have a significant adverse visual effect on the 13 locations identified by Counsel for the Public's aesthetics expert, Mr. Lawrence. To the extent an underlying landowner does not wish to have additional vegetation planted on their property to mitigate potential visual impacts at the 13 locations, Counsel for the Public agrees that the underlying landowner's refusal of vegetation plantings will not result in a significant adverse effect on aesthetics in any one location or across the Project as a whole.

Denied.

Historic Sites

13. The New Hampshire Division of Historical Resources/State Historic Preservation Office (DHR/SHPO) staff have reviewed archaeological studies and determined that the Project will not affect any significant archaeological sites. OHR Final Report, dated Aug. 1, 2017.

Granted.

14. The DHR/SHPO have concluded that the Project may result in an adverse effect at four historic sites, including, Alfred Pickering Farm, Durham Point Historic District, Little Bay Underwater Cable Terminal Houses Historic District and the Newmarket and Bennet Roads Farms Historic District. OHR Final Report, dated Aug. 1, 2017.

Granted.

15. The Applicant agrees to comply with DHR/SHPO's requested conditions as outlined on page 3 of DHR's Final Report, dated Aug. 1, 2017.

Granted.

Environment

Air Quality

16. The Project does not involve the installation of any equipment that combusts fuels or emits any regulated pollutants. No long-term effects on air quality will result from the operation of the proposed transmission lines. Appl. 82.

Granted.

17. To minimize short-term adverse effects to air quality during construction, the Applicant will utilize appropriate construction BMPs relating to fugitive dust. Appl. 82.

Granted.

Water Quality

18. On February 28, 2018, the NHDES issued a decision on the parts of the application that relate to NHDES permitting or regulatory authority relative to a Wetland permit, Alteration of Terrain permit, 401 Water Quality Certificate and Shoreland permit. NHDES recommends approval of the application with the conditions that are enclosed with the February 28, 2018 decision.
Granted.
19. The Applicant has entered into a signed Memorandum of Agreement (“MOU”) for Darius Frink Farm Conservation Easement Improvements, dated September 27, 2016. The Applicant agrees to comply with all conditions of the Memorandum of Understanding executed with the Rockingham County Conservation District.
Granted.
20. The Applicant has entered into a signed Memorandum of Understanding (“MOU”) that includes a Soil and Groundwater Management Plan for underground construction on the Darius Frink Farm in Newington, NH, dated January 24, 2018. The Applicant agrees to comply with all conditions of the Memorandum of Understanding executed with the Rockingham County Conservation District.
Granted.
21. The Applicant has also developed a draft Revised Soil and Groundwater Management Plan for the Newington area, provided to the SEC on July 27, 2018, to manage groundwater during construction within the vicinity of the former Pease Air Force Base that is potentially impacted by perfluorinated compounds (PFCs) and/or other contaminants.
Granted.
22. Permanent direct wetland impacts are below the NHDES threshold for mitigation (10,000 sq. ft. of permanent wetland impact). Secondary impacts due to tree removal exceed that number, and result in the need for federal compensatory wetland mitigation. Therefore, in accordance with applicable USACE regulations and guidance, mitigation is proposed for direct and secondary Project impacts to wetlands and impacts to stream buffers. Mitigation ratios were applied to these anticipated impacts in accordance with the *New England Army Corps of Engineers Mitigation Guidance* document and in coordination with the USACE, and NHDES. Appl. 90.
Granted.
23. The Applicant has submitted a Revised Environmental Monitoring Plan for Little Bay, on September 15, 2017. Prior to construction, the Applicant will receive approval from DES for the implementation of the plan. The Environmental Monitoring Plan will assess water quality during construction, post-construction topography, and benthic invertebrates.
Granted.
24. The Applicant has conducted sediment testing that indicates all parameters tested are below regulatory risk thresholds with the exception of Arsenic, which is a common naturally

occurring element in NH bedrock. *See* Characterization of Sediment Quality Along Little Bay Crossing (December 1, 2016) and Supplement to Characterization of Sediment Quality Along Little Bay (June 30, 2017).

Granted.

25. The Applicant has submitted a Cable Removal Plan to NH DES, dated June 30, 2017. The Applicant will comply with all proposed environmental avoidance, minimization, and mitigation measures as described in the Cable Removal Plan, including, potential debris mitigation and remedial debris recovery and using pollution prevention measures. All existing cable removed from the seabed will be disposed of in accordance with applicable laws.

Granted.

Public Health and Safety

26. The International Commission on Non-Ionizing Radiation Protection (“ICNIRP”) and International Committee for Electromagnetic Safety (“ICES”) have set guidelines for public exposure to electric and magnetic fields (“EMF”). ICES has set a guideline of 26.8 kV/m for electric fields and 9, 150 mG for magnetic fields. ICNIRP has set a guideline of 36.4 kV/m for electric fields and 12,400 mG for magnetic fields. Appl. 107.

Granted.

27. The Applicant has calculated the Project electric and magnetic field levels after the Project is placed into service at the edge of the right of way. The Applicant has calculated electric-field levels at average conductor height to range from 0.03 kV/m to 0.91 kV/m. Appl. 105. The Applicant calculated magnetic fields at annual average load (“AAL”) levels to range from 0.48 to 22.74 mG at the edge of the Project right of way. Appl. 105; Amend. to Appl. at 26.

Granted.

28. Under all operating conditions, the EMF levels modelled to result from the Project are projected to be well below the exposure levels identified by ICES and ICNIRP. Appl. 106.

Granted.

29. The Applicant has submitted applications to the NHDOT for aerial utility permits, driveway permits, and a railroad crossing and temporary use agreement. Appl. 16; Appendix 17.

Granted.

30. Pursuant to RSA 371:17, Licenses for New Poles, utilities must obtain a license from the Commission to “construct a pipeline, cable, or conduit, or a line of poles or towers and wires and fixtures thereon, over, under or across any of the public waters of this state, or over under or across any of the land owned by this state,” when such facilities are necessary to meet the reasonable requirements of service to the public. The Applicant has submitted license applications to the New Hampshire Public Utilities Commission to cross public waters and state lands. Appl. 16.

Granted.

31. The FAA, Air National Guard, and the Pease Development Authority reviewed the proposed Project and its location and confirmed that the Project would not have any effects on air traffic; the FAA also issued a Determination of No Hazard to Air Navigation. Appl. 57.
Granted.

Orderly Development of the Region

32. Construction and operation of the overhead portion of the Project will occur entirely within existing distribution and transmission rights-of-way. Appl. 60. Construction and operation of the underground portion of the Project will occur in locally maintained roads, on the former Getchell property in Durham now owned by Eversource, and on private property on the UNH campus area in Durham, and on the Gundalow Landing area, Flynn Pit area, the Darius Frink Farm and the Hannah Lane area in Newington, all areas where the Project has contracted to acquire new easements.

Granted.

33. The Project will be located in four host communities: Madbury, Durham, Newington, and Portsmouth. Neither Madbury nor Portsmouth have sought to intervene in this docket or submitted any concerns to the Site Evaluation Committee about the Project. Appl. 60.

Granted.

34. The Applicant has entered into a Memorandum of Understanding (MOU) with the Town of Newington. The Applicant indicates that it is working with the Town of Durham and the University of New Hampshire to execute MOUs.

Granted.

35. The Applicant anticipates that it will invest approximately \$84 million in local and State infrastructure improvements with approximately \$19.1 million spent with local and state businesses and labor. Amend. to Appl. 28.

Granted.

Public Interest

36. The ISO-NE selected the Seacoast Solution, including the Seacoast Reliability Project, as a reliability project in the region to support the reliable delivery of electric power. Appl. 59.

Granted.

37. The “New Hampshire Vermont Transmission Solutions Study Report,” published by ISO-NE in 2012, found that the Seacoast Region faces significant violations of the transmission system criteria under certain system operating conditions and, if these criteria violations are not addressed, the Region will likely encounter system overloads that could lead to power outages for numerous customers. Appl. 59.

Granted.

38. ISO-NE determined in 2011 and 2012 that if no action is taken to address the needs of the Seacoast Region's electric system, there is the potential that the transmission lines there will exceed their emergency thermal ratings, which could result in degraded voltage. Appl. 59.

Granted.

39. ISO-NE considered a range of alternatives to increase transmission system thermal capacity, to increase transformer thermal capacity, and to improve system voltage performance. ISO-NE chose the present project as the preferred solution because its ability to solve identified needs and in part because of its cost. The project will provide an additional path to enhance the existing 115 kV transmission system between the Deerfield and Scobie Pond Substations, and will provide 115 kV transmission ties to Maine to better address reliability concerns in the New Hampshire Seacoast region. Appl. E-3.

Granted.

Attachment A

The Applicant presented the following table summarizing the comparison and associated issues between HDD options and a jet plow method:

Specifics	Jet Plow	Full HDD	Shore Landing HDD/Jet Plow
Design	Three individual cable placements, spaced 30 feet apart, buried to depth of 3.5 to 5 feet for the width of Little Bay. 4,900 feet.	Six cables in two 48 to 52-inch bore holes 6,000+ feet in length up to 75 feet below the deepest part of the channel.	Six cables in two 48 to 52-inch HDD bore holes on each shore of Bay; buried individually by jet low in middle of Little Bay, 5 feet deep; hand jet at the HDD/jet plow junctions.
Design Components	Jet plow 4,270 feet; hand jet 880 feet; trenching 200 feet.	HDD 6,000+ feet.	HDD 5,460 feet; jet plow 2,000 feet; hand jet 60 feet.
Subsurface Conditions	Shallow bedrock at shores may prevent burial to full 3.5 feet. If burial depth cannot be achieved, concrete mattresses will be used for protection.	Length and diameter of bore hole, combined with hard bedrock and present challenges for drilling.	Hard bedrock and exiting into soil within Little Bay challenges for HDD drilling; none anticipated for jet plow.
Equipment Delivery	Cable reels and installation equipment shipped in by barge; shallow Frenching on shore to connect to overhead.	Shipped by truck to staging areas; 70-ton drill rig and all supporting equipment to staging areas in Newington and Durham; cable reels, steel casing, and conduit to Durham.	Shipped by truck to staging areas; 70-ton drill rig and all supporting equipment to staging areas in Newington and Durham; cable reels, HDRE casing and conduit delivered by truck.
Cable Lay Approach	Primarily from barge, except for in shore and upland areas.	Cables staged in Durham and pulled from Newington.	Cable and conduit pulled from water to shore.
Staging	Subtidal and tidal flats by jet plow on barge, hand jet near shore from barge, and terrestrial excavation from land.	Land-based in Newington and Durham: 100x300 feet drilling and pulling area with drill rig, pipes, slurry pit, generator, and support equipment.	Land-based in Newington and Durham: 100x300 feet drilling and pulling area with drill rig, pipes, slurry pit, generator, and support equipment. Water-based cable pull and jet plow from barge.
Duration	Approximately 3 months; jet plow 3	Approximately 28 months.	HDD 10 months; jet plow 3 weeks; hand jet 30 days.

	weeks; hand jet 30 days; upland trenching 5 days; concrete mattresses 1 week.		
Preliminary Work	1 week each to remove existing distribution cables from the installation pathway; pre-lay grapnel run to clear surface debris.	3-4 weeks of geotechnical exploration for planning the HDD.	3-4 weeks of geotechnical exploration for planning the HDD requires relocation of distribution cables from the installation pathway; pre-lay grapnel run to clear surface debris.
Permanent Impacts	Approximately 0.2 acres of concrete mattresses in nearshore areas.	None.	None; possible concrete mattress if 42" burial not achieved.
Impacts			
Suspended Solids	Suspended solids are projected to be present (10mg/l) for less than 6 hours in Little Bay.	Potential inadvertent return of bentonite drilling fluid.	Potential inadvertent return of bentonite drilling fluid during HDD. Suspended solids are projected to be present (10 mg/l) for less than 6 hours in Little Bay for jet plow. Hand-jetting area reduced. Silt curtains are feasible due to high currents.
Shellfish	Minimal impacts anticipated, as shellfish can adapt to temporary deposition.	Potential inadvertent return occurs, a heavy bentonite deposit could smother shellfish.	If an inadvertent return occurs, a heavy bentonite deposit could smother shellfish. Minimal impacts from jet plowing.
Aquaculture	No impact anticipated as oysters can tolerate short periods of elevated TSS.	None anticipated.	None anticipated by HDD and jet plow.
Fish	None anticipated, as fish are expected to avoid short duration sediment plumes.	If an inadvertent return occurs, a heavy bentonite deposit would smother fish eggs on bottom. Effect would vary by species and time of year.	If an inadvertent return occurs, a heavy bentonite deposit would smother fish eggs on bottom. Effect would vary by species and time of year. Fish will avoid short-duration plumes from jet plowing. In-water vibratory hammers for HDD conductor

			casing may cause temporary avoidance by fish.
Benthic Community	Minimal impact for direct jet plow footprint and sediment redeposition to macroinvertebrates. Expected to recolonize by next reproductive season.	If an inadvertent return occurs, a heavy bentonite deposit would smother macroinvertebrates. Effect would vary by species and time of year.	If an inadvertent return occurs, a heavy bentonite deposit would smother macroinvertebrates. Effect would vary by species and time of year. Local impact from direct jet plow footprint and sediment redeposition to macroinvertebrates.
Wetlands	6.2 acres temporary impacts to tidal habitats areas and fringing salt marsh. Potential 0.2 acres of permanent impacts from concrete mattresses.	12.7 acres temporary impacts to freshwater wetland resources at the staging area on west side of the Bay.	3.7 acres temporary impacts to estuarine subtidal areas; 1.6 acres temporary impacts to freshwater wetland resources at the staging areas and casing laydown areas. No concrete mattress expected.
Visual	A barge, tugboat and 2 workboats and hand jet operations for up to 2 months in the fall.	Staging areas in Durham and Newington will be construction work areas for approximately 28 months with heavy equipment, supplies and lights for night work; 20-foot tall screens around staging area will partially mitigate light; barge and support vessels stationed on water during entire HDD operations in event of inadvertent release.	Staging areas in Durham and Newington will be construction work areas for approximately 10 months with heavy equipment, supplies and lights for night work; barge and support vessels stationed on water in event of inadvertent return; barge and 2 workboats for jet plow and hand jet operations.
Noise Effect on Humans	Engine and generator noise from barge and support boats during jet plowing and hand jetting up to 2 months in fall; on-shore Frenching with an excavator.	Elevated noise from drills and generators will occur during drilling operations (28 months) and pneumatic hammer work (1-2 weeks). 20-foot fall sound barriers will be	Elevated noise from drills and generators will occur during drilling operations (10 months) and pneumatic hammer work (1-2 weeks). 20-foot fall sound barriers will be erected to reduce sound levels; engine and generator noise from barge

		erected to reduce sound levels.	and support boats during jet plowing and hand jetting.
Traffic	Delivery of construction equipment and crews.	Oversized trucks and trailers will travel secondary roads in Durham and Newington, including 70-ton drill rigs and 50-ton cable reels; daily traffic for work crews and tankers to remove drilling fluids and storm water management.	For HDD, oversized trucks and trailers will travel secondary roads in Durham and Newington, including 70-ton drill rigs and 50-ton cable reels; daily traffic for work crews and tankers to remove drilling fluids and storm water management. For jet plow and hand jet, no local land-based traffic anticipated.
Land Rights	Obtained.	Requires new land rights for 11 properties in Durham, and 2 properties in Newington.	Requires new land rights for 5 properties in Durham, and 10 properties in Newington.
Project Cost	\$84 million (+/-25%)	\$216 million (-25% / +50%).	\$184 million (-25% / +50%).

App. 133, Table 1.

Attachment B

Counsel for the Public submitted the following table summarizing and comparing potential impacts from HDD and jet plowing:

Impact Category	Entire Width HDD Crossing	HDD at One or Both Landfalls	Entire Width Jetting Installation
Water Quality Effects from Jet Plowing	None	Jetting length reduced, depending on length of HDD bore(s)	As described by Applicant in the Record
Water Quality Effects from Hand Jetting	None	Likely eliminated, depending on length of HDD bore(s)	As described by Applicant in the Record
Impacts to Bathymetry	None	Avoids nearshore impacts, but requires temporary cofferdam installation and dredging. Jetting length reduced.	As described by Applicant in the Record
Impacts to Sediments	None unless frac-out occurs	Avoids nearshore impacts, but requires temporary cofferdam installation and dredging. Potential for frac-out. Jetting length reduced	As described by Applicant in the Record
Impacts to Tidal Wetlands	None unless frac-out occurs	Avoids nearshore impacts and potentially eliminated tidal wetland impacts.	As described by Applicant in the Record
Construction Duration	Longest	Longer than jet plow installation. Multiple construction phases possibly over multiple years depending on allowable in-water work windows.	Shortest
Noise Impacts	Highest potential and longest duration. Drilling operations typically run almost 24 hours per day, 7 days per week until complete.	HDD use increases impacts. Drilling operations typically run almost 24 hours per day, 7 days per week until complete.	As described by the Applicant in the Record
Shoreland Impacts	Depends on HDD entry and operations area locations.	Depends on HDD entry and operations area locations(s). Potential	As described by Applicant in the Record

	Potential impacts at both landfalls.	impacts at one or both landfalls.	
Upland Construction Area	Requires HDD Operations Area that could be on the order of 0.25 acres at HDD entry location. Smaller operations area required at exit point. Requires space to lay out and join 1.1 miles of HDD conduit per borehole drilled.	Require HDD Operations Area that could be on the order of 0.25 acres at one or two HDD entry locations. Requires space to lay out and join length of HDD conduit equal to length of each borehole drilled.	Limited to area needed to install transition vault and trenches for the cables between waterline and the vault.
Construction Cost	Likely significantly higher than jetting installation and use of HDD at one or both landfalls.	Likely higher than jetting installation.	As described by Applicant in the Record.

CFP 2, Addendum A

Attachment C

Essential fish habitat that may be impacted by construction of the Project between August and December:

Species	Life Stages	Water Region	Impact Type		
			Permanent	Temporary	
			Area ⁴⁶	Area ⁴⁷	Duration ⁴⁸
Atlantic Cod	Eggs	Surface		6.22 – 35.34 acres	23 to 41 hours
Atlantic Halibut	Eggs	Surface to Bottom			
	Spawning Adults	Demersal	≤ 8,681 square feet		
Atlantic Mackerel	Larvae	Pelagic			
	Juveniles	Pelagic			
Bluefish	Juveniles	Pelagic			
	Adults	Pelagic			
Pollock	Larvae	Pelagic			
	Juveniles	Demersal	≤ 8,681 square feet		
Red Hake	Adults	Demersal	≤ 8,681 square feet		
White Hake	Eggs	Demersal			
	Juveniles	Surface	≤ 8,681 square feet		
	Adults	Demersal	≤ 8,681 square feet		
Windowpane Flounder	Eggs	Surface			
	Larvae	Pelagic			
	Juveniles	Demersal	≤ 8,681 square feet		
	Adults	Demersal	≤ 8,681 square feet		
	Spawning Adults	Demersal	≤ 8,681 square feet		
Winter Flounder	Juveniles	Demersal	≤ 8,681 square feet		
	Adults	Demersal	≤ 8,681 square feet		

App. 131, Table 4.

⁴⁶ Maximum area of concrete mattresses.

⁴⁷ Excess total suspended solids concentration ≥10 ppt.

⁴⁸ Three jet plowing events of 7 to 13 hours, plus total suspended solids plume persistence of 39 minutes after each plowing event.