

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 19-80

December 15, 2020

Petition of NSTAR Electric Company d/b/a Eversource Energy Pursuant to G.L. c. 164, § 72, for Approval to Construct and Operate a New 115 kV Overhead Transmission Line on an Existing Right-of-Way in the Town of Barnstable, Massachusetts.

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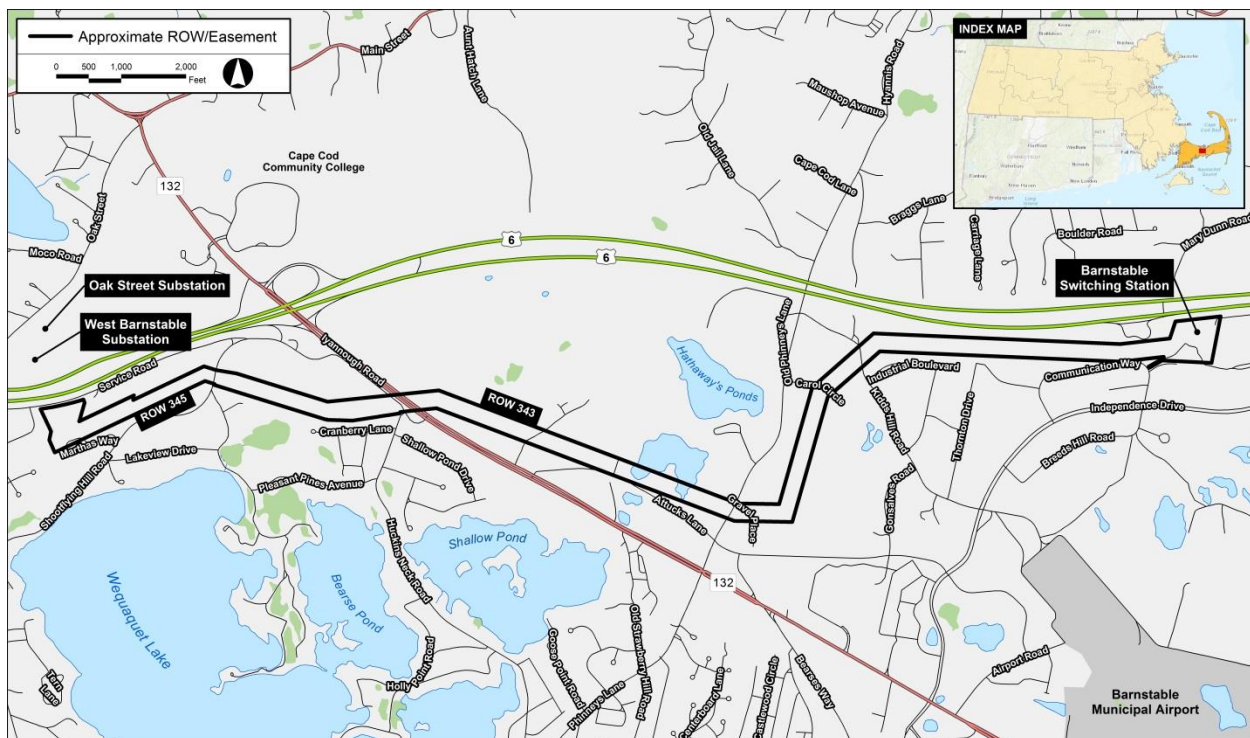
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I. INTRODUCTION

A. Description of Proposed Project

On June 26, 2019, NSTAR Electric Company d/b/a Eversource Energy (“Eversource” or “Company”) filed a petition (“Petition”) with the Department of Public Utilities (“Department”) pursuant to G.L. c. 164, § 72, seeking approval to (1) separate two circuits that are supported by common double-circuit structures by relocating one of the 115 kilovolt (“kV”) electric transmission lines onto 28 new monopole structures to be constructed along approximately 3.3 miles of Company right-of-way (“ROW”) between Shootflying Hill Road and the Barnstable Switching Station, both in Barnstable, Massachusetts; and (2) install optical ground wire (“OPGW”)¹ on the new structures for the same 3.3 miles and for an additional 0.5 miles on existing transmission structures along an electrical ROW west of Shootflying Hill Road (“Barnstable Reliability Project” or “Project”). The Project location is shown in Figure 1 below. The Department docketed the filing as D.P.U. 19-80.

¹ The OPGW installation replaces existing static wire equipment (Exh. EV-1, at 1).

Figure 1. Project Location

Adapted from Exh. EV-1, att. A, fig. 1.

Existing double-circuit towers (“DCTs”) between Shootflying Hill Road and Barnstable Switching Station currently support two 115 kV circuits (Lines 122 and 135); the DCTs are located on the north side of the ROW designated as ROW 343 (Exh. EV-1, at 7). ROW 343 also contains, for most of its length, an additional 115 kV overhead transmission line (Line 115) and two 23 kV overhead distribution lines (Exh. EV-1, at 63). Several of these lines continue west onto ROW 345 (*id.*). New structures installed for the Project would support the relocated Line 135 towards the middle of ROW 343, using new conductors, while Line 122 remains on the existing structures (Exh. EV-1, att. A, fig. 7). The Project does not include new structures on ROW 345, as Line 135 does not currently share structures with Line 122 west of Shootflying Hill Road (Exh. EV-1, at 40). Eversource also proposes to install OPGW above the transmission

conductors for communication between facilities and for protection from lightning and fault currents (Exh. DPU-G-9). The Project will not require significant station work at either the West Barnstable Substation or the Barnstable Switching Station because the lines to be separated are existing lines that will continue to connect to existing terminal equipment (Exh. EV-1, at 7).

Prior to filing its Petition in this proceeding, Eversource met with members of the local community to discuss the Company's proposed Project on eight occasions (Exh. EV-1, at 9-10). Eversource conducted an introductory briefing for municipal officials on August 10, 2018, and held additional meetings with Town of Barnstable representatives in February 2019 (Exh. EV-1, at 10). The Company held a public information session at the Hyannis Golf Course, which is an abutting property owner, on March 12, 2019 (Exh. EV-1, at 9).

Eversource also met with Project abutters and mailed fact sheets to property owners within 300 feet of the Project ROW in May 2019 – prior to providing public notice required by the Department, as described below (Exh. EV-1, at 9). The Company indicated that none of the abutters expressed specific concerns about the Project (Exh. EV-1, at 9).

The Project planning grade cost estimate is approximately \$10.8 million (-25%/+25%) (Exh. EV-1, at 8). ISO-New England ("ISO-NE") evaluated the Project through its regional reliability and solution study process, identifying a potential load loss in the Cape Cod area of approximately 300 megawatts ("MW") under certain contingency conditions (Exh. EV-1, at 19, 26). ISO-NE selected the Project as the preferred solution for the reliability issues within the Cape Cod area (Exh. EV-1, at 19). As a solution to a regional reliability problem, ISO-NE determined that the cost of the facilities should be recovered through transmission rates charged to New England electric customers on a regional basis (Exhs. EV-1, at 26, att. F; DPU-C-1;

Tr. at 40-41). Eversource anticipates that the Project would take less than 14 months to construct and could be in service by December 2021 (Exh. EV-1, at 8; Tr. at 75).

B. Procedural History

On September 24, 2019, the Department issued an Order of Notice requiring Eversource to publish a notice of adjudication and public hearing. The Department directed the Company to publish the Notice of Public Comment Hearing/Notice of Adjudication for the public comment hearing in the Cape Cod Times, the Barnstable Patriot, and the Portuguese Times. The Department's Order of Notice required the Company to provide information in English and Portuguese regarding the Company's filing and the public comment hearing. As directed by the Department, the Company provided Notice to the Barnstable Town Council, the Barnstable Town Manager, the Barnstable Planning Board, the Barnstable Zoning Board of Appeals, the Barnstable Conservation Commission, the Barnstable Department of Public Works, all persons owning real estate abutting the property subject to the Project, owners of properties opposite the property across any public or private street or way, and abutters to abutters within 300 feet of the right-of-way. On November 4, 2019, the Department conducted a site visit, followed by a duly noticed public hearing at Barnstable High School.

The notice of adjudication established a deadline of November 18, 2019, for petitions to intervene or request limited-participant status in this proceeding. Vineyard Wind LLC ("Vineyard Wind"), an offshore wind energy developer, filed a timely motion to intervene in this

proceeding.² The Company did not object to Vineyard Wind's Motion to Intervene, and the Hearing Officer granted the Motion on January 21, 2020.

The Company sponsored ten witnesses: (1) Robert Andrew, director of system solutions at Eversource; (2) James Bodkin, a lead transmission engineer at Eversource; (3) David Burnham, manager of ISO policy and economic analysis at Eversource; (4) Theresa Feuersanger, supervisor of transmission and distribution rights and survey at Eversource; (5) David Klinch, principal at Epsilon Associates; (6) Paul Krawczyk, a lead transmission analyst at Eversource; (7) Barry Lanham, a senior project manager at Eversource; (8) Joseph Mayall, a project manager at Eversource; (9) Christopher Soderman, acting director of transmission line engineering at Eversource; and (10) Michael Zylich, a senior environmental engineer at Eversource.

In light of Massachusetts' ongoing State of Emergency relating to Covid-19, on April 7, 2020, the Department conducted a remote evidentiary hearing using videoconferencing technology with live public access over the internet. Vineyard Wind attended the hearing but did not provide direct testimony or cross-examine witnesses. Vineyard Wind filed a comment letter indicating support for the Project on March 19, 2020. The Company submitted a brief on April 28, 2020.

² On May 10, 2019, the Energy Facilities Siting Board ("Siting Board") approved Vineyard Wind's request to build the Massachusetts portions of an 800 MW offshore wind energy project, including facilities to interconnect to the regional electric grid at the Barnstable Switching Station. Vineyard Wind, LLC, EFSB 17-05/D.P.U. 18-18/18-19 (2019) ("Vineyard Wind 1"). The site of Vineyard Wind's substation approved by the Siting Board abuts the Barnstable Switching Station. Vineyard Wind 1 at 1, 112.

The evidentiary record of the proceeding includes the Company's Petition and accompanying exhibits, the Company's responses to 86 information requests propounded by the Department, and the Company's responses to ten record requests.

II. REQUEST FOR AUTHORITY TO CONSTRUCT AND USE TRANSMISSION LINE PURSUANT TO G.L. c. 164, § 72

A. Standard of Review

General Laws c. 164, § 72 requires, in relevant part, that an electric company seeking approval to construct a transmission line must file with the Department a petition for:

authority to construct and use ... a line for the transmission of electricity for distribution in some definite area or for supplying electricity to itself or to another electric Company or to a municipal lighting plant for distribution and sale ... and shall represent that such line will or does serve the public convenience and is consistent with the public interest The [D]epartment, after notice and a public hearing in one or more of the towns affected, may determine that said line is necessary for the purpose alleged, and will serve the public convenience and is consistent with the public interest.³

The Department, in making a determination under G.L. c. 164, § 72, considers all aspects of the public interest. Boston Edison Company v. Town of Sudbury, 356 Mass. 406, 419 (1969). All factors affecting any aspect of the public interest and public convenience must be weighed fairly by the Department in a determination under Section 72. Town of Sudbury v. Department of Pub. Utils., 343 Mass. 428, 430 (1962); NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 19-46, at 5 (2020) ("Dartmouth").

³ Pursuant to G.L. c. 164, § 72, the electric company must file with its petition a general description of the transmission line, a map or plan showing its general location, an estimate showing in reasonable detail the cost of the line, and such additional maps and information as the Department requires.

In evaluating petitions filed under G.L. c. 164, § 72, the Department examines (1) the need for, or public benefits of, the present or proposed use; (2) the present or proposed use and any alternatives identified; and (3) the environmental impacts or any other impacts of the present or proposed use. Dartmouth at 34; New England Power Company d/b/a National Grid, D.P.U. 19-16, at 33 (2020); NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 18-21, at 58 (2019); New England Power Company d/b/a National Grid, D.P.U. 12-02, at 37-38 (2012). The Department then balances the interests of the general public against the local interests and determines whether the line is necessary for the purpose alleged and will serve the public convenience and is consistent with the public interest. Save the Bay, Inc. v. Department of Public Utilities, 266 Mass. 667, 680 (1975); Town of Truro v. Department of Public Utilities, 365 Mass. 407 (1974); Dartmouth at 34.

B. Public Convenience and Public Interest

1. Need for or Public Benefits of the Proposed Use

a. Company Description

i. ISO-NE Planning Process

As the administrator for regional system planning, ISO-NE must develop regional transmission plans over a ten-year planning horizon as directed by the Federal Energy Regulatory Commission (Exh. EV-1, at 15). For the southeastern Massachusetts and Rhode Island (“SEMA-RI”) area, ISO-NE conducted a Needs Assessment (“2016 SEMA-RI Needs Assessment”), evaluating transmission reliability from 2016 to 2026 (Exhs. EV-1, at 17-18,

att. C at 9; DPU-N-2).^{4,5} The Needs Assessment used ISO-NE's 2015 Forecast Report of Capacity, Energy, Loads, and Transmission ("CELT Report") to extrapolate summer peak load forecasts over the 2016-2026 time period (Exh. EV-1, att. C at 9).^{6,7} The CELT Report adjusted the summer peak load values by subtracting estimated passive demand resources ("DR"), energy efficiency ("EE"), and solar photovoltaic ("PV") generation figures (Exh. DPU-N-15).

As part of the 2016 SEMA-RI Needs Assessment, ISO-NE identified the potential for consequential load loss as a result of transmission line contingencies (Exh. EV-1, att. E at 2).⁸

⁴ The Company stated that it was a member of a Working Group that conducted the ISO-NE study, along with representatives from ISO-NE and National Grid (Exh. EV-1, at 17-18). ISO-NE issued the 2016 SEMA-RI Needs Assessment in May 2016, followed by two report addenda issued in October 2016 and July 2018, respectively (Exh. EV-1, at 18, att. D, att. E). The July 2018 addendum presents the need for the Project (Exh. EV-1, at 18).

⁵ Overall, the 2016 SEMA-RI Needs Assessment revealed network reliability deficiencies throughout the SEMA-RI region, including large pockets of load served by a relatively small number of connections to the high-voltage (345 kV) transmission network that could result in thermal overloads, low voltage, or voltage collapse following N-1-1 contingencies (Exh. EV-1, att. F at 28). N-1 and N-1-1 contingencies represent the loss of a single transmission element and the loss of two transmission elements in sequence, respectively (Exh. EV-1, at 20).

⁶ The peak load forecast assumed 90/10 weather conditions for modeling summer peak load profiles (Exh. EV-1, att. C at 16). A 90/10 forecast represents peak load scenarios that have a ten percent chance of being exceeded in a given year (Exh. EV-1, at 21, n.14). ISO-NE calculated the 2026 summer peak load value by applying the anticipated annual peak demand growth rate in New England to the projected 2024 peak load contained in the 2015 CELT Report (Exh. EV-1, att. C at 13).

⁷ The Department and the Siting Board have found that the CELT forecast is reviewable, appropriate, and reliable in a number of recent decisions. See e.g., NSTAR Electric Company d/b/a Eversource Energy, EFSB 17-02/D.P.U. 17-82/17-83, at 26, n.29 (2019).

⁸ Consequential load loss refers to load that is no longer served by the transmission system when transmission facilities are automatically removed from service by a protection system operation designed to isolate a fault on the system (Exh. EV-1, at 21, n.12).

According to the Company, ISO-NE requires transmission owners to address any modeled consequential load loss approaching or exceeding a 300 MW threshold (Exh. EV-1, at 14, 26, n.17). If a potential loss of 300 MW of load or greater exists, ISO-NE then evaluates potential solutions to reinforce the reliability of the electric system and prevent that potential load loss (Exh. EV-1, at 14, 26, n.17).⁹

ii. Project Specific Need

Eversource described the Project as one of a suite of reliability projects identified by ISO-NE through its regional planning process to reinforce the regional transmission system in the SEMA-RI area and ensure that the SEMA-RI transmission system meets national and regional reliability standards (Exh. EV-1, at 17). The Project would be located in the Cape Cod Subarea within the SEMA-RI area (Exh. EV-1, at 19).¹⁰

The Company described the primary electric transmission system for the Cape Cod Subarea as connecting, from west to east, the Bourne Switching Station, the West Barnstable Substation, the Barnstable Switching Station, and the Harwich Tap, before continuing eastward

⁹ As noted in the second addendum to the 2016 SEMA-RI Needs Assessment, ISO-NE's 2010 Transmission System Planning Load Interruption Guideline ("Load Interruption Guideline") does not allow more than 300 MW of consequential load interruption following an N-1-1 contingency (Exhs. EV-1, att. E at 1, 11; DPU-N-4). Under the Load Interruption Guideline, consequential load interruptions below 100 MW are allowable, while load interruptions approaching 300 MW are potentially allowable. See https://www.iso-ne.com/static-assets/documents/committees/comm_wkgrps/prtcpnts_comm/pac/reports/2011/load_interruption.pdf (Exh. EV-1, att. E at 1. n.3). Eversource explained that load loss more than 300 MW would also qualify the Project for regional cost recovery (Exh. DPU-N-4).

¹⁰ ISO-NE divides the SEMA-RI area into six geographical subareas, one of which is named the Cape Cod Subarea (Exh. EV-1, att. F at 9). The Cape Cod Subarea includes a southeastern portion of Plymouth County, Cape Cod, and the islands of Martha's Vineyard and Nantucket (Exh. EV-1, at 3).

to the Orleans Substation (Exh. EV-1, at 5). According to ISO-NE designations, transmission facilities from the Cape Cod Canal east to the Barnstable Switching Station are considered pool transmission facilities, while transmission facilities to the east of the Barnstable Switching Station are “radial” transmission facilities referred to as local transmission facilities (Exhs. EV-1, at 5; DPU-N-1).

On the 3.3-mile span between West Barnstable Substation and Barnstable Switching Station, two of the 115 kV transmission circuits (Line 122 and Line 135) are installed on the same set of DCTs and the third line (Line 115) is on monopole structures (Exh. EV-1, at 5). The Company evaluated the amount of load in the area served through the Barnstable Switching Station (i.e., the “Eastern Cape” and Nantucket) that could be lost for certain combinations of two sequential contingencies on the transmission system (Exh. EV-1, at 5). Such an outage would exceed 300 MW of load lost for every year (2019-2028) of the 2019 CELT Report, as identified in the Company’s update assessment described below (Exhs. EV-1, at 5; DPU-N-13).

ISO-NE identified preliminary solutions to the needs identified in the 2016 Needs Assessment in the SEMA-RI 2026 Solutions Study (“Solutions Study”) in March 2017 (Exh. EV-1, at 19). The Company stated that the solutions identified as preferred by ISO-NE in the Solutions Study were added to ISO-NE’s list of approved projects, which transmission owners/developers, such as Eversource, then seek to permit as proposed projects and construct upon regulatory approval (Tr. at 28-29). The Company stated that the Project was one of 25 individual transmission projects that resulted from the Solutions Study (Exh. EV-1, at 17).¹¹

¹¹ Among the 25 projects is a separate project to install a new 115 kV line from Bourne to West Barnstable, docketed with the Siting Board as NSTAR Electric Company d/b/a Eversource Energy, EFSB 19-06/D.P.U. 19-142/19-143 (Exh. EV-1, att. F at 46).

The Company conducted an updated assessment of the reliability of the Cape Cod transmission system, using the 2019 CELT Report as its base (Exh. EV-1, at 25). Based on its updated assessment, Eversource concluded that the potential consequential load loss continues to exceed 300 MW for the duration of the study period and beyond for the same N-1-1 contingency conditions assessed by ISO-NE (Exh. EV-1, at 25). Specifically, Eversource's updated forecast indicated 319 MW of consequential load loss for the year 2026, as compared to the ISO-NE Needs Assessment forecast of 372 MW of consequential load loss in 2026 (Exh. EV-1, at 25, Table 2). Eversource explained this reduction by noting that the 2019 CELT Report forecasted lower load growth due to greater savings from EE and distributed generation ("DG") (Exh. EV-1, at 24).

The Company stated that the result of its updated load analysis demonstrates that the Project need established in the earlier ISO-NE analyses remains valid, with projected consequential load losses exceeding 300 MW (Exh. EV-1, at 25). The Company indicated that the updated forecast of load loss corresponds to a service outage for approximately 128,000 customers in the Cape Cod Subarea (Exhs. EV-1, at 19; DPU-N-7). The Company stated that the Project would meet this identified need and thereby provide transmission support to the area served by the Oak Street, Hyannis Junction, Candle Street, Harwich, Orleans, and Wellfleet Substations ("Project Load Pocket") (Exhs. EV-1, at 19; DPU-N-10).

In addition to the potential loss of service under contingency conditions, Eversource also noted that it has a long-term power purchase agreement with Vineyard Wind's proposed 800 MW offshore wind project ("Vineyard Wind 1") (Exh. EV-1, at 33). The Company reported that an ISO-NE System Impact Study for Vineyard Wind 1 has already been completed, with the

Project included in ISO-NE's base case assumptions (Exh. EV-1, at 33). Therefore, the Company contends that without the Project, Vineyard Wind 1 would not be able to interconnect to the regional network absent a new System Impact Study (Exh. EV-1, at 33-34; Tr. at 36-37).

b. Analysis and Findings

As part of its systems planning process, ISO-NE projected summer peak loads in the Cape Cod Subarea between 2016 and 2026 (Exh. EV-1, att. C at 13). Using the subsequent 2019 CELT Report, the record shows that the Project Load Pocket is potentially subject to consequential load loss of more than 300 MW in the event of an N-1-1 contingency for each year 2019-2028 (Exhs. EV-1, at 5; DPU-N-13). This amount of load loss is equivalent to an outage for approximately 128,000 customers and exceeds ISO-NE guidelines (Exh. EV-1, at 19, 25). ISO-NE's initial assessment of transmission reliability in the Cape Cod Subarea used the 2015 CELT Report, one of a series of regional load forecasts that the Department has previously been found to provide appropriate load forecasts. See, e.g., New England Power d/b/a National Grid, D.P.U. 15-44/15-45, at 11-18 (2016). The Department finds that the methods used by Eversource and by ISO-NE to perform the load projections are reasonable and consistent with past approaches accepted by the Department and the Siting Board. Dartmouth at 5-10 (2020); NSTAR Electric Company d/b/a Eversource Energy, EFSB 17-02/D.P.U. 17-82/17-83, at 16-25 (2019); New England Power d/b/a National Grid, D.P.U. 15-44/15-45, at 11-18 (2016).

Eversource completed an updated assessment of transmission system's performance using the 2019 CELT Report, which forecasted lower load growth than did the 2015 CELT Report (Exh. EV-1, at 24). The record shows that, with either forecast, the Project would prevent the loss of over 300 MW of load and loss of service to 128,000 customers in the event of

an N-1-1 contingency (Exh. DPU-N-10).^{12,13} Losing over 300 MW of load would be an unacceptable result, notwithstanding that loss of all three lines would be a fairly remote possibility (Exh. EV-1, at 26, n.17). In addition, under ISO-NE guidelines, ISO-NE considers loss of over 300 MW sufficiently serious to warrant Company action and regionalization of Project costs (Exhs. EV-1, att. E at 1, 11; DPU-N-4).

Accordingly, the Department finds that the Company has established need for the Project and that the construction and operation of the Project would result in public benefits.

2. Alternatives Explored

As part of its analysis, Eversource identified another transmission alternative and various potential non-transmission alternatives (“NTA”) and evaluated the ability of those alternatives and the Project to meet the identified reliability need (Exh. EV-1, at 26-39).¹⁴

¹² Although a greater amount of EE and DG implemented in the Project Load Pocket lowered the forecast of summer peak load, the Company confirmed that the net load loss would still be more than 300 MW, and that the Project is still needed (Exh. EV-1, at 25). Although EE and DG were not able to obviate the need for this project, EE and DG continue to be important aspects of distribution system planning to meet the Commonwealth’s clean energy policies objectives. See D.P.U. 20-75, Department's Investigation into Distributed Energy Resource Planning. The Department notes the Company’s efforts to promote the factors that are decreasing the peak loads – primarily EE and DG – and encourages the Company to continue these efforts.

¹³ The record also shows that the Project would facilitate the interconnection of the Vineyard Wind 1 project previously approved by the Siting Board in Vineyard Wind 1 (Exh. EV-1, at 33-35).

¹⁴ Eversource did not evaluate a no-build alternative, explaining that such an approach would prevent the Company from meeting mandatory transmission reliability standards and criteria (Exh. EV-1, at 27).

a. Transmission Alternatives

As described above, the Project would split the lines on the DCTs by relocating one of the two existing transmission lines currently on the DCTs onto new towers (Exh. EV-1, at 1). Assuming the Project's construction, the Company calculated that with N-1 and N-1-1 contingencies line loading on the remaining 115 kV line in the Project ROW would be at 35 percent and 72 percent of summer long-time emergency ratings, respectively, in 2026 (Exh. DPU-PA-2). The Company asserted that environmental impacts of the Project would be limited because the relocated line would be within an established transmission ROW (Exh. EV-1, at 27-28; Eversource Brief at 32). As noted above, the estimated cost of the Project would be \$10.8 million (Exh. EV-1, at 8).

As an alternative, the Company evaluated installing a completely new transmission line in the same ROWs from West Barnstable Substation to Barnstable Switching Station ("Transmission Alternative"), spanning the full four miles between the substations (Exh. EV-1, at 27-28). The Transmission Alternative would require station work beyond the existing fence lines at both substations – including trenching for underground substation connections as well as making space for new circuit breakers because there is no additional load switching capability at either station (Exh. EV-1, at 28–29). The Company stated that, while it owns the land required for expansion, these lands are not all zoned to allow such use (Tr. at 68). The Company also asserted that this option would require more transmission towers than in its selected project approach (Exh. EV-1, at 30). Finally, Eversource noted that the Transmission Alternative would require the relocation of approximately 0.7 miles of existing overhead distribution lines near the West Barnstable Substation due to space constraints at the site (Exh. EV-1, at 28; Tr. at 69-70).

The Company represented that, while the additional line in the Transmission Alternative would provide a more “robust” system by providing additional capacity to the Project Load Pocket, this was beyond the capacity need level identified in the 2016 SEMA-RI Need Assessment and the Company’s updated assessment (Exh. DPU-PA-2).

As a result of the larger scope of work, Eversource concluded that the Transmission Alternative would have more extensive environmental impacts (Exh. EV-1, at 30; Eversource Brief at 14-15). The Company asserted that temporary construction impacts due to traffic congestion, construction noise and dust, as well as permanent changes to land use around the substations and visual impacts from vegetation removal of the project alternative would exceed impacts of the Project (Exh. EV-1, at 30; Eversource Brief at 14). Eversource also estimated that the Transmission Alternative would cost \$42.6 million, or \$31.8 million more than the Project (Exhs. EV-1, at 28; DPU-PA-1).¹⁵ As well, the Company estimated that construction would take at least six months longer more depending on the ability to scheduled planned outage times., (Tr. at 66).

Eversource concluded that the alternative transmission option would cost more, take longer and cause more environmental impacts (Exh. EV-1, at 29-30). Therefore, the Company chose its selected project approach despite the added robustness from a new transmission line with the Transmission Alternative (Exh. EV-1, at 31).

¹⁵ The Project would cost an estimated \$10.9 million (-25%/+25%) (Exh. EV-1, at 8). The Transmission Alternative would cost an estimated \$42.6 million (-25%/+50%) (Exh. EV-1, at 28). The cost estimates include rounding which may cause small differences in the calculations of the cost of each alternative.

b. Non-Transmission Alternatives

Eversource considered 319.2 MW of energy injection to address the modeled consequential load loss during projected 2026 N-1-1 contingency conditions (based on its updated analysis) (Exh. EV-1, at 25, 31-38). For injection of NTA power, the Company indicated that the Barnstable Switching Station would be the most suitable injection point, based on the electrical capacity of the station and its location within the Project Load Pocket (Exhs. EV-1, at 31; DPU-PA-3). Eversource stated that it restricted its evaluation of NTAs to technologies that can provide power for the entirety of a 12-hour transmission contingency event, which the Company described as a realistic scenario for loss of transmission (and matching the 12-hour periods for which conductors are rated for a long-term emergency) (Exh. EV-1, at 32). The Company also noted that the CELT Report forecasts already accounted for expected EE and DG savings (Exh. EV-1, at 32).

Eversource considered future generation and storage projects that it could or will have access to, such as Vineyard Wind 1, as well as two Eversource-owned battery energy storage system (“BESS”) projects under development in the area (Exh. EV-1, at 32, 35).¹⁶ Eversource evaluated whether Vineyard Wind 1, in combination with the Company’s own energy storage projects on Cape Cod, could meet the minimum injection requirement of 319 MW (Exh. EV-1, at 35). The Company estimated that the BESS projects could provide 31 MW of NTA injection,

¹⁶ The Company noted that there were three distribution-connected BESS projects under development, on Martha’s Vineyard, the Outer Cape and Nantucket (Exh. EV-1, at 34). The first two projects are being developed by Eversource, while the latter is a National Grid asset (Exh. EV-1, at 34-35). The Company added that its Martha’s Vineyard project would not be able to contribute to NTA injection because it is connected in Falmouth, west of the Barnstable Switching Station (Exh. EV-1, at 35).

while Vineyard Wind 1 could offer 160 MW (20 percent of nameplate capacity), which would still leave an injection requirement of 128.2 MW to serve load (Exh. EV-1, at 34-35).¹⁷

Additionally, the Company stated that Vineyard Wind 1 is not a dependable, dispatchable source of generation because its output is dependent on the amount of wind and Vineyard Wind 1 might not be generating at the time of a transmission outage (Exh. DPU-PA-5; Eversource Brief at 18).¹⁸

Assuming that Company's BESS projects and Vineyard Wind 1 could partially contribute to an NTA approach, Eversource evaluated the cost and environmental impacts of implementing an additional NTA project that would provide the remaining 128.2 MW needed to resolve a contingency outage (Exh. EV-1, at 37-38). The Company stated that the least expensive approach would be an aeroderivative gas turbine, which was estimated to cost \$235 million, excluding land acquisitions (Exh. EV-1, at 37-38). The Company estimated that a BESS of equal size would cost \$420 million (Exh. EV-1, at 37). Eversource also asserted that new NTA resources would be unable to relieve the potential for consequential load loss in the near term because the new generation resources would not be able to move through the ISO-NE interconnection process until the completion of interconnection studies for projects with an earlier queue position (Exh. EV-1, at 36). Furthermore, Eversource noted that the footprint of generation facilities that can provide at least 128.2 MW of energy would be very large and, thus,

¹⁷ Eversource stated that the ISO-NE Transmission Planning Guide dictates that only 20 percent of offshore wind nameplate capacity shall be considered for evaluating a base case transmission scenario (Exh. EV-1, at 34; Tr. 48-49).

¹⁸ The Company also explained that under N-1-1 conditions, where the Project Load Pocket is effectively islanded, there would be essentially no ability to balance electric load and offshore wind generation from one instant to the next (Exh. DPU-N-17).

the land cost would be expensive and in addition to the facility cost (Exh. EV-1, at 38; Tr. at 59; RR-DPU-4). Finally, the Company stated that additional infrastructure could be needed, such as a new gas supply lateral should gas-fired generation be selected for the NTA (Exh. EV-1, at 37).

Thus, Eversource concluded that NTAs included in its evaluation would not feasibly meet the reliability need in an N-1-1 contingency, based on the factors for each alternative described above (Exh. EV-1, at 39).

c. Analysis and Findings

Eversource considered constructing a new transmission line within the Project ROW as an alternative to the Project (Exh. EV-1, at 27-28). The record shows that the Transmission Alternative would result in higher cost and more extensive environmental impacts, which outweigh the benefits associated with adding another transmission line to the Project Load Pocket and gaining additional transmission capacity that is not required over the planning horizon or in the foreseeable future (Exh. DPU-PA-2). Therefore, the Company appropriately rejected the Transmission Alternative from further consideration (Exh. EV-1, at 31).

Eversource also evaluated various NTA approaches (Exh. EV-1, at 31). The record shows that these options were unsatisfactory because they either would provide inadequate supply, would take too long to construct, or would require land and infrastructure that is unavailable and much more expensive than the Project (Exh. EV-1, at 39).

Accordingly, the Department finds that the Company's decision to pursue the Project rather than the alternatives is reasonable to meet the identified need, balancing reliability, environmental impacts, and cost.

3. Impacts of the Proposed Use

a. Construction

The Company committed to preparing a detailed construction schedule in coordination with its contractors prior to construction commenced (Exh. EV-1, at 8). The Company would employ a qualified environmental professional to monitor construction activities and ensure compliance with all federal, state, and local permit requirements and Company policies (Exh. EV-1, at 49). The Company anticipates using two or three crews with eight individuals per crew (Exh. DPU-T-2). Eversource indicated that structure sections would be delivered to each proposed location by flat-bed truck and assembled on-site with a crane or bucket truck (Exh. EV-1, at 47). Eversource stated that all new structures would be installed on reinforced concrete drilled caisson foundations with diameters between 7 and 10 feet at depths of 15 to 30 feet (Exh. EV-1, at 46; Tr. at 84-85). The Company noted that the existing structures also have concrete foundations (Tr. at 82-83).

Eversource reported that there are existing crushed stone access roads spanning the length of the ROW which are currently used for inspection and maintenance (Exh. EV-1, at 41). In addition, the Company would construct new access spurs to the new structure locations (Exh. EV-1, at 41, 44). The Company stated that parts of the existing access roads may be smoothed and regraded for passage of larger construction equipment (Exh. EV-1, at 41, 44). The Company explained it may use gravel or crushed stone to provide a level surface at the new structure locations and that it would use timber mats as temporary work pads and pull pads during construction (Exh. EV-1, at 45; Tr. at 88). After construction, the Company would remove the work pads and stabilize and mulch the work pad locations to allow revegetation (Exh. EV-1, at 45).

Eversource stated that the existing ROW has been maintained as scrub-shrub and herbaceous cover types pursuant to the Company's five-year vegetation management plan (Exh. EV-1, at 60). During construction, the Company would carry out limited vegetation removal and mowing for work pad installation and safe passage of equipment (Exh. EV-1, at 41, 43). The Company also expects to trim trees along the ROW to provide sight lines for conductor pulling (Exh. EV-1, at 60). The Company committed to informing and working with abutting property owners where tree trimming outside of the ROW is needed for the safe operation of the Project (Exh. EV-1, at 43; Tr. at 94-97). The Company reported that it would mitigate erosion and sedimentation in areas where soils have been disturbed by vegetation removal during construction (Exh. EV-1, at 43).

Eversource stated that new conductors would be delivered on reels to staging areas within the ROW and installed using the "tension stringing" method (Exh. EV-1, at 47-48). Using this method, the conductor is unreeled under tension and kept from coming into contact with the ground (Exh. EV-1, at 47-48). Eversource explained that conductors are properly "sagged" to the pre-determined conductor design tension and "clipped-in" place (Exh. EV-1, at 47-48).

Following the removal of the old conductors, the Company stated that it would conclude construction activities with ROW clean-up and restoration (Exh. EV-1, at 48). The Company contended that it would reuse as much of the excavated soil as possible for backfilling before removing excess soil from the site (Exh. EV-1, at 46). The Company stated that construction debris and temporary devices would be also removed, and pre-existing "drainage patterns, ditches, roads, walls and fences would be restored to pre-construction condition" (Exh. EV-1, at 49). The Company explained that it would restore disturbed areas by mulching and seeding or

stabilizing with gravel (Exh. EV-1, at 48). The Company also represented that it would chip and remove brush, limbs, and cleared trees rather than leave them in place after construction (Exhs. EV-1, at 43; DPU-CM-5).

The Company has committed to providing continuous notice of the construction activity along the ROW to the public and the Barnstable Department of Public Works, and Eversource has set up a website, <https://www.eversource.com/content/Barnstable-Reliability-Project>, and toll-free number, 800-793-2202, for the public to call with concerns or questions during construction (Exhs. EV-1, at 11; DPU-G-11; DPU-S-1). The Company stated that it would respond within 24 hours or one business day to all inquiries (Exh. EV-1, at 11).

b. Land Use

Eversource indicated that there would not be any change to existing patterns of land use in the Project vicinity, with all impacts being temporary and construction related (Exh. EV-1, at 52). The Company contended that construction activities would be contained within two Company ROWs maintained and operated for existing transmission lines, and no new property rights would be required (Exh. EV-1, at 40-41). The Company identified land use within 300 feet of the ROW, summarized in Table 1, below (Exh. EV-1, at 50-51). Eversource also noted that many of the parcels abutting the Project are undeveloped (Exh. EV-1, at 8).

Table 1: Land use 300 feet from the edge of the ROW.

Land Use Type	Area (Acres)
Commercial	8.88
Cranberry Bog	1.07
Forest	156.77
Industrial	12.64
Very Low Density Residential	1.22
Low Density Residential	8.96
Medium Density Residential	7.64
Mining	25.72
Open Land	1.78
Pasture	0.87
Transitional	3.72
Transportation	36.22
Urban Public/Institutional	0.8
Water	6.22
Municipal Recreational	23.77

Source: Exh. EV-1, at 51, Table 4.

The Company expects that most vegetation clearing would occur before Project construction as part of the aforementioned maintenance schedule (Tr. at 89). The Company would evaluate any trees for removal during the maintenance process (Tr. at 91). The Company stated that it will not use herbicides in the construction phase of the Project (Tr. at 89). Eversource indicated that it maintains the Project ROW edge-to-edge with low-growing shrubs and grass in accordance with its Eastern Massachusetts Five Year Vegetation Management Plan (“VMP”), and that the ROW is due for maintenance in 2020 (Exhs. EV-1, at 40; DPU-LU-2; Tr. at 90-91). The Company represented that it would manage vegetation in the ROW pursuant to the VMP (Exh. EV-1, at 51).

The Company reported that it had fee interest through Article 97 protected areas traversed by ROW 343 (Exh. EV-1, at 51).¹⁹ As such, Eversource contended that no Article 97 disposition review is required despite the adjacent Article 97 lands (Exh. EV-1, at 51; Eversource Brief at 32). The Project also crosses a Massachusetts Division of Fisheries and Wildlife-designated Priority Habitat for State-Protected Rare Species and Estimated Habitats for Rare Wildlife associated with one plant species (Exh. EV-1, at 58). The Company also identified two Watch Listed plant species that had been reported in previous Natural Heritage & Endangered Species Program (“NHESP”) approved surveys in the area (Exh. EV-1, at 58). The Company stated that it conducted its own survey on September 21, 2018, but did not find the rare plant species or the two Watch Listed plant species (Exh. EV-1, at 58).²⁰ Instead, the Company discovered a third Watch Listed species (Exh. EV-1, at 58).

The Company provided a copy of a letter from NHESP determining that the Project would not result in a take of state-listed rare species (Exh. EV-1, att. M). The Company stated that its work within the Priority Habitat would be limited to using two sections of existing roads and, thus, would not result in alterations to critical habitats (Exh. EV-1, at 58). Eversource stated that it would implement avoidance measures for the identified third Watch Listed plant species population, such as temporary construction fencing between work areas and the plant colony (Exh. EV-1, at 59).

¹⁹ A fee interest is the legal possession of both surface and mineral rights for a property.

²⁰ The plant survey was conducted in late summer, which Eversource asserted is a suitable season for detecting the two targeted species (Tr. at 111-113).

Eversource stated that it did not find any historic or archaeological resources in the vicinity based on a review of records and an archaeological survey (Exh. EV-1, at 60). The Company added that in 2016, the Massachusetts Historical Commission (“MHC”) made a finding of no adverse impacts to the Old King’s Highway Regional Historic District, just north of ROW 343 (Exhs. EV-1, at 60-61, att. N; DPU-LU-4).

c. Visual

Eversource stated that the Project would be visually consistent with the prevailing land use in ROW 343, which already contains the DCT, a 115 kV overhead transmission line on wooden H-frame structures, and two 23 kV overhead distribution lines along most of its length (Exh. EV-1, at 40, 55). The 28 new towers would be located to the center of the ROW and, thus, further away from the edge of the ROW (Exh. EV-1, 7, att. A at 7, 9; Tr. at 115). The Company’s plans also show that the new monopole structures (with heights ranging from 73 to 98 feet) would be mostly shorter than the existing structures, which range from 73 to 103 feet tall (Exhs. EV-1, at 55; DPU-V-1). As such, the Company asserted that the Project would not significantly affect the views of abutters along the ROW (Exh. EV-1, at 56; Eversource Brief at 36-37). The Company explained that the new structures would all be monopoles, with the only visual variation being the broader bases of angle structures (Tr. at 85-86). Eversource is required by the Federal Aviation Administration (“FAA”) to install lighting on five of the new structures; however, the Company contended that the lighted structures would have limited visibility from residences due to existing topography and vegetation (Exhs. DPU-CM-7; DPU-N-22(S1) at 8; Tr. at 118-120).

d. Wetlands and Water Resources

Eversource reported that a small isolated wetland, a certified vernal pool, and Hathaway Pond South are each close to ROW 343 (Exhs. EV-1, at 56; DPU-W-3). Eversource stated that no direct impacts to wetland resources are required to construct or operate the Project (Exh. EV-1, at 56). The Company indicated that the placement of one construction work pad would result in approximately 14,000 square feet of temporary buffer zone impacts to a bordering vegetated wetland associated with Hathaway Pond (Exh. EV-1, at 46, 54, att. B at 7). The Company plans to file a Request for Determination Applicability with the Town of Barnstable Conservation Commission to permit the abovementioned work three to four months prior to construction (Exh. DPU-W-7; Tr. at 102). Eversource stated that wetland resources near work areas would be clearly flagged to prevent unauthorized encroachment (Exh. EV-1, at 42). The Company also specified that it would use erosion and sedimentation control devices to separate work sites from wetlands (Exh. EV-1, at 56). Eversource anticipated that dewatering may be necessary for excavations near wetlands or high-water tables (Exh. EV-1, at 46). The Company stated that it would comply with applicable permits and approvals, as well as Company best management practices (“BMP”) (Exh. EV-1, at 46; Eversource Brief at 27). An example of this would be discharging through a proper filter medium such as vegetation or a silt sack barrier (Exh. EV-1, at 46-47).

Eversource also reported that the Project passes through an area approved by the Massachusetts Department of Environmental Protection (“MassDEP”) as a Zone II Wellhead Protection Area (Exh. EV-1, at 57; Tr. at 109). The Company stated that it would require refueling outside of this protection areas to avoid impacts from any unanticipated spillage (Exh. DPU-W-5).

e. Traffic

The primary route of the Project crosses Shootflying Hill Road, Iyannough Road (Route 132), Old Strawberry Hill Road, Phinneys Lane, and Kidd's Hill Road (Exh. EV-1, at 53). The Company stated that it would access the construction sites from public roadways and existing private and public access roads and parking lots (Exh. EV-1, at 44). The Company stated that construction vehicles would range from pick-up trucks to large cranes (Exh. EV-1, at 53). Eversource indicated that traffic impacts would be temporary and related to access to and from the ROW during construction (Exh. EV-1, at 52). The Company asserted that construction traffic, including deliveries and day-to-day personnel traffic, would not significantly affect transportation patterns or levels of service along public roads (Exh. EV-1, at 53). The Company admitted, however, that roads may be blocked temporarily to install guard structures, deliver equipment and material to the ROW, and string conductors over roadways (Exh. EV-1, at 52).

Eversource would require its construction service contractor to obtain an off-site marshaling yard to store materials and allow construction workers to park private vehicles (Exh. DPU-T-2). The Company added that these contractor workers would not be allowed to park on public roadways and instead would carpool in Company vehicles to the ROW from the marshalling yard (Exh. DPU-T-2).

The Company explained that it would avoid stringing conductors over roads at times where traffic is greatest – from both commuter and tourist vehicles – and would request a police detail for the work (Exhs. EV-1, at 53; Tr. at 81-82). The Company's contractor will prepare construction safety plans in consultation with law enforcement or agencies responsible for public roads (Exh. DPU-T-4). The Company stated that the Route 132 crossing will require a permit from the Massachusetts Department of Transportation ("MassDOT") and will be conducted

under a MassDOT-approved traffic management plan (Exh. DPU-T-5). The Company added that it would coordinate deliveries to the work sites with local businesses to ameliorate traffic flow impacts (Exh. EV-1, at 9).

Eversource added that, based on feedback from local businesses, the Company will sequence construction to avoid peak tourist season (Exh. EV-1, at 9). For example, the Company noted that based on its past construction experience in the area, Eversource would structure deliveries to minimize truck traffic during the day in the summer and would work closely with the Town police chief in establishing construction traffic patterns (Tr. at 76-78). The Company stated that it may request a police detail for delivery of materials to the ROW (Exh. DPU-T-4). Additionally, the Company would limit construction at the Hyannis Golf Course to the months of November to March in response to management concerns regarding impacts to golf course access (Exh. DPU-G-4).

f. Noise

Eversource indicated that noise impacts would be temporary and limited to the period of construction (Exh. EV-1, at 53). The Company represented that there were no construction noise ordinances for the Town of Barnstable (DPU-NO-1). The Company anticipates that it would work six days a week between the 7 a.m. and 7 p.m., but also anticipates that concrete foundation pouring and wire stringing may conclude beyond normal working hours (Exh. EV-1, at 48). Eversource would seek municipal approval for construction beyond normal work hours (Exhs. EV-1, at 55; DPU-NO-2).

The Company reported that there are residences and recreational areas near the work sites, with the Hyannis Golf Course and abutting residences on Cranberry Lane and Shallow Pond Drive identified as the closest sensitive receptors (Exh. EV-1, at 54-55). The Company

stated that noise would be generated from preparation of the work areas, delivery of materials, surface grading, foundation construction, monopole construction, and line stringing (Exh. EV-1, at 53). The Company indicated that the noise would not persist for more than three days at any single location and would be localized to the vicinity of construction work (Exhs. EV-1, at 54-55; DPU-NO-9).

Eversource stated that it would employ its construction BMPs to minimize noise generated (Exhs. EV-1, at 53; Tr. at 106). In the vicinity of residential receptors, the Company stated that it would keep noisier equipment, as far away from those residences as possible (Tr. at 106-107). The Company has also established a Project hotline at 800-793-2202 to receive any complaints regarding noise, and would respond in a timely manner (Exh. DPU-NO-6).

g. Air, Safety, Hazardous and Solid Waste

Eversource stated that the main source of air quality impacts would be emissions from construction equipment (Exh. EV-1, at 61). The Company committed to limiting vehicle idling to no more than five minutes as required by state law to minimize emissions and noise, except for vehicles being serviced, vehicles making deliveries, and mobile cranes or bucket trucks (Exh. EV-1, at 61). Eversource stated that it would restrict dust by minimizing disturbed and exposed areas and spraying water (Exh. EV-1, at 61-62). The Company also stated that it would conduct regular sweeping and install a sediment tracking pad and gravel construction entrances to minimize transportation of sediment off-site (Exh. EV-1, at 62).

Eversource would require its construction contractor submit a Project Safety Plan that meets the Company's requirements as well as regulatory agencies such as the Occupational Safety and Health Administration (Exh. DPU-S-1). Furthermore, the Company committed to providing permanent gates and access road blockades to discourage unauthorized access to the

ROW (Exh. EV-1, at 49). The Company will also require its contractor to post and maintain construction warning signs in the vicinity of the work sites (Exh. EV-1, at 53).

To evaluate the potential for encountering contaminated soil or groundwater during construction, Eversource stated that it reviewed the MassDEP reportable release database for spills within 300 feet of the Project ROW (Exh. EV-1, at 59). The Company reported that there were no releases reported within the ROW or within 300 feet of the Project ROW (Exh. EV-1, at 59). The Company added that soil disturbances would be limited to excavation for monopole foundations and surficial grading (Exh. EV-1, at 59). Nevertheless, the Company stated that if contaminated soil were encountered in excavation, it would notify the MassDEP pursuant to 310 CMR 40.046, and subsequently manage the soil in accordance with the Utility-Related Abatement Measures provisions of the Massachusetts Contingency Plan (Exh. EV-1, at 59-60).

Eversource acknowledged that, if spilled during construction, Project materials with potential negative environmental impacts could include oils and construction equipment fuels (Exh. DPU-HW-1). The Company committed to refueling its heavy construction equipment outside of wetlands and having spill containment and absorption apparatus on-site to react to a spill event (Exh. EV-1, at 57). The Company also stated that it would prepare a Stormwater Pollution Prevention Plan (“SWPPP”) and apply for and obtain coverage under the National Pollutant Discharge Elimination System (“NPDES”) Construction General Permit from the U.S. Environmental Protection Agency (Exh. EV-1, at 49). The Company also committed to recycling construction waste as much as possible (Exh. DPU-HW-3).

h. Magnetic Fields

Eversource modeled the magnetic field associated with the Project based on anticipated non-emergency summer peak and annual average transmission line loadings in the year 2021,

which is the expected in-service date for the Project (Exh. EV-1, at 62). The Company explained that it included all the other overhead transmission and distribution lines in ROW 343 in its model (Exh. EV-1, at 62). The Company modeled two representative ROW configurations because there is an additional existing 115 kV line along 0.6 miles of ROW 343 (Exh. EV-1, at 63). The Company then calculated the resultant magnetic field experienced three feet above ground for both edges of ROW 343 and within it (Exh. EV-1, at 62, 65).

The modeled results, presented in Table 2 below, show reduced magnetic fields at all configurations (Exh. EV-1, at 65; RR-DPU-5). The Company explained that this was due to a conductor source moving further away from the edge of the ROW, resulting in diminished magnetic field values with increasing lateral distance from the northern edge of the ROW (Tr. at 115-117). The Company stated that modeled values are well below the guideline threshold for continuous public exposure of 2,000 mG, provided by the International Commission on Non-Ionizing Radiation Protection (Exh. EV-1, at 65).

Table 2: Magnetic field values before and after Project construction

Load Scenario	Cross-section/Route Segment	Northern Edge-of-ROW Magnetic Fields (mg)		Southern Edge-of-ROW Magnetic Fields (mg)	
		Without-Project	With- Project	Without-Project	With- Project
Non-Emergency summer peak	#1: Shootflying Hill Rd to National Grid's Merchants Way Substation	39.9	22.1	25.1	24.6
	#2: National Grid's Merchants Way Substation to Eversource's Barnstable Switching Station #958	39.3	22.5	24.3	24.0
Normal (average)	#1: Shootflying Hill Rd to National Grid's Merchants Way Substation	22.4	11.2	10.2	10.0
	#2: National Grid's Merchants Way Substation to Eversource's Barnstable Switching Station #958	22.1	11.5	9.8	9.7

Source: RR-DPU-5.

i. Analysis and Findings

The record shows that the Project is located within an existing ROW and no expansion or additional property rights are required (Exh. EV-1, at 52). Additionally, there would not be any change to existing patterns of land use in the Project vicinity, with the ROW continuing to be maintained for transmission line operation (Exh. EV-1, at 40-41, 52).

The NHESP determined that the Project would not result in a take of state-listed rare species (Exh. EV-1, att. M). Nevertheless, the Company discovered a state Watch Listed plant species in the area and committed to implementing avoidance measures between work areas and the plant colony (Exh. EV-1, at 58-59). Eversource also did not find any historic or archaeological resources in the vicinity, which corroborated a similar finding by MHC in 2016

(Exh. EV-1, at 60-61). The Company maintains that it does not need any Article 97 legislation for the Project (Exh. EV-1, at 51).

The Project would add 28 new structures to the ROW, which already contains the existing DCT, H-frame structures for another transmission line, as well two overhead distribution circuits for most of its length (Exh. EV-1, at 7, 40). The new towers would be located farther away from the edge of the ROW, and typically shorter than the existing DCT structures (Exhs. EV-1, at 55; DPU-V-1; Tr. at 115). While the Company is required to install FAA lighting near the Barnstable Municipal Airport, the record shows that, from residential areas, the visibility of the new lighting would be limited (Exhs. DPU-CM-7; DPU-N-22(S1) at 8; Tr. at 118-120). As such, the Company indicated that the Project would not increase existing visual impacts along the ROW (Exh. EV-1, at 56; Eversource Brief at 36-37).

Construction of the Project would result in approximately 14,000 square feet of temporary buffer zone impacts but would not result in any direct impacts to wetland resources (Exh. EV-1, at 46, 54). The Company would flag wetland boundaries to protect the wetland from encroachment during construction (Exh. EV-1, at 42). The Company also would require refueling outside of MassDEP-approved Zone II Wellhead Protection Areas to avoid impacts from spillage (Exhs. EV-1, at 57; DPU-W-5; Tr. at 109).

The record shows that traffic impacts associated with the Project would be temporary and limited to access to and from the ROW (Exh. EV-1, at 52; Eversource Brief at 32). Some construction traffic would result from contractors and equipment accessing work areas from public roadways; however, the level of construction would not significantly affect transportation patterns or intersection levels of service (Exh. EV-1, at 52-53; Eversource Brief at 53). The

Project would require a limited number of temporary road closures to allow for the installation of guard structures and wire stringing (Exh. EV-1, at 52). The Company explained that it would employ a police detail for road crossings and implement an MassDOT-approved traffic management plan (Exhs. EV-1, at 53; DPU-T-5; Tr. at 81-82). The Company would also coordinate traffic flow with local businesses regarding delivery to the work sites and avoid deliveries during the day in the summer (Exh. EV-1, at 9; Tr. at 76-78). The Company will also schedule construction at the Hyannis Golf Club between November and March to avoid interfering with golfers' access (Exh. DPU-G-4).

Eversource has stated its expectation that its construction work hours would be Monday through Saturday between 7:00 a.m. to 7:00 p.m., with the exception of certain limited special circumstances (Exh. EV-1, at 48). Should the Company need to extend construction work beyond those hours and days (with the exception of emergency circumstances on a given day that necessitate work beyond such times), the Company is directed to seek written permission from the Town of Barnstable prior to the commencement of such work and to provide the Department with a copy of such permission. If the Company and the Town are not able to agree on whether such extended construction hours should occur, the Company may request prior authorization from the Department and shall provide the Town with a copy of any such request.

The Company shall inform the Department and the relevant municipal authorities in writing within 72 hours of any work that continues beyond the hours allowed by the Department, or, if granted extended work hours in writing by the Town of Barnstable, work that continues past the extended hours allowed. The Company shall also send a copy to the Department, within 72 hours of receipt, of any authorization for an extension of work hours. Furthermore, the

Company shall keep a record of the dates, times, locations, and durations of all instances in which work continues beyond the hours allowed by the Department, or, if granted extended work hours in writing by the Town, work that continues past the extended hours allowed, and must submit such record to the Department within 90 days of Project completion.

Finally, to ensure that information about construction and operation of the Project is disseminated more widely within the community, the Department directs the Company, in consultation with the Town, to develop its community outreach plan for Project construction and operation. The outreach plan should, at a minimum, lay out procedures for providing prior notification to affected residents of the following: (1) the scheduled start, duration, and hours of construction; (2) any construction that must take place outside the normal hours or days indicated above; (3) any operation the Company intends to conduct that could result in unexpected community impacts due to unusual circumstances; and (4) complaint and response procedures, including contact information.

The record shows that noise impacts of the Project would be intermittent and localized (Exh. EV-1, at 54-55). The Company committed to limiting vehicle idling as required by state law to minimize emissions and noise (Exh. EV-1, at 61). The Company also provided contact information for noise complaints (Exh. DPU-NO-6).

Eversource also committed to minimize disturbed and exposed areas and spray water to reduce dust (Exh. EV-1, at 61-62). The Company would conduct regular sweeping and install a sediment tracking pad and gravel construction entrances to minimize transportation of sediment (Exh. EV-1, at 62).

The Company reported no historical hazardous material spills in the vicinity of the ROW (Exh. EV-1, at 59). Nevertheless, the Company has a notification plan should it encounter contaminated soil (Exh. EV-1, at 59-60). The Company would also refuel heavy equipment outside of wetlands and have spill containment apparatus on-site (Exh. EV-1, at 57).

The Company's magnetic field models show reduced edge-of-ROW magnetic fields after the Project is implemented (Exh. EV-1, at 65). The predicted magnetic field values are generally consistent with levels in projects previously approved by the Department. See NSTAR Electric Company d/b/a Eversource Energy, D.P.U. 18-21 (2019); New England Power Company d/b/a National Grid, D.P.U. 14-128/14-129 (2015); NSTAR Electric Company, D.P.U. 14-08 (2015).

The Department concludes that the impacts of the Project will be minimized by the Project's compliance with (1) all applicable federal, state, and local laws and regulations; (2) the avoidance, minimization, and mitigation measures that Eversource has stated it will implement during Project construction, and (3) the Department's conditions, as discussed above and set forth below.

C. Conclusion on Public Convenience and Public Interest

Based on the foregoing analysis of (1) the need for or public benefit of the proposed use; (2) alternatives explored; and (3) impacts of the proposed use, the Department finds that that the Project is necessary for the purpose alleged, the benefits of the Project to the general public exceed the local impacts, and that the Project will serve the public convenience and is consistent with the public interest.

III. SECTION 61 FINDINGS

MEPA provides that "[a]ny determination made by an agency of the Commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding

that all feasible measures have been taken to avoid or minimize said impact” (“Section 61 findings”). G.L. c. 30, § 61. Pursuant to 301 CMR 11.01(3), Section 61 findings are necessary when an Environmental Impact Report (“EIR”) is submitted to the Secretary of Energy and Environmental Affairs (“Secretary”) and should be based on such EIR. Where an EIR is not required, Section 61 findings are not necessary. 301 CMR 11.01(3). The Company filed an affidavit with the Petition attesting that the Project as proposed will not exceed any MEPA review thresholds and thus does not require an additional filing with the Secretary (Exh. EV-1, att. P). Accordingly, Section 61 findings are not necessary in this case.²¹

IV. ORDER

Accordingly, after due notice, hearing, and consideration, it is hereby

ORDERED: That the petition of Eversource, seeking approval to construct and operate a transmission line pursuant to G.L. c. 164, § 72, is granted; and it is

FURTHER ORDERED: Should Eversource need to extend construction work beyond those hours and days (with the exception of emergency circumstances on a given day that necessitate work beyond such times), the Company is directed to seek written permission from the relevant Town of Barnstable authorities prior to the commencement of such work and to provide the Department with a copy of such permission. If the Company and Town of Barnstable officials are not able to agree on whether such extended construction hours should

²¹ The Department notes the requirements set forth in G.L. c. 30A, § 61, effective November 5, 2008, regarding findings related to climate change impacts. The Department notes that this Project would have low greenhouse gas emissions because it does not itself generate power. As such, the Project would have minimal direct emissions from a stationary source under normal operations and would have minimal indirect emissions from transportation sources limited to construction, occasional repair, or maintenance activities.

occur, the Company may request prior authorization from the Department and provide the Town with a copy of such request; and it is

FURTHER ORDERED: That Eversource shall inform the Department and the Town of Barnstable in writing within 72 hours of any work that continues beyond the hours allowed by the Department, or, if granted extended work hours in writing by the Town, work that continues past the hours allowed. The Company shall also send a copy to the Department, within 72 hours of receipt, of any authorization for an extension of work hours. Furthermore, the Company shall keep a record of the dates, times, locations, and durations of all instances in which work continues beyond the hours allowed by the Department, or, if granted extended work hours in writing by the Town of Barnstable, work that continues past the hours allowed, and must submit such record to the Department within 90 days of Project completion; and it is

FURTHER ORDERED: That the Department directs Eversource, in consultation with the Town of Barnstable, to update its a community outreach plan for Project construction and operation. The outreach plan should, at a minimum, lay out procedures for providing prior notification to affected residents of (1) the scheduled start, duration, and hours of construction; (2) any construction that must take place outside the hours or days indicated above; (3) any operation the Company intends to conduct that could result in unexpected community impacts due to unusual circumstances; and (4) complaint and response procedures including contact information; and it is

FURTHER ORDERED: That Eversource and its contractors and subcontractors shall comply with all applicable federal, state, and local laws, regulations, and ordinances for which the Company has not received an exemption; and it is

FURTHER ORDERED: That Eversource shall obtain all other government approvals necessary for the Project; and it is

FURTHER ORDERED: That Eversource and its successors in interest shall notify the Department of any changes other than minor variations to the Project so that the Department may decide whether to inquire further into a particular issue; and it is

FURTHER ORDERED: That because the issues addressed in this Order relative to this Project are subject to change over time, construction of the Project shall commence within three years of the date of this Order; and it is

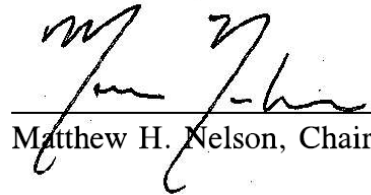
FURTHER ORDERED: That within 90 days of Project completion, Eversource shall submit a report to the Department documenting compliance with all conditions in this Order, noting any outstanding conditions yet to be satisfied and the expected date and status of such resolution; and it is

FURTHER ORDERED: That Eversource and its successors in interest shall comply with all other directives contained in the Order, and it is

FURTHER ORDERED: That the Secretary of the Department transmit a certified copy of this Order and the Section 61 findings herein to the Executive Office of Energy and Environmental Affairs.

FURTHER ORDERED: That the Secretary of the Department transmit a certified copy of this Order to the Town of Barnstable Town Clerk, and that Eversource serve a copy of this Order on the Barnstable Board of Selectmen and the Barnstable Department of Public Works within five business days of its issuance and certify to the Secretary of the Department within ten business days of its issuance that such service has been accomplished.

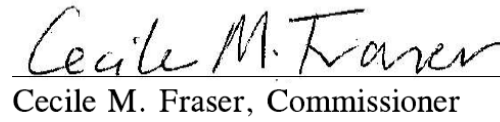
By Order of the Department



Matthew H. Nelson, Chair



Robert Hayden, Commissioner



Cecile M. Fraser, Commissioner

An appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.