

**COMMONWEALTH OF MASSACHUSETTS
ENERGY FACILITIES SITING BOARD**

Petition of New England Power Company d/b/a
National Grid Pursuant to G.L. c. 164, § 69J for
Approval to Construct a New Overhead
Transmission Line in Palmer, West Brookfield,
and Ware, Massachusetts

EFSB 24-02

Petition of New England Power Company d/b/a
National Grid Pursuant to G.L. c. 164, § 72 for
Approval to Construct and Operate a New
Overhead Transmission Line in Palmer, West
Brookfield, and Ware, Massachusetts

D.P.U. 24-190

FINAL DECISION

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August 28, 2026

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ABBREVIATIONS

2022 Clean Energy Act	An Act Driving Clean Energy and Offshore Wind, St. 2022, c. 179
2024 Climate Act	An Act Promoting a Clean Energy Grid, Advancing Equity and Protecting Ratepayers, St. 2024, c. 239
2025-2030 CECF	Clean Energy and Climate Plan for 2025 and 2030
2050 Roadmap	Massachusetts 2050 Decarbonization Roadmap
<u>A1/B2</u>	<u>New England Power Company d/b/a National Grid, EFSB 23-02/D.P.U. 23-45 (2026)</u>
ACEC	Areas of Critical Environmental Concern
ACSR	Aluminum Conductor Steel-Reinforced
ACSS	Aluminum Conductor Steel Supported
<u>Acushnet</u>	<u>NSTAR Electric Company d/b/a Eversource Energy and New England Power Company d/b/a National Grid, EFSB 21-04/D.P.U. 21-149 (2026)</u>
<u>Beverly-Salem</u>	<u>New England Power Company d/b/a National Grid, EFSB 19-04/D.P.U. 19-77/19-78 (2021)</u>
BMPs	Best Management Practices
<u>Colonial 2016</u>	<u>Colonial Gas Company d/b/a National Grid, EFSB 16-01 (2016)</u>
<u>Colonial 2019</u>	<u>Colonial Gas Company d/b/a National Grid, EFSB 18-01/D.P.U. 18-30 (2019)</u>
Company	New England Power Company d/b/a National Grid (“NEP”)
dBA	A-Weighted Decibels
Department	Massachusetts Department of Public Utilities
EENF	Expanded Environmental Notification Form (MEPA)
EJ Protocols	MEPA Public Involvement Protocol for Environmental Justice Populations
Existing Line	Existing 47 miles of 69 kilovolt O15N overhead transmission line
<u>GCEP</u>	<u>NSTAR Electric Company d/b/a Eversource Energy, EFSB 22-03/D.P.U. 22-21 (2024)</u>
GHG	Greenhouse gas
G.L. c.	Massachusetts General Laws chapter
GWSA	Global Warming Solutions Act, St. 2008, c. 298
ICNIRP	International Commission on Non-Ionizing Radiation Protection

kcmil	Circular mil
kV	Kilovolt
MassDEP	Massachusetts Department of Environmental Protection
MassDOT	Massachusetts Department of Transportation
MEPA	Massachusetts Environmental Policy Act
MF	Magnetic field
mG	Milligauss
MHC	Massachusetts Historical Commission
<u>Mid Cape Reliability</u>	<u>NSTAR Electric Company d/b/a Eversource Energy, EFSB 19-06/D.P.U. 19-142/19-143 (2022)</u>
MVA	Mega Volt-Ampere
NARUC	National Association of Regulatory Utility Commissioners
NARUC Asset Condition Resolution	Resolution on Electric Consumers' Need for Effective Oversight of Costs for Replacing Aging or Obsolete Transmission Infrastructure
NHESP	Natural Heritage and Endangered Species Program
OPGW	Optical ground wire
Palmer Substation	NEP's Palmer #503 Substation in Palmer, Massachusetts
Petitions	NEP's Siting Board Petition and Section 72 Petition
Project	Replacement of approximately 10.35 miles of 69 kV overhead transmission lines designed to support future operation at 115 kV, along an existing Company managed right-of-way, in the towns of Palmer, West Brookfield, and Ware, Massachusetts (also referred to as the "Palmer to Ware Improvement Project")
Replacement Line	Approximately 10.35-mile 115 kV-capable design standard, overhead transmission line in the Existing Line ROW
Restructuring Act	Electric Utility Restructuring Act of 1997, St. 1997, c. 164
Roadmap Act	An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy, St. 2021, c. 8
ROW	Right-of-way
Secretary	Secretary of Executive Office of Energy and Environmental Affairs
Section 72 Petition	G.L. c. 164, § 72
SEIR	Single Environmental Impact Report
Siting Board	Massachusetts Energy Facilities Siting Board
Siting Board Petition	G.L. c. 164, § 69J Petition filed by NEP

<u>SouthCoast Wind</u>	<u>SouthCoast Wind Energy LLC</u> , EFSB 22-04/D.P.U. 22-67/22-68 (2024)
<u>Sudbury-Hudson</u>	<u>NSTAR Electric Company d/b/a Eversource Energy</u> , EFSB 17-02/D.P.U. 17-82/17-83 (2019)
SWPPP	Stormwater Pollution Prevention Plan
TMP	Traffic Management Plan
<u>Town of Sudbury</u>	<u>Town of Sudbury v. Energy Facilities Siting Board</u> , 487 Mass. 737 (2021)
USACE	United States Army Corps of Engineers
Ware Substation	NEP's Ware #501 Substation in Ware, Massachusetts
WPA	Massachusetts Wetlands Protection Act

SUMMARY OF THE DECISION

The Palmer to Ware Improvement Project (the “Project”), proposed by New England Power Company d/b/a National Grid (the “Company”), involves the replacement of an existing 10.35-mile 69 kilovolt overhead electric transmission line in the towns of Palmer, West Brookfield, and Ware, Massachusetts. As part of the Project, the Company would remove and replace 147 outdated and deteriorated existing structures with 112 steel structures, improve utility access routes, and reconductor the new transmission line with a higher-capacity 69 kilovolt line, capable of operating at 115 kilovolt in the future. The Project is expected to cost approximately \$65.6 million. The Decision approves the Project, with conditions.

The Decision finds that the existing line has experienced a high number of outages for many years due to lightning strikes and other weather-related conditions, compounded by design deficiencies of the existing line. Correcting the line shielding angle would allow the shield wire to intercept lightning strikes prior to hitting an energized conductor, thereby reducing potential outages. The Decision finds that other potential long-term solutions to prevent future outages and improve service reliability are insufficient or inferior to the Project based on cost, reliability, or environmental impacts.

The Project would be sited within an existing transmission line right-of-way, which helps limit impacts associated with Project construction. The Decision finds that because the existing line would need to be dismantled for safety reasons, any alternate route chosen would incur costs and environmental impacts in the existing line right-of-way in addition to incurring costs and creating additional environmental impacts along the chosen route. Therefore, the alternative routes identified by the Company were inferior in terms of cost and environmental impacts compared to the proposed Project route.

The Project would result in the loss of approximately 60 trees and 113 square feet of wetlands, as well as other impacts along the Project right-of-way. The majority of impacts would be temporary, construction-related, confined to the Project corridor, and addressed through the Company’s mitigation commitments; however, some impacts would be permanent. The Company would employ Best Management Practices during construction to limit impacts near environmentally sensitive resources, such as wetlands and habitat areas.

The Decision finds the Project would be consistent with current health, environmental protection, and resource use and development policies of the Commonwealth and would benefit all residents in the affected areas by increasing the reliability of electricity service and preventing the possibility of transmission-related service outages. The Decision approves the Project, with conditions, to ensure a reliable energy supply, with a minimum impact on the environment, at the lowest possible cost.

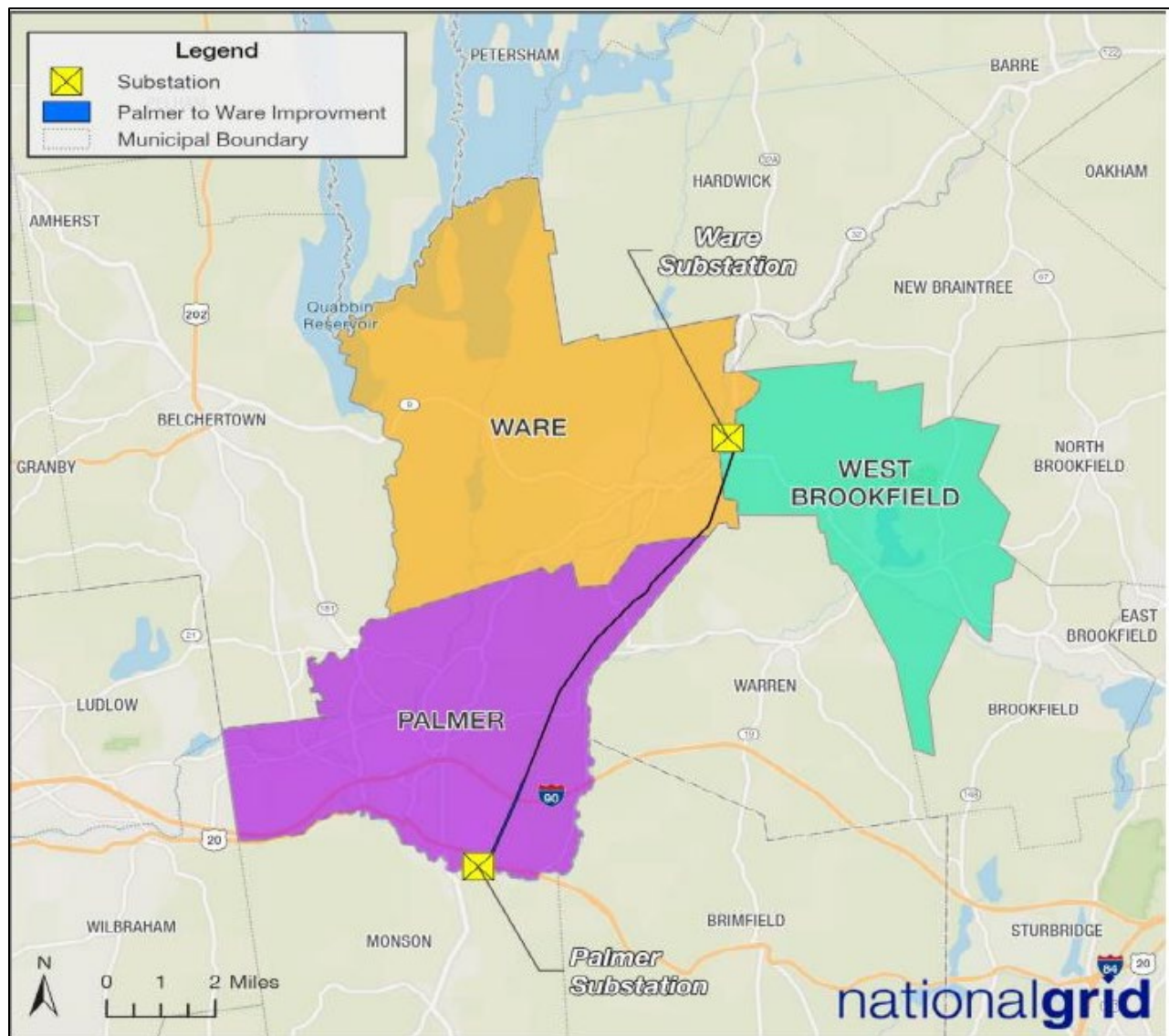
Pursuant to G.L. c. 164, § 69J, the Massachusetts Energy Facilities Siting Board (“Siting Board”) hereby APPROVES, subject to the conditions set forth below, the Petition of New England Power Company d/b/a National Grid to construct a 10.35 mile long 69 kilovolt (“kV”), 115 kV-capable, overhead transmission line in the towns of Palmer, West Brookfield, and Ware, Massachusetts.

I. INTRODUCTION

A. Description of the Proposed Project

New England Power Company, doing business as National Grid (“NEP” or the “Company”) proposes to replace an existing 10.35-mile 69 kV overhead transmission line, in the same right-of-way (“ROW”), in the towns of Palmer, West Brookfield, and Ware, Massachusetts (the “Project”) (Exh. NG-1, at 1). The Company would remove the existing 69 kV O15N overhead transmission line (the “Existing Line”) between NEP’s Ware #501 Substation in Ware (“Ware Substation”) and NEP’s Palmer #503 Substation in Palmer (“Palmer Substation”) and replace it with a higher-capacity 69 kV line capable of operating at 115 kV in the future (“Replacement Line”) (Exh. NG-1, at 1). The Company would remove 147 existing structures and replace them with 112 steel structures and construct, re-establish, and improve utility access routes as part of the Project (Exh. NG-1, at 1). The Company would replace the existing 795 circular mil (“kcmil”) aluminum conductor steel-reinforced (“ACSR”) Condor cable with 795 kcmil aluminum conductor steel-supported (“ACSS”) Drake cable, and the single existing shield wire would be replaced with optical ground wire (“OPGW”) (Exh. NG-1, at 1). The Company proposed that the Replacement Line continue operating at 69 kV, although capable of operating at 115 kV in the future, if needed (Exh. NG-1, at 1). The Company estimated that the total cost of the Project is \$65.6 million¹ in 2028 dollars (Exhs. NG-1, at 5; EFSB-C-1; Company Brief at 36, n.15). A map of the Project is provided as Figure 1, below.

¹ The Company provided the cost estimate with an accuracy level of –25%/+25% (Exh. NG-1, at 5).

Figure 1. Project Map.

Source: Notice of Adjudication and Public Comment Hearing.

B. Procedural History

On December 12, 2024, the Company filed petitions for: (1) Siting Board approval to construct the Project pursuant to G.L. c. 164, § 69J (“Siting Board Petition”) (Exh. NG-2); and (2) Department of Public Utilities (“Department”) approval to construct and operate the Project pursuant to G.L. c. 164, § 72 (“Section 72 Petition”) (Exh. NG-3) (together, the “Petitions”). The Siting Board Petition was docketed as EFSB 24-02 and the Section 72 Petition was docketed as

D.P.U. 24-190. On May 19, 2025, the Chair of the Department referred the Section 72 Petition to the Siting Board for consolidation and review with the Siting Board Petition pursuant to G.L. c. 164, § H(2), and the Siting Board docketed the proceeding as EFSB 24-02/D.P.U. 24-190. The Siting Board conducted a single adjudicatory proceeding and developed a single evidentiary record for the Petitions.

On June 3, 2025, the Siting Board issued a Notice of Adjudication and Public Comment Hearing (“Notice”), setting a public comment hearing date of June 25, 2025. As directed by the Presiding Officer, the Company published the Notice in: (1) The Journal Register; (2) The Quabaug Current; and (3) Ware River News (Exh. NG-7, at 1). The Presiding Officer also directed the Company to send copies of the Notice by first-class mail to: (1) the owners of properties abutting the outermost property lines of the Project; (2) all U.S. Mail addresses within 300 feet of the outermost property lines of the Project; and (3) the Planning Boards, Selectboards, City Councils, town managers/mayors, Zoning Boards, Department of Public Works, and Conservation Commissions of West Brookfield, Ware, and Palmer, as applicable (Exh. NG-7, at 2). The Company also sent copies of the Notice to the Planning Boards of New Salem, Belchertown, Ludlow, Wilbraham, Monson, Brimfield, Warren, Brookfield, New Braintree, Hardwick, and Petersham – municipalities abutting West Brookfield, Ware, and Palmer (Exh. NG-7, at 2). The Company sent copies of the Petitions and appendices to the Town Clerk’s offices in West Brookfield, Ware, and Palmer with a request for the documents to be made available to the public until such time as a decision has been issued (Exh. NG-7, at 2).

The Company provided copies of the Notice to the Town Clerks of West Brookfield, Ware, and Palmer with a request to post the hard copy Notices in their offices until July 11, 2025, and post an electronic copy on their websites until July 11, 2025 (Exh. NG-7, at 2). The Company sent the Notice to the Palmer Public Library, Merriam-Gilbert Public Library, and Young Men’s Library Association, with a request to make the Notice available until July 11, 2025 (Exh. NG-7, at 1). The Company sent the Petitions and Appendices to these libraries on June 9, 2025, with the request to make them available until a Final Decision has been issued by the Siting Board (Exh. NG-7, at 2). In June 2025, the Company posted the Petitions and Notice on its Project website (Exh. NG-7, at 2).

The Siting Board staff conducted a hybrid public comment hearing, in Palmer, with both in-person and remote access on June 25, 2025. At the public comment hearing, two commenters raised concerns regarding the Project, including construction impacts on wells and adjacent properties and impacts related to vegetation management (PCH Tr. at 19-28). The Siting Board did not receive any written comments or petitions for intervention/limited participant status.

The Siting Board issued one round of Information Requests to the Company on September 9, 2025, to which the Company filed timely responses. The Siting Board conducted an evidentiary hearing on November 18, 2025. The Company presented a total of seven witnesses for cross-examination: (1) Michael Hager, principal project manager, The Ampere Group; (2) Kevin O’Brion, lead environmental scientist, NEP’s environmental licensing and permitting group; (3) Anil Adhikari, transmission planning engineer, NEP; (4) Kenneth Dawe, principal transmission line engineer, Fairwater Engineering; (5) Vivian Kimball, senior wetland scientist, project manager, VHB; (6) Leah Gymziak, senior public involvement specialist, Burns & McDonnell; and (7) Chris Long, principal, Gradient (Tr. 1, at 7-8). The Company filed its brief on December 12, 2025.

Siting Board staff prepared a Tentative Decision and distributed it to the Siting Board members and all parties for review and comment on August 14, 2026. The parties were given until August 21, 2026, to file written comments. The Siting Board received timely written comments from the Company. The Siting Board conducted a Siting Board meeting with in-person and remote access on August 26, 2026, to receive comments, deliberate, and vote on the Tentative Decision. The Company provided comments at the Board meeting. After deliberation, the Siting Board voted to approve the Siting Board Petition, subject to conditions. The Siting Board directed staff to prepare a Final Decision, as set forth below.

II. JURISDICTION AND STANDARD OF REVIEW

G.L. c. 164, § 69J provides that the Siting Board should approve a petition to construct if the Siting Board determines that the petition meets certain requirements, including that the plans for the construction of the applicant’s facilities are consistent with the requirements in G.L. c. 164, § 69H to provide a reliable energy supply for the Commonwealth, with a minimum impact on the

environment, at the lowest possible cost, and is consistent with current health, environmental protection, and resource use and development policies of the Commonwealth.² See Town of Sudbury v. Energy Facilities Siting Board, 487 Mass. 737, 746-747 (2021) (“Town of Sudbury”). Pursuant to G.L. c. 164, § 69J, a project applicant must obtain Siting Board approval for the construction of proposed energy facilities before a construction permit may be issued by another state agency.

G.L. c. 164, § 69G defines a “facility” to include “a new electric transmission line having a design rating of 115 [kV] or more which is ten miles or more in length on an existing transmission corridor, except [for] reconductoring or rebuilding of transmission lines at the same voltage or a new electric transmission line having a design rating of 69 [kV] or more and which is one mile or more in length on a new transmission corridor.” The proposed Project consists of a new, 10.35-mile, 115 kV capable electric transmission line, to be constructed along an existing ROW through Palmer, West Brookfield, and Ware (Exh. NG-1, at 1). Therefore, the proposed Project is a “facility” with respect to Section 69J and is subject to Siting Board jurisdiction.

The Siting Board requires that a petitioner demonstrate that its proposal meets the following requirements: (1) that additional energy resources are needed (see Section III, below); (2) that, on balance, the proposed project is superior to alternative approaches in terms of reliability, cost, and environmental impact, and in its ability to address the identified need (see Section IV, below); (3) that the applicant has considered a reasonable range of practical facility siting alternatives and that the proposed facilities are sited in locations that minimize costs and

² On November 20, 2024, Governor Healey signed into law An Act Promoting a Clean Energy Grid, Advancing Equity and Protecting Ratepayers, St. 2024, c. 239 (“2024 Climate Act”). The 2024 Climate Act establishes a consolidated permit program, including authority under G.L. c. 164, § 69T, for the Siting Board to issue state and local permits for large clean energy infrastructure facilities, and for smaller projects under more limited circumstances. The 2024 Climate Act indicates that “regulations shall apply to all jurisdictional projects submitted to the [Siting Board] on and after July 1, 2026.” St. 2024, c. 239, §132. On February 27, 2026, the Siting Board promulgated regulations implementing many of the provisions of the 2024 Climate Act; those regulations apply to proceedings, initiated July 1, 2026, and afterwards. Therefore, this proceeding is governed by rules in place before the effective date of the 2024 Climate Act provisions and related regulations.

environmental impacts while ensuring a reliable energy supply (see Section V, below); (4) that environmental impacts of the Project are minimized and the project achieves an appropriate balance among conflicting environmental concerns as well as among environmental impacts, cost, and reliability (see Section VI, below); and (5) that plans for construction of the proposed facilities are consistent with the current health, environmental protection, and resource use and development policies of the Commonwealth (see Section VII, below).

III. NEED FOR THE PROPOSED PROJECT

A. Standard of Review

The Siting Board reviews the need for proposed transmission facilities to meet reliability, economic efficiency, or environmental objectives. G.L. c. 164, §§ 69H, 69J. When demonstrating the need for a proposed transmission facility based on reliability considerations, a petitioner applies its established planning criteria for construction, operation, and maintenance of its transmission and distribution system. Compliance with the applicable planning criteria can demonstrate a “reliable” system. New England Power Company d/b/a National Grid, EFSB 19-04/D.P.U. 19-77/19-78, at 10 (2021) (“Beverly-Salem”); NSTAR Electric Company d/b/a Eversource Energy, EFSB 17-02/D.P.U. 17-82/17-83, at 15 (2019) (“Sudbury-Hudson”).

Accordingly, to determine whether system improvements are needed, the Siting Board:

- (1) examines the reasonableness of the petitioner’s system reliability planning criteria;
- (2) determines whether the petitioner uses reviewable and appropriate methods for assessing system reliability over time based on system modeling analyses or other valid reliability indicators;
- and (3) determines whether the relevant transmission and distribution system meets these reliability criteria over time under normal conditions and under certain contingencies, given existing and projected loads. NSTAR Electric Company d/b/a Eversource Energy, EFSB 22-03/D.P.U. 22-21, at 15-16 (2024) (“GCEP”); NSTAR Electric Company d/b/a Eversource Energy, EFSB 19-06/D.P.U. 19-142/19-143, at 10 (2022) (“Mid Cape Reliability”); Beverly-Salem at 10. See also Town of Sudbury, 487 Mass. at 748-749.

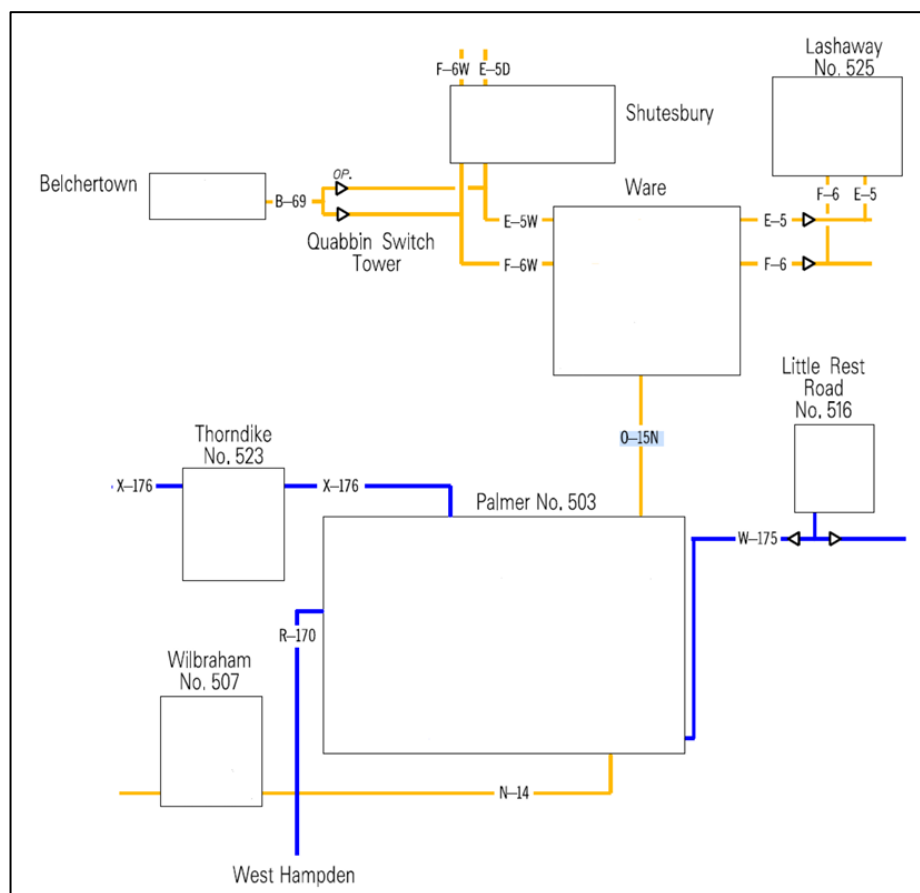
When a petitioner’s assessment of system reliability and facility requirements is, in whole or in part, driven by load projections, the Siting Board reviews the underlying load forecast. The

Siting Board requires that forecasts be based on substantially accurate historical information and reasonable statistical projection methods that include an adequate consideration of conservation and load management. See G.L. c. 164, § 69J. To ensure that this standard has been met, the Siting Board requires that forecasts be reviewable, appropriate, and reliable. A forecast is reviewable if it contains enough information to allow a full understanding of the forecast method. A forecast is appropriate if the method used to produce the forecast is technically suitable to the size and nature of the company to which it applies. A forecast is considered reliable if its data, assumptions, and judgments provide a measure of confidence in what is most likely to occur. GCEP at 16; Mid Cape Reliability at 10-11; Beverly-Salem at 11.

B. Description of Existing System

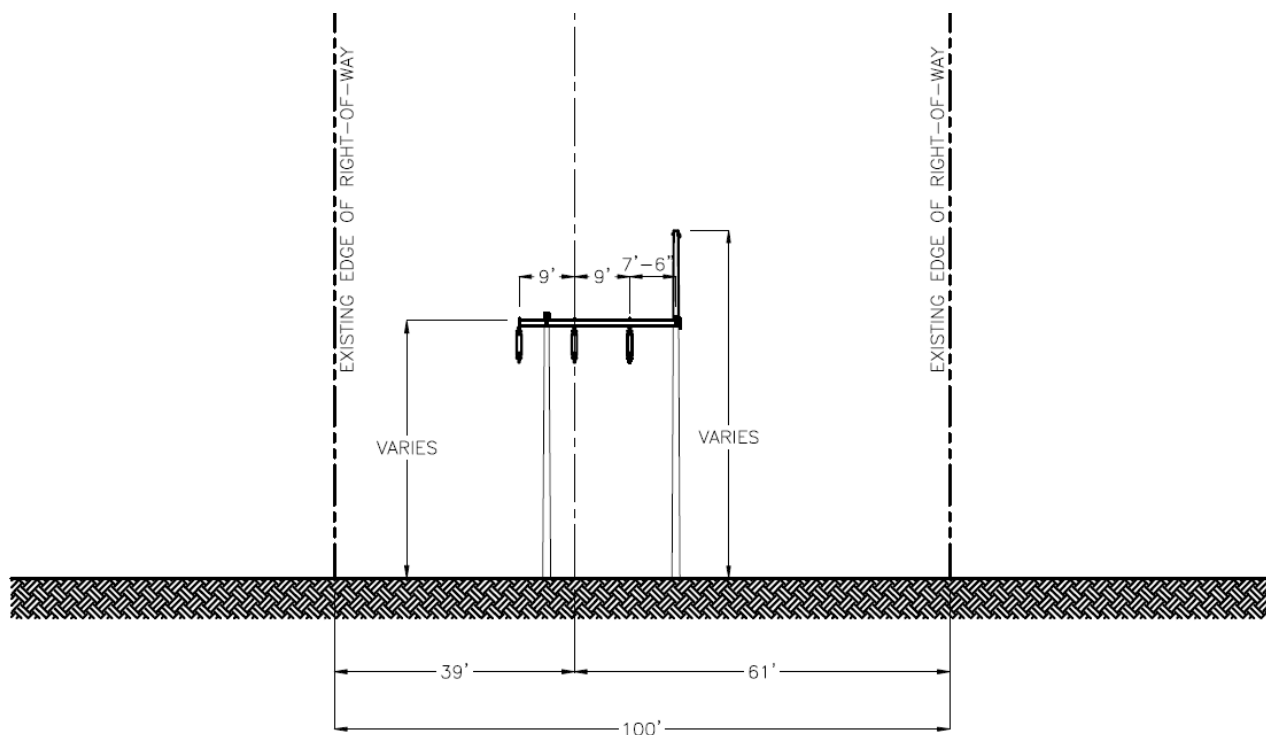
The Existing Line contains a single circuit within the existing ROW for eight miles extending from the Ware Substation, while the remaining section of the Existing Line shares ROW with another NEP Line (Exh. NG-1, at 12). The Company noted that the ROW is 100 feet wide for the eight-mile stretch where the Existing Line is the only circuit in the ROW, and 200 feet wide for the remainder where there is a second circuit in the ROW (Exh. NG-1, at 12, 38).

The Existing Line was built and first operated in 1955, with pole replacement occurring in the 1990s and shield wire replacement occurring in 1993 (Exh. NG-1, at 15). In 1997, the Company replaced the conductor as well as most of the insulators and continues to operate the Existing Line with a 795 kcmil ACSR conductor (Exh. NG-1, at 12). As recently as 2021, the Company replaced six wood pole structures with light duty steel structures due to woodpecker damage (Exh. NG-1, at 12). The Existing Line serves approximately 10,000 electric customers connected to the Ware and Palmer Substations with a summer peak load of 29.3 megawatts (Exh. NG-1, at 16). A one-line diagram of the existing transmission system is provided in Figure 2.

Figure 2. One-Line Diagram of Existing Transmission System.

Source: Exh. NG-1, at 15, Figure 2-2.

The Existing Line consists of a total of 147 structures, 125 wood suspension structures, 14 wood dead-end structures, six steel H-frame suspension structures, and two steel H-frame dead-end structures (Exh. NG-1, at 12). The lowest structure height is approximately 50 feet, while the tallest reaches 90 feet (Exh. NG-1, at 12). Many of the structures use a chair frame design with horizontal framing with one shield wire on top of the poles (Exh. NG-1, at 12). The Company noted that the Existing Line's poles are designed to support only one shield wire and lack the height and strength to accommodate a second (Exh. EFSB-N-5). A representative cross-section of the Existing Line is shown in Figure 3.

Figure 3. Existing Line Structure.

Source: Exh. NG-4-MH(1).

In 2024, ISO-NE issued the “2050 Transmission Study” (“Study”) which evaluated the amount and type of transmission infrastructure necessary for New England to achieve the transition to clean energy by 2050 required by Massachusetts and several other New England states (Exh. NG-1, at 24). The Study concluded that as the clean energy transition accelerates, power flows across New England’s transmission system are expected to reach new highs (Exh. NG-1, App. 2-1, at 58). The Study noted that the expected winter peak ranges from 51-57 gigawatts – more than double than the highest recorded winter peak in New England in January 2004 (Exh. NG-1, App. 2-1, at 58). In addition, the Study recommended transmission system “right sizing” as a cost-effective method to address increased loads and asset condition needs (Exh. NG-1, App. 2-1, at 18). The Study stated that during an asset condition replacement project, the incremental cost of upgrading a transmission line to a larger conductor and structure size is relatively low, and therefore a financially prudent way for New England to reliably serve increased peak loads (Exh. NG-1, App. 2-1, at 18).

The Company explained that increased electrification is expected to significantly increase overall consumer demand for electricity, and it also noted that high volumes of new renewable energy resources are expected to interconnect to the grid over the next several decades (Exh. NG-1, at 24). The Company indicated that building the Project to a 115 kV-capable design standard would provide long-term benefits, as future increased electric load and renewable deployment may require the proposed Project to operate at this higher voltage to provide additional transmission capacity and voltage support along this corridor (Exh. NG-1, at 24). NEP proffered that in addition to increased load or generation in the area, the need for operating at 115 kV could occur from overloads of the 115/69 kV autotransformers supplying the 69 kV lines (Exh. EFSB-N-2).

C. Operating History Issues

The Company stated that the Existing Line faces many vegetation challenges due in part to geography as well as conductor placement (Exh. NG-1, at 12). For its entire length, there is heavy vegetation and tall off-ROW trees on both sides, and the line is positioned off-center in the ROW, with the outermost conductor only approximately 30 feet away from the edge of the ROW (Exh. NG-1, at 12). The ROW has sloped terrain in many areas, which effectively increases the height of the off-ROW trees relative to the line (Exh. NG-1, at 12). In addition to the Company's regular five-year vegetation management cycle for tree trimming and hazard tree removal, the Company performs additional work on the line to trim or remove off-ROW hazard trees (Exh. NG-1, at 12). However, access along the ROW is extremely difficult given the existing terrain, resulting in areas not easily accessible with equipment, which slows maintenance and repair work and increases restoration time during outages (Exh. NG-1, at 12).

The Company attributed 32 outages of the Existing Line to lightning, heavy thunderstorms, and fallen trees over the past 25 years (Exh. NG-1, at 16). The Company points to two main issues causing poor performance: the shielding angles of the Existing Line and the line placement along the ROW edge (Exh. NG-1, at 16). Section III.D expands upon these two main issues of the Existing Line. Table 1, below, shows the cause of outages from 1999-2023.

Table 1. Existing Line Outage Counts by Cause, 1999-2023.

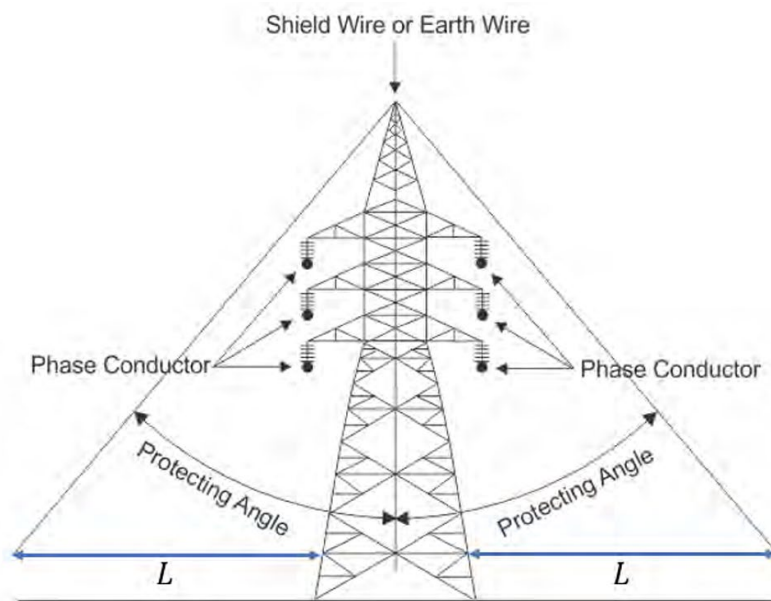
Cause of Outage	Momentary Outage	Sustained Outage
Lightning	9	3
Weather/Storm	9	1
Vegetation/Tree	1	3
Line Equipment/Other	1	1
Unknown	3	1

Source: Exh. NG-1, at 18, Table 2-3.

D. Design Issues

The Company described the Existing Line as having an approximately 55-degree shielding angle, which is the angle between a vertical line drawn through the shield wire at the attachment point on the structure and a line between the shield wire and the outermost conductor that is to be protected, as depicted in Figure 4 (Exh. NG-1, at 20-21). NEP's current policy restricts shielding angles to a maximum of 30 degrees, which the Company states is also considered good utility practice and is recommended by the Rural Utility Service in Chapter 8 of Bulletin 1724E-200 (Exh. NG-1, at 21). The Company explained that the smaller the shielding angle, the greater the protection of the conductors from lightning strikes due to the conductors being located more directly under the shielding wire (Exh. NG-1, at 21). The Company elaborated that this smaller angle allows the shield wire to intercept lightning strikes prior to hitting an energized conductor, significantly reducing the potential for a flashover³ creating an outage (Exh. NG-1, at 21). In addition, the Company noted that beyond the high shielding angles compared to industry standards, physical issues related to the off-center location of the transmission line in the ROW and tall trees adjacent to the ROW have contributed to the poor performance of the Existing Line (Exh. NG-1, at 4).

³ A flashover is an unintended high voltage electric discharge over or around an insulator or sparking between two or more adjacent conductors (Exh. NG-1, at 21). A flashover can cause damage to the line and nearby equipment, and interrupt service (Exh. NG-1, at 21).

Figure 4. Shielding Angle Concept.

Source: Exh. NG-1, at 20, Figure 2-3.

The Company explained that to decrease the shield angle of the Existing Line's structures, it would need to increase the distance between the shield wire and the conductors at each structure (Exh. NG-1, at 21). The Company considered adding pole extenders to each structure to increase this distance, however, this solution was infeasible due to the increased weight the pole extensions would add to the already deteriorated structures (Exh. NG-1, at 21). Therefore, the Company deemed that the only practical way to remedy this inherent structural design issue is to replace the existing structures with taller structures (Exh. NG-1, at 21).

The Company noted that the Existing Line does not contain an OPGW⁴ and is unable to provide telecommunications capabilities (Exh. NG-1, at 23). The Company highlighted that OPGW is more reliable and secure than the microwave connections currently used for communication purposes because they are less affected by environmental factors such as weather and are harder to intercept since they do not radiate signals (Exh. NG-1, at 23). The Company stated that fiber optic communication is used by NEP in the daily operation of the transmission

⁴ OPGW is a dual-functioning cable that both acts as shield wire and contains optical fibers that can be used for telecommunications purposes (Exh. NG-1, at 23).

system elsewhere and that it is becoming more important as automation and system condition monitoring equipment become more prevalent (Exh. NG-1, at 23). Finally, the Company concluded that adding OPGW to the existing structures would not be feasible because the deteriorating wood structures are not able to support the added weight of the OPGW (Exh. NG-1, at 24).

The Company also listed the sloped terrain of the ROW as another factor increasing the potential for outages caused by fallen vegetation (Exh. NG-1, at 22). The Company explained that if the structures are lower than adjacent off-ROW vegetation, the line would be susceptible to interference and potential outages from vegetation (Exh. NG-1, at 22). In addition, the Company stated that the risk of interference from vegetation increases if the transmission line is off-center in the ROW, due to closer proximity of the cables to the maintained edge of the ROW (Exh. NG-1, at 22). The Existing Line outage history from 1999 to 2023 attributed the three longest outages to tree-related damage (Exh. NG-1, at 22).

E. Asset Condition

The Company stated that it conducts a ground-level inspection of its transmission line assets to determine their condition and to determine maintenance needs every five years, with the most recent inspection of the Existing Line occurring in 2023 (Exh. NG-1, at 19). The 2023 inspection of the Existing Line found widespread woodpecker damage and deteriorated wood pole structures (Exh. NG-1, at 18). Out of the 139 wood structures on the line, woodpecker damage was specifically observed on 60 structures, which is 43 percent of the wood structures on the line (Exh. NG-1, at 19). The Company estimated that 64 of the 139 structures identified as damaged (woodpecker and insect damage, as well as damaged insulators or conductor ground wire) would require repairs within three years (Exh. NG-1, at 19).

The Company indicated that the proximity of a woodpecker hole to critical assets such as cross arms, which carry the conductor, or fasteners could present a danger to the integrity of the structure (Exh. NG-1, at 19; Tr. 1, at 28-29). In addition, NEP stated that woodpecker holes can cause further decay internally within the structure (Exh. NG-1, at 19). NEP also cautioned that the

extent of woodpecker damage is difficult to assess, which limits the ability to accurately predict the remaining strength of the pole (Exh. NG-1, at 19).

The Company stated that while it is possible to fill woodpecker holes, doing so does not prevent future woodpecker damage (Exh. NG-1, at 19). The Company observed woodpeckers returning to peck at the site of previously filled holes (Exh. NG-1, at 19). The Company cautioned that replacing individual woodpecker-damaged wood structures with steel structures typically would result in the woodpeckers moving to a nearby wood structure (Exh. NG-1, at 19). Ultimately, the Company argues that sustained and continued woodpecker activity in the vicinity of the Existing Line would make replacing all the wood structures with steel structures the only feasible option to ensure reliability (Exh. NG-1, at 19; Company Brief at 26-27).

F. Analysis and Findings on Need

The record shows that the Existing Line has suffered from woodpecker damage on over 40 percent of its wooden structures, which advances structure decay and jeopardizes its integrity. Additionally, the record demonstrates that the Existing Line has experienced outages due to vegetation strikes and conductor placement. Specifically, the Company points to the 55-degree shielding angle and structure placement along the ROW edge as the two main design flaws of the Existing Line causing performance issues. The Existing Line has experienced 32 outages caused by lightning, heavy thunderstorms, and fallen trees and limbs (despite regular vegetation management program activities) over the past 25 years.⁵ The record shows that between 2017 to 2021, lightning strikes accounted for at least one-third of outages on the Existing Line. Correcting the shielding angle would allow the shield wire to intercept lightning strikes prior to hitting an energized conductor reducing the potential of outages. Additionally, the unavailability of long-term solutions to prevent future decay caused by woodpecker damage to the existing wooden structures and the insufficient shielding angles are most effectively addressed by replacement of the structures.

⁵ The Supreme Judicial Court ruled that “State law makes it clear that the residents of the Commonwealth simply cannot be exposed to foreseeable and avoidable power outages” (Exh. NG-1, at 110, citing Town of Sudbury, 487 Mass. at 748).

The record shows that the Existing Line contains inherent design issues as well as asset condition issues which, combined, have caused poor performance and insufficient reliability for customers. The record shows that NEP is unable to remedy these reliability risks without replacing the existing structures. As discussed in Section IV.B.2.b below, the relatively small increase in cost to replace the existing 69 kV structures with 115 kV-capable structures and conductor provides a “right-sizing” opportunity to address expected increased future peak demand and future distributed energy resource interconnection needs in the area, which would, at some point in the future, likely require a 115 kV-capable solution to provide additional transmission capacity and voltage support. The Siting Board finds that the Existing Line is inadequate to meet reliability standards and requires a solution, whether a replacement of some kind, or through other means of providing the necessary system resources. The Siting Board finds that the Project is needed for reliability, and that the need is immediate.

IV. ALTERNATIVE APPROACHES TO MEETING THE IDENTIFIED NEED

A. Standard of Review

G.L. c. 164, § 69J requires a project proponent to present alternatives to the proposed facility, which may include: (1) other methods of transmitting or storing energy; (2) other sources of electrical power; or (3) a reduction of requirements through load management.⁶ In implementing its statutory mandate, the Siting Board requires a petitioner to show that, on balance, its proposed project is superior to such alternative approaches in terms of cost, environmental impact, and ability to meet the identified need. In addition, the Siting Board requires a petitioner to consider reliability of supply as part of its showing that the proposed project is superior to alternative project approaches. SouthCoast Wind Energy LLC, EFSB 22-04/D.P.U. 22-67/22-68, at 39 (2024) (“SouthCoast Wind”); GCEP at 30; Mid Cape Reliability at 26-27; Beverly-Salem at 17.

⁶ G.L. c. 164, § 69J also requires an applicant to present “other site locations.” Compliance with the requirement is evaluated in Section V, below.

B. Company Analysis of Alternative Approaches to Meet Need

1. No-Build and Non-Wires Alternatives

The Company considered a “no-build” alternative in which the Existing Line is maintained by addressing line components individually as they are imminently about to fail but dismissed this option as inferior to the proposed Project (Exh. NG-1, at 27-28). The Company noted that over 40 percent of the structures currently have woodpecker damage, so replacing the structures on an as-needed basis would be inefficient (Exh. NG-1, at 28). In addition, the Company claimed that replacing individual wooden structures with steel ones over time would not address the inherent design issues of the Existing Line, nor would it have the benefits of increasing the line’s thermal capacity and enabling fiber optic communications capability (Exh. NG-1, at 28).

The Company stated that non-wire alternatives would use some combination of energy efficiency and demand response programs, distributed generation, solar photovoltaic and energy storage facilities as alternative means of deferring or addressing the underlying need for a transmission or distribution project (Exh. NG-1, at 28). The Company noted that generally, the non-wire alternatives may constitute appropriate solutions when the underlying need for a Project is driven by increasing load levels (Exh. NG-1, at 28). The Company argues that a non-wires alternative solution would not be able to meet the identified need, as it would not address the deteriorating condition or design issues of the Existing Line, and furthermore it would not have the benefits of incorporating fiber optic capability to enhance the system’s telecommunication abilities (Exh. NG-1, at 28; Company Brief at 36).

2. Transmission Alternatives

a. Complete Rebuild with Spacer Cable

The Company considered rebuilding the line in its existing location with an additional set of structures supporting a spacer cable (Exh. NG-1, at 29).⁷ NEP stated that a spacer cable is primarily used for lines along narrow ROWs (Exh NG-1, at 29). The Company explained the

⁷ A spacer cable system consists of heavily covered non-shielded phase conductors held together and supported by a high strength cable and connected to diamond shaped spacers within each span (Exh. NG-1, at 29).

spacer cable would require less foliage removal and would reduce the risk of temporary faults from tree contact and incidental animal contact due to the covered nature of the conductors (Exh. NG-1, at 29). While this alternative would provide reliability improvements, the Company noted that it would require over three times the number of structures to support the increased weight and wind load, which would increase the Project cost significantly (Exhs. NG-1, at 29; EFSB-PA-1).⁸ The Company indicated that the Existing Line does not have spatial constraints which would necessitate the use of the spacer cable, as the existing corridor contains sufficient space to relocate the Existing Line to the middle of the ROW to minimize vegetation interference (Exh. NG-1, at 29). Consequently, the Company decided the best solution would include rebuilding the line centered on the existing ROW with taller steel structures and an ACSS conductor shielded by OPGW (Exh. NG-1, at 30).

b. 69 kV and 115 kV-Capable Line Rebuild Options

The Company considered a 69 kV as well as a 115 kV-capable line rebuild design alternative for the Replacement Line in the middle of the ROW (Exh. NG-1, at 30). The Company stated both designs would consist of steel monopole structures with a 30-degree shielding angle or less, which would eliminate the potential for damage from woodpecker activity and decrease the likelihood of damage from lightning (Exh. NG-1, at 33). The Company explained that both the 69 kV and 115 kV-capable line rebuild options would use the same 795 ACSS Drake conductor and OPGW and be located in the center of the ROW (Exh. NG-1, at 30). Figure 5, below, shows a comparison of the Existing Line structures and placement in the ROW with that of the 69 kV or 115 kV-capable rebuild options.⁹

⁸ The complete rebuild with spacer cable was estimated at \$60.5 million, while at the time, the estimated costs of the 69 kV and the 115 kV-capable design options were \$37.0 million and \$39.1 million, respectively (Exh. NG-1, at 29). As noted above, the current Project cost estimate is \$65.6 million in 2028 dollars (Exh. NG-1, at 5).

⁹ Figure 5 depicts the orientation of the 115 kV structure rotated 180 degrees from the actual proposal. The upper and lower davit arms would face outward (away from the existing conductor) while the middle davit arm would face inward (Exh. NG-1, at 31).

The diagrams illustrate the proposed modifications to existing utility poles. The left diagram shows an existing pole (STR 81) with a proposed crossarm (STR 62) and a crossarm bracket (STR 62). The right diagram shows an existing pole (STR 81) with a proposed crossarm (STR 62) and a crossarm bracket (STR 62). Dimensions are provided for both diagrams.

Left Diagram Dimensions:

- Existing STR 81: 21' height, 17' base width.
- Proposed STR 62: 4'-6" height, 9'-4" width.
- Proposed STR 62: 8' height, 9' width.
- Proposed STR 62: 9' height, 9' width.
- Proposed STR 62: 9' height, 8' width.

Right Diagram Dimensions:

- Existing STR 81: 21' height, 17' base width.
- Proposed STR 62: 6' height, 10'-2" width.
- Proposed STR 62: 6' height, 6' width.
- Proposed STR 62: 6' height, 6' width.
- Proposed STR 62: 9' height, 9' width.
- Proposed STR 62: 9' height, 9' width.
- Proposed STR 62: 9' height, 8' width.

The Company concluded that the 115 kV-capable structures, even when operated at 69 kV, would provide additional near-term and long-term reliability benefits that the 69 kV design would not (Exh. NG-1, at 30, 33). The 115 kV-capable structures would be an additional ten feet in height due to the greater required distance between energized conductors and the ground at this voltage (Exh. NG-1, at 30, 33). The Company explained that this increased height would reduce the probability of faults resulting from off-ROW vegetation striking the energized lines (Exh. NG-1, at 33). According to NEP, the additional insulation string length and phase spacing of the 115 kV-capable design would increase resilience to lightning and tree interference, thereby improving reliability compared to the 69 kV design (Exh. NG-1, at 33). At the time that the design options were evaluated, the Company estimated the cost of the Project using the 115 kV-capable design as approximately \$39.1 million and the cost of the Project using the 69 kV design was approximately \$37.0 million, in 2024 dollars (Exh. NG-1, at 35). The Company explained that the

difference in cost between the 69 kV design compared with the 115 kV capable design, which amounts to less than five percent of the estimated cost of the Project, is largely attributable to the cost of the taller structures needed for the 115 kV capable design (Exhs. NG-1, at 35; EFSB-C-3).

The Project would provide a 27 percent increase to the Existing Line's thermal capacity when operated at 69 kV and an additional 66 percent increase when operated at 115 kV due to the change from the current conductor type to 795 kcmil ACSS conductor (Exh. NG-1, at 33). The Company calculated the thermal rating (long term emergency) of the 69 kV design as 220 megavolt-ampere ("MVA") versus 366 MVA for the 115 kV-capable design using the same conductor (Exh. NG-1, at 34).

The Company noted that no reliability needs exist currently within NEP's ten-year planning horizon that would necessitate the operation of the Project at 115 kV (Exh. NG-1, at 33). However, the Company suggested that operation at 115 kV may be required in the long-term due to trends of increased electrification and renewable energy deployment, as supported by the ISO-NE 2050 Transmission Study (Exh. NG-1, at 24-25). The Company noted that, should future planning studies demonstrate that operation at 115 kV is needed, the Project built to the 115 kV-capable design standards would be able to switch to the higher voltage without requiring future upgrades to the line, though upgrades at the Palmer Substation and Ware Substation would be required (Exh. NG-1, at 33). Since such potential future substation upgrades are outside the scope of the proposed Project, the Company did not scope out the work or associated costs of converting the substations to operate at 115 kV (Tr. 1, at 34-35).

NEP stated that the construction of the Project to the 69 kV design standards would not significantly reduce environmental impacts compared to the 115 kV-capable design, except for the minor reduction in structure heights and associated visual impacts (Exh. NG-1, at 34).¹⁰ Additionally, the Company noted that building the Project now as a 115 kV-capable line would obviate the need for a future 115 kV upgrade project, which would involve future environmental

¹⁰ The Company noted, however, that the lower structure heights for the 69 kV design would result in a marginal increase in magnetic fields at any given load level relative to the taller structures for the 115 kV design (Exh. NG-1, at 34).

impacts and additional costs (Exh. NG-1, at 33). The Company estimated that the Replacement Line would be expected to have a useful life of more than fifty years (Exh. EFSB-N-3).

C. Analysis and Findings on Alternative Approaches

The record shows the only feasible solution to the identified asset condition and reliability need would require rebuilding the Existing Line's structures. No other alternatives considered by NEP address the root cause of line failure, and do not satisfy the identified need. While the spacer cable could address the reliability need for the Project, the Company removed it from consideration as it would do so at a higher cost and environmental impact.

The record demonstrates that the 69 kV and 115 kV -capable design options would address the existing reliability issues and provide additional benefits of improved thermal capacity and telecommunications capability. However, the record shows that, compared to the 69 kV design, the 115 kV structures would provide added protection against voltage and thermal violations and 66 percent additional capacity to accommodate future load growth and renewable energy interconnections. The extra spacing between conductor phases and longer suspension insulator strings of the 115 kV structures would result in increased resilience to faults from lightning events, and the taller structures would reduce risk from vegetation interference. Although operation at 115 kV is not needed immediately, the 2050 ISO-NE Transmission Study supports that electrification and renewable energy deployment is expected to increase in the long-term, which the Company noted could necessitate future operation of the Replacement Line at 115 kV. The record shows that the added cost difference of the 115 kV option would equal about five percent of Project budget and require increasing each structure height by ten feet.

The Siting Board finds that rebuilding the Replacement Line according to a 115 kV-capable design is a cost-effective long-term investment in comparison with potentially needing to rebuild the Replacement Line again in the future to accommodate future load growth due, in part, to increased electrification and integration of distributed energy resources.¹¹ See A1/B2 at 22.

¹¹ The Siting Board's approval in this Order is based on the proposed Project described in the Company's filings in this proceeding. The Company must notify the Siting Board if and when the Project operation changes from 69 kV to 115 kV and file a petition for approval of substation changes, as appropriate. See Section X, below.

Therefore, the Siting Board finds that the 115 kV-capable design solution is appropriate, and the record shows no Project alternative would be superior to the proposed Project. The remainder of the Decision focuses solely on a detailed analysis of the proposed Project as a 115 kV-capable rebuild option operating at 69 kV.

V. ROUTE SELECTION

A. Standard of Review

G.L. c. 164, § 69J requires a petition to construct to include a description of alternatives to the facility, including “other site locations.” Thus, the Siting Board requires an applicant to demonstrate that it has considered a reasonable range of practical siting alternatives and that its proposed facilities are sited in locations that minimize cost and environmental impacts while ensuring a reliable energy supply. To do so, an applicant must meet a two-pronged test. First, the applicant must establish that it developed and applied a reasonable set of criteria for identifying and evaluating alternative routes in a manner that ensures that it has not overlooked or eliminated any routes that, on balance, are clearly superior to the proposed route. Second, the applicant generally must establish that it identified at least two noticed sites or routes with some measure of geographic diversity. SouthCoast Wind at 45-46; GCEP at 37-38; Beverly-Salem at 29. But see Colonial Gas Company d/b/a National Grid, EFSB 16-01, at 28-29 (2016) (“Colonial 2016”); Colonial Gas Company d/b/a National Grid, EFSB 18-01/D.P.U. 18-30, at 40-42 (2019) (“Colonial 2019”) (the Siting Board found the company’s decision not to notice an alternative route to be reasonable).

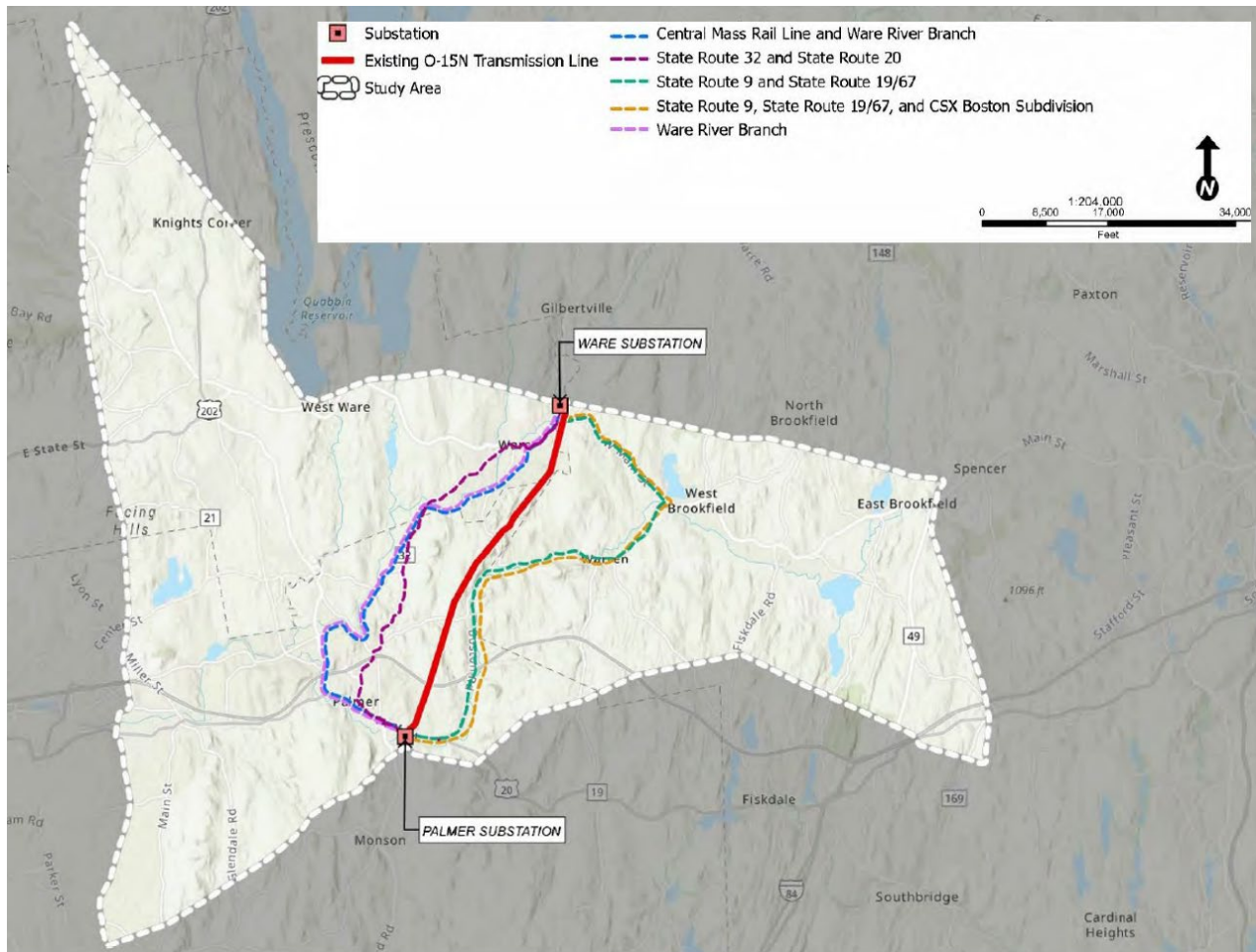
B. Company’s Approach to Route Selection

NEP indicated that it evaluated potential route alternatives for the Project, though it noted that rebuilding a transmission line within its existing ROW is generally more efficient, more cost-effective, and less disruptive than relocating it to a new ROW (Exh. NG-1, at 37). The Company explained that even if the Replacement Line was located elsewhere, the Existing Line would still need to be deconstructed for safety reasons, meaning that the Project would result in environmental impacts in both the Existing Line ROW and along the alternate route (Exh. NG-1, at 37). NEP noted that because of the costs associated with removing the Existing Line, any

alternate route would by default be more expensive than the proposed Project (Exh. NG-1, at 60). Notwithstanding, the Company evaluated alternative routes to ensure that no potentially superior routes were overlooked in its evaluation (Exh. NG-1, at 37).

First, the Company established a study area between the Palmer Substation and Ware Substation bounded by other NEP transmission ROWs to the north, east, and south, and an NSTAR Electric Company d/b/a Eversource Energy transmission ROW to the west of the Existing Line ROW (the “Study Area”) (Exh. NG-1, at 39). The Company established the following route evaluation criteria: (1) maximize the use of existing linear corridors (e.g., transmission line, highway, railroad, and pipeline corridors); (2) minimize impacts to environmental resources; (3) minimize cost; (4) maintain system function and reliability; (5) limit construction constraints; and (6) minimize impacts to densely developed areas (Exh. NG-1, at 43-44).

In addition to the Existing Line ROW, the Company mapped the existing linear corridors within the Study Area, then eliminated pathways that did not provide a reasonably direct connection between the Palmer Substation and Ware Substation (Exh. NG-1, at 55). Next, the Company screened the remaining corridors with a focus on minimizing constructability, operational, and environmental constraints (Exh. NG-1, at 56). The resulting five route alternatives included a combination of roadway and railroad corridors that NEP selected for further consideration, shown in Figure 6 and listed in Table 2 (Exh. NG-1, at 56).

Figure 6. Map of Potential Route Alternatives.

Source: Exh. NG-1, at 57, Figure 4-7 (Legend modified by staff).

Table 2. Potential Route Alternatives.

Corridor Type	Potential Route Alternative	Length (mi)	Location
Major Roadway Combination	State Routes 20 and 32	12.95	Between Ware Substation and Palmer Substation
Major Roadway Combination	State Routes 9 and 19/67	16.6	Between Ware Substation and State Route 19/67 in West Brookfield, between West

Corridor Type	Potential Route Alternative	Length (mi)	Location
			Brookfield and Palmer Substation
Major Roadway and Railroad Combination	State Routes 9, 19/67, and CSX Boston Subdivision	16.46	Between Ware Substation and State Route 19 in West Brookfield, between West Brookfield and Palmer Substation
Railroad Combination	Central Mass Rail Line and Ware River Branch	14.94	Between East Bondsville Substation and Palmer Substation
Railroad	Ware River Branch	14.85	Between Ware Substation and Palmer Substation

Source: Exh. NG-1, at 59.

NEP stated it applied its route evaluation criteria to compare these five potential alternative routes to the Existing Line route (Exh. NG-1, at 59). All the identified alternative routes were longer than the Existing Line, ranging from 12.95 to 16.6 miles long compared to the 10.35-mile long Existing Line ROW (Exh. NG-1, at 59). NEP explained that the longer lengths would result in a proportional increase in cost, on top of which would be the added costs from construction along both the Existing Line ROW and the alternate route (Exh. NG-1, at 59-60). In addition to being more expensive than the Project, the Company stated that locating alternatives along major roadways and railroads would present significant construction and maintenance constraints, reliability concerns from potential vehicle collisions, and higher environmental impacts compared to the proposed Project (Exh. NG-1, at 60). NEP reiterated that beyond visual, traffic, and other environmental impacts along the corridor for the Replacement Line, an alternate route would also incur impacts from structure removal in the Existing Line ROW comparable to what is expected for the proposed Project (Exh. NG-1, at 61). For these reasons, the Company concluded that these

alternatives were clearly inferior to rebuilding the Existing Line in its current ROW location (Exh. NG-1, at 61).

C. Geographic Diversity

The Company asserted that its route selection process evaluated potential route alternatives consistent with the Siting Board's standards to ensure that no clearly superior route was overlooked (Company Brief at 45, citing Exh. NG-1, at 37). The study area incorporated densely populated areas, forested land, agricultural lands, commercial areas, and transportation corridors within Worcester, Hampden, and Hampshire counties, and its initial screen included ROWs for transmission lines, roadways, railways, and pipelines (Exh. NG-1, at 39). The Company argues that locating the Replacement Line in the Existing Line ROW has clear advantages and would minimize costs and environmental impacts over any alternative (Company Brief at 45, citing Exh. NG-1, at 37). The Company did not present a Noticed Alternative Route and indicated that a Noticed Alternative Route was not warranted for the Project, given that any alternative route would result in increased costs, schedule delays, and increased impacts to human and natural environments (Company Brief at 50, citing Exh. NG-1, at 61).

D. Analysis and Findings on Route Selection

The Siting Board requires that applicants consider a reasonable range of practical siting alternatives and that proposed facilities are sited in locations that minimize cost and environmental impacts. In past decisions, the Siting Board has found various criteria to be appropriate for identifying and evaluating route options for transmission lines and related facilities. These criteria include natural resources, land use, and community impacts, as well as cost and reliability considerations.

The Company identified and evaluated potential alternative routes using existing corridors within the study area. The record establishes that, because the Existing Line would need to be dismantled for safety reasons, any alternate route chosen would incur costs and environmental impacts in the Existing Line ROW in addition to incurring costs and creating additional environmental impacts along the chosen route. The alternative routes identified by the Company

were inferior in terms of cost and environmental impacts compared to the proposed Project route. The Siting Board notes that the Company used a qualitative screening process rather than the quantitative route scoring method common in most Siting Board cases. To complete the qualitative screening process, the Company began by identifying existing linear corridors within a routing Study Area to review potential route alternatives while focusing on technically feasible route alternatives that would maintain system function, minimize impacts to the natural and social environments, and minimize construction and operation costs, without attributing quantitative numbers or scoring. Nevertheless, the Siting Board finds that based on the record, the proposed route is clearly superior to its alternatives, and a quantitative scoring methodology would have been unlikely to have provided additional useful details for comparing routes. Although the Company's qualitative route screening methodology is acceptable in this case, we advise the Company and other Applicants of the Siting Board's strong preference, in general, for inclusion of a quantitative route scoring analysis in the route selection process.¹²

The Company did not present a Noticed Alternative Route in the Petition. In some instances, the Siting Board has found an applicant's decision not to notice an alternative route to be reasonable. See A1/B2 at 30; Colonial 2016 at 28-29; Colonial 2019 at 40-42. The Siting Board agrees with the Company that a Noticed Alternative Route would not have provided a viable alternative to the Project and finds that the Company's decision not to notice an alternative route was reasonable under the circumstances applicable to the proposed Project.

Based on the route selection process described above, the Siting Board finds that the Company has: (1) developed and applied a reasonable set of criteria for identifying and evaluating alternative routes in a manner that ensures that they have not overlooked or eliminated any routes that are on balance clearly superior to the proposed Project; and (2) identified a range of transmission line routes as potential alternative routes. On geographic diversity, the Siting Board finds the Company's methodology in eliminating infeasible and less feasible routes reasonable and

¹² The Siting Board has new regulations that specify quantitative requirements that apply to Project applications filed on or after July 1, 2026. See 980 CMR 16.09(1)(a)(4 - 6); 980 CMR 15.07(3 - 4).

unlikely to overlook any clearly superior routes. Therefore, the Siting Board finds that the Company has demonstrated that it examined a reasonable range of practical siting alternatives.

VI. ANALYSIS OF THE PROJECT IMPACTS

A. Standard of Review

In implementing its statutory mandate under G.L. c. 164, §§ 69H and 69J, the Siting Board requires a petitioner to show that its proposed facility minimizes costs and environmental impacts while ensuring a reliable energy supply. SouthCoast Wind at 68-69; GCEP at 102-103; Mid Cape Reliability at 50. To evaluate the proposed facility, the Siting Board first determines whether the petitioner has provided sufficient information regarding environmental impacts and potential mitigation measures to enable the Siting Board to make such a determination. The Siting Board then examines the environmental impacts of the proposed facility and determines: (1) whether environmental impacts would be minimized; and (2) whether an appropriate balance would be achieved among conflicting environmental impacts as well as among environmental impacts, cost, and reliability. SouthCoast Wind at 68-69; GCEP at 102-103; Mid Cape Reliability at 50-51.

B. General Description of Project Construction

The Company stated its proposed construction hours would be between 7:00 a.m. and 7:00 p.m. on weekdays and from 8:00 a.m. to 5:00 p.m. on Saturdays (Exh. NG-1, at 72). The Company committed to working with each affected municipality to negotiate mutually agreeable work hours (Exh. NG-1, at 73). The Company noted that the Town of Palmer restricts earth removal activities to 7:30 a.m. to 4:00 p.m. on weekdays and 8:00 a.m. to noon on Saturdays; the Town of West Brookfield restricts earth removal activities to 7:00 a.m. to 7:00 p.m., and the Town of Ware does not have specific limits on construction hours (Exh. NG-1, at 73, 88). NEP explained that some construction activities, such as line stringing and concrete pouring, must be done continuously once started, and that it would seek approval to extend work hours in advance of these activities (Exhs. NG-1, at 73; EFSB-CM-7). The Company stated it would develop a construction communication plan that would provide multiple communication methods for outreach during construction and a consistent point of contact for the public (Exhs. NG-1, at 76; EFSB-CM-8).

The Company anticipated that Project construction would begin in July 2027, the Replacement Line would be completed and energized in December 2028, and removal and restoration efforts would take three to six additional months to complete (Exh. EFSB-G-1; Tr. 1, at 19-20). The Company outlined the following construction steps which would happen in segments along the Project ROW over the course of two years, such that work is not occurring continuously within a given area: (1) removal of vegetation and ROW mowing in advance of construction; (2) installation of soil erosion and sediment controls; (3) construction of access routes and access route improvements; (4) construction of work pads and staging areas; (5) installation of foundations and structures; (6) installation of the conductor and OPGW; (7) removal and disposal of existing transmission line components; and (8) restoration and stabilization of the ROW (Exhs. NG-1, at 67; EFSB-G-1).

The Company stated that it would conduct vegetation management mechanically, and it would minimize mowing along streams and brooks to the extent practicable (Exh. NG-1, at 68). The Company would implement erosion and sedimentation controls in accordance with its best management practices (“BMPs”), Soil Erosion and Sediment Control Plan, and Stormwater Pollution Prevention Plan (“SWPPP”) (Exh. NG-1, at 68, 73).

According to the Company, construction crews would access the ROW at locations where the ROW crosses public ways or along the Company’s existing off-ROW access ways (Exh. EFSB-CM-1). The Company explained that it would use existing access ways to the maximum extent practicable and it does not plan to create new off-ROW access for the Project; however, the Company stated it would evaluate off-ROW access alternatives in instances where doing so could avoid impacts to wetlands or rare species habitats (Exhs. NG-1, at 69; EFSB-CM-1). The Company noted that some existing access ways require significant improvements, including complete rebuilds, and new on-ROW paths are required to provide access to the Replacement Line (Exh. NG-1, at 69). The Company specified that new on-ROW access routes would be 12 to 16 feet wide and were designed to avoid or minimize wetland impacts, follow the contours of the land, and avoid severe slopes (Exh. NG-1, at 69). Additionally, the Company specified that it would use temporary construction matting in agricultural areas and wetlands in locations where upland access options are not available (Exhs. NG-1, at 70; EFSB-CM-2).

The Company would construct work pads to provide a safe and level work area for foundation work, structure assembly, and construction near energized lines (Exh. NG-1, at 70). The Company would establish temporary storage areas, staging areas, and laydown areas, which would typically be located on previously developed properties (Exh. NG-1, at 69-70). The Company stated it would ensure any temporary storage, staging, or laydown areas would be compatible with local zoning regulations and surrounding land uses (Exh. EFSB-CM-3). The Replacement Line would comprise steel monopole structures directly embedded into the ground or set on reinforced concrete caisson foundations (Exh. NG-1, at 29, 70). The Company would temporarily stockpile excavated soil outside of wetland areas and would determine in the field whether dewatering is required (Exhs. NG-1, at 71; EFSB-W-1). The Company anticipated that blasting would not be required during Project construction (Exh. NG-1, at 71). The Company estimated that concrete pouring would take one to two days for each foundation (Exh. EFSB-CM-7). After the structures are constructed, the Company would install insulators, conductors, and OPGW (Exh. NG-1, at 71). The Company estimated that line stringing would take place at a rate of one mile per week (Exh. EFSB-CM-7). Though NEP does not anticipate helicopter work for this Project, the Company stated it would coordinate with stakeholders and develop health and safety plans in advance of any helicopter work if helicopter work is necessary (Exhs. NG-1, at 71; EFSB-CM-5).

The Company would remove the Existing Line once the Replacement Line is complete and has been placed into service (Exh. NG-1, at 71). The Company assured that the disposal of waste, including treated wood poles, cross-arms, braces, and other hardware, would comply with the applicable laws and regulations (Exh. NG-1, at 71-72). The Company explained it would salvage steel, H-frame structures, conductors, and insulators to the extent practicable, and that any materials that cannot be recycled would be transported to an off-site disposal facility (Exh. NG-1, at 72). Following the dismantling of the Existing Line, the Company would remove temporary structures and construction debris, conduct final grading and stabilization of disturbed soil, and restore or replicate affected regulated environmental resource areas as applicable (Exh. NG-1, at 72).

C. Environmental Impacts

1. Land-Based Resources

a. Company Description

The Project would be located entirely within an existing NEP ROW (Exh. NG-1, at 75). Since the Replacement Line would be located in an existing transmission ROW, the Company does not anticipate any permanent changes to abutting land uses, although the Company would make some alterations to the existing ROW to accommodate Project construction (Exh. NG-1, at 77-78). The Company identified approximately 60 trees on the edge of the ROW that it would need to remove either to provide work pad access or adequate clearances between the trees and the Replacement Line (Exhs. NG-5-KO, at 2-3; NG-4-MH, at 3, Tr. 1, at 22-23). The Company explained that since the trees targeted for removal are within a dense stand of trees, it does not plan to mitigate for tree clearing (Exh. NG-5-KO, at 3; Tr. 1, at 31-32). The locations where the Company anticipates clearing trees are not in mapped estimated or priority habitat areas (Exh. NG-5-KO(1) at 1-5). NEP stated that for any trees that need to be removed at the edge of the ROW which are located on abutting properties, it would coordinate with landowners to obtain all necessary approvals (Tr. 1, at 22-23).

The Company used MassGIS data to identify the land uses along the Project route, shown in Table 3 (Exh. NG-1, at 75). The Company reported that there are no sensitive receptors and no Areas of Critical Environmental Concern (“ACEC”) located on or near the Project ROW (Exh. NG-1, at 76-77). Open space is the primary land use type on and within 300 feet of the ROW, which includes municipal properties (Midura Family Conservation Area and King’s Brook Conservation Area in Palmer) and properties owned by the Massachusetts Department of Fish and Game (Palmer Wildlife Management Area and Cory Hill Wildlife Management Area in Ware and West Brookfield, respectively) (Exh. NG-1, at 76-77). The Company stated the state- and municipal-owned open space lands within the Project vicinity are primarily used for conservation and recreational activities such as hiking, fishing, and hunting (Exh. NG-1, at 78). NEP would coordinate with affected stakeholders and develop an outreach plan to include safety signage and temporary detours around active construction zones to mitigate construction-phase disturbances to public open spaces (Exhs. NG-1, at 78; EFSB-SH-2).

Table 3. Land Uses Within the Project ROW and 300-foot Buffer.

Land Use Type	Project Route (Acres)	
	Within ROW	300-foot Buffer to ROW
Open Space	53	288
Residential	38	171
Vacant	21	108
Industrial	16	45
Forest Land	10	41
Agricultural/Horticultural	7	25
ROW	5	25
Commercial	4	20

Source: Exh. NG-1, at 75, Table 5-1.

Residential land is the second most common land use along the Project ROW, with 21 residences located within 300 feet of the ROW (Exh. NG-1, at 76, 90). NEP stated that while construction would result in temporary impacts to abutters, it would not impede a landowner's ability to access their property (Exhs. NG-1, at 76; EFSB-LU-3).

NEP contracted Gray & Pape Heritage Management to conduct a cultural resource due diligence and archaeological sensitivity assessment for the Project, which determined there were ten previously recorded historic or archeological aboveground resources within 0.5 miles of the ROW centerline and none within the ROW (Exh. NG-1, at 79). The Company submitted a Project Notification Form to the Massachusetts Historical Commission ("MHC") and performed an archaeological survey along the ROW at structure locations and work areas in coordination with representatives of federally recognized Tribes (Exh. NG-1, at 80). The survey determined that the Project construction within the ROW would not impact the eligibility of previously identified archaeological resources for inclusion in the National Register of Historic Places (Exh. NG-1, at 80). In addition, no off-ROW access areas were found to have cultural sensitivity (Exh. EFSB-LU-2).

The Company noted that the Project would require a permit from the United States Army Corps of Engineers (“USACE”) under Section 404 of the Clean Water Act and would be subject to review under Section 106 of the National Historic Preservation Act (Exh. NG-1, at 80). The Company committed to coordinating with the USACE and MHC to implement avoidance and minimization measures as needed with respect to potentially eligible resources with the National Register of Historic Places (Exh. NG-1, at 80). NEP stated that it would outline any required resource protection or avoidance measures in an Avoidance and Protection Plan, and that it would specify procedures for handling unanticipated discoveries during construction in a Post Review Discoveries Plan (Exhs. NG-1, at 80-81; EFSB-LU-2).

The Company stated that it used field surveys and available habitat information to design the Project to avoid and minimize impacts to rare species habitats where feasible (Exh. NG-1, at 84). NEP reported that two federally listed animal species may be present in the Project ROW per the United States Fish and Wildlife Service Information for Planning and Consultation, and portions of the ROW contain habitat for three state-listed plant and two animal species per the Massachusetts Wildlife’s Natural Heritage and Endangered Species Program (“NHESP”) (Exhs. NG-1, at 83; EFSB-LU-4(S1)). The Company confirmed with NHESP that the Project would result in the take of one moth species, which would require a Conservation and Management Permit if the take cannot be avoided (Exhs. NG-1, at 83-84; EFSB-LU-4(S1); Tr. 1, at 27, 30-31). To mitigate the impact of this take, the Company would collect seeds, spread them, and monitor the establishment of a new host plant community (Exh. EFSB-LU-4(S)). The Company was able to avoid the take of another plant species by relocating one of the Replacement Line structures in coordination with NHESP (Exh. EFSB-LU-4(S)). The Company stated that MassGIS data show that 48.5 acres of the ROW are within priority habitat and 3.1 acres are within estimated habitat (Exh. NG-1, at 83). The Company anticipates that the installation of new structures and access roads would permanently impact approximately 2.3 acres of priority habitat and temporarily impact an additional 18 acres (Exh. NG-1, at 83). The Company explained that temporary impacts would result from grading and construction matting, and that these areas would be restored, stabilized, and allowed to revegetate upon completion of construction (Exhs. NG-1, at 84; EFSB-CM-2). NEP stated that protection measures for state-listed species would be

developed in coordination with NHESP as needed, and may include time-of-year restrictions, pre-construction surveys, or the use of temporary avoidance fencing during construction (Exh. NG-1, at 84).

b. Analysis and Findings on Land-Based Resource

The record shows that the primary abutting land use is open space followed by residential land use, with 21 residences within 300 feet of the ROW. The record establishes that, due to its location in an existing ROW, the Project would not alter any abutting land uses. To satisfy the minimum clearing requirements between the transmission line and the tree canopy and provide adequate space for work, the Company would remove approximately 60 trees at the edge of the ROW. The record shows that NEP would seek approval from abutting landowners to clear any trees located outside the ROW on adjacent properties. Land just beyond the ROW is densely vegetated with tall-growing species of trees that exceed the height of the existing structures. Such tall trees outside the ROW can contribute to tree-related outages. This is especially true when the sloped terrain of the ROW effectively increases the height of the trees relative to the line, increasing the potential for outages caused by fallen trees. The Siting Board directs the Company to provide one-to-one mitigation for any trees cleared on abutting properties, by planting new trees on the property in consultation with the landowner or providing other mitigation to the landowner.

There are no sensitive receptors or ACECs on or near the Project ROW. The Project crosses through two municipality-owned and two state-owned protected open space properties used for conservation and recreation. The Company would develop an outreach plan, including safety signage and temporary detours, to mitigate temporary construction-phase disturbances to protected open spaces. The Siting Board directs the Company to submit to the Siting Board the construction communication plan at least 30 days prior to the start of the Project construction. The record shows that there are no previously recorded aboveground historic or archeological resources on the ROW, although there are several such resources within 0.5 miles of the ROW. NEP committed to working with the MHC and USACE to mitigate impacts on resources potentially eligible with the National Register of Historic Places as needed and would outline such measures

in an Avoidance and Protection Plan as well as specifying measures to address unanticipated discoveries in a Post Review Discoveries Plan.

The Project construction would occur within the habitat of three state-listed plant species, two state-listed animal species and potentially two federally listed species. NHESP confirmed the Project would result in the take of one state-listed moth species. The Company committed to working with NHESP to determine the appropriate measures to minimize and mitigate any impacts to the state-listed species. The record shows that the construction of Project access roads, work pads, and structures would result in permanent impacts to approximately 2.3 acres of priority habitat and temporary impacts to 18 acres. Temporary impacts would result from grading and construction matting, and the Company would restore these areas once construction is complete. The Siting Board directs the Company to restore disturbed areas using native Massachusetts vegetation mix that provides habitat value while remaining compatible with transmission clearance requirements.

With the Company's commitments and conditions above, the Siting Board finds that Project impacts to land-based resources have been minimized.

2. Wetlands and Water Resources

a. Company Description

The Company stated that it designed the Project to use existing access routes and avoid the placement of structures in wetlands and watercourse areas to the extent practicable (Exh. NG-1, at 82). According to the Company's wetland delineations, the Project ROW contains 16 acres of wetlands, and the construction of the Project would result in the loss of 113 square feet of wetlands and would temporarily impact roughly 4.5 acres of wetlands, shown in Table 4 (Exh. NG-1, at 81-82). NEP explained that the permanent wetland impacts would result from the fill associated with the installation of structures, and temporary impacts would arise from the use of construction matting for work pads, pull pads, and access roads (Exhs. NG-1, at 82; EFSB-CM-2). The Project would also result in the permanent impact to roughly 2,500 square feet of Riverfront Area due to the installation of new structures and new access roads (Exh. NG-1, at 82). The Company committed to providing a one-for-one replication for the 113 square feet of wetlands loss per the

requirements of the Massachusetts Wetlands Protection Act (Exh. NG-1, at 82). The Company explained it would work with the local Conservation Commissions to discuss impacts and potential mitigations for impacts within Riverfront Area as part of the Notice of Intent process, and it would prepare applications for Certificates of Compliance for each of the Conservation Commissions post-construction (Exh. NG-1, at 82).

Table 4. Wetlands, Watercourses, and Vernal Pools Associated with the Project.

Resource Area	Permanent Impacts (square feet)	Temporary Impacts (square feet or acres as noted)
Bordering Vegetated Wetlands	113	199,967 (4.59 acres)
Bank	0	2,617
Land Under Water Bodies and Waterways	0	4,811
Riverfront Area	2,496	48,973 (1.07 acres)
Certified Vernal Pools	0	0

Source: Exh. NG-1, at 81, Table 5-4.

The Company reported that no work would be conducted in Outstanding Resource Waters (Exh. NG-1, at 85). The Company stated the Replacement Line would cross two public water supply resources, with five acres of the ROW within a Zone II Wellhead Protection Area in Palmer and two acres within medium yield aquifers in Ware (Exh. NG-1, at 84-85). Due to the limited amount of work in these areas, the Company does not expect the Project to impact public water supply resources, stating that such impacts would only occur in the case of an unanticipated failure of sedimentation and erosion controls (Exhs. NG-1, at 85; EFSB-W-3). The Company stated it would not stockpile any excavated materials in water resource areas, and in cases where material is stockpiled near wetlands, it would implement controls to prevent runoff from entering sensitive environmental areas (Exh. NG-1, at 82). Additionally, the Company explained it would install stormwater features to reduce adverse impacts of stormwater flows, maintain the longevity of access routes, and reduce overall maintenance needs (Exh. NG-1, at 69).

The Company stated the Project would comply with the requirements of the National Pollutant Discharge Elimination System Construction General Permit, the Section 401 Water Quality Certification, the Massachusetts Wetlands Protection Act (“WPA”), and other restrictions

that may be applied by local Conservation Commissions in accordance with the WPA (Exh. NG-1, at 86). NEP would develop a Soil Erosion and Sedimentation Plan as well as a SWPPP prior to the start of construction that would identify controls to be implemented to avoid and minimize the potential for erosion and sedimentation from soil disturbance during construction (Exhs. NG-1, at 73, 82; EFSB-W-2). If a severe storm causes the failure of the erosion controls, the Company will conduct a post-storm inspection to identify and address issues in a timely manner (Exh. EFSB-W-3). The Company would require its contractors to adhere to BMPs regarding the storage and handling of oil and potentially hazardous materials, stating that refueling would not occur within 100 feet of wetlands or waterways where feasible (Exh. NG-1, at 86). The Company explained that in instances where refueling does occur within 100 feet of wetlands or waterways, it would use secondary containment, adding that all refueling equipment would be required to carry spill containment and prevention devices (Exh. NG-1, at 86).

b. Analysis and Findings on Wetlands and Water Resources

The record shows that the Project would have temporary and permanent impacts on wetlands, including the loss of 113 square feet of bordering vegetated wetlands which NEP would mitigate through one-to-one replication off-site. The Company committed to working with local Conservation Commissions to identify potential mitigations for the Project impacts to Riverfront Area. The Siting Board directs the Company to work with the local Conservation Commissions on potential mitigation for impacts within the Riverfront Area and complete any such mitigation identified in documents issued by the Conservation Commissions or otherwise required.

The record establishes that the Project would not impact public water supply resources and does not intersect with any Outstanding Resource Waters. Prior to the construction of the Project, NEP would develop plans to implement procedures for erosion and sedimentation control, spill prevention measures, and stormwater control, and it would require its contractors to implement BMPs to minimize impacts to wetlands and water resource areas. Accordingly, the Siting Board finds that impacts to water resources and wetlands would be minimized.

3. Noise

a. Company Description

The Company explained that the Project would not generate noise during operation, including no expected noise from the corona effect,¹³ and the noise impacts during construction would be temporary (Exhs. NG-1, at 87; EFSB-NO-1). Although NEP estimated the overall Project construction phase would last 23 months, it explained that construction activities would take place intermittently at different segments along the ROW during this period, and, therefore, noise would not be continuous at any given location for an extended period of time (Exh. NG-1, at 87-88; Tr. 1, at 17-19). The Company and its contractors would comply with state law and Massachusetts Department of Environmental Protection (“MassDEP”) regulations which limit vehicle idling with exceptions for certain circumstances and it would mitigate noise from construction equipment by keeping the equipment in good working condition and using appropriate mufflers (Exh. NG-1, at 90). The Company would comply with local noise bylaws and ordinances (Exh. NG-1, at 88). The Company stated construction would occur during its typical work hours, which it proposed to be between 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays, though in certain circumstances it may seek municipal approval to work at night (Exh. NG-1, at 72, 88). Additionally, NEP noted that some construction activities may require continuous work until completed, and in those instances, NEP would seek advanced approval from the municipality to perform work outside of standard hours and would provide notice to abutters (Exhs. NG-1, at 88; EFSB-CM-7).

The Company stated the loudest expected construction noise would be from vegetation removal and mowing, which it estimated would last two months across the total length of the line and approximately one to two days near any given residence (Exh. EFSB-NO-2; Tr. 1, at 17-18). In general, the Company estimated noise levels from construction would range from 80 to 98 decibels (“dBA”) at 50 feet from the ROW and from 65 to 83 dBA at 300 feet (Exh. NG-1, at 88-90). The Company stated there are two residences within 50 feet of the ROW and 21

¹³ The corona effect can occur on transmission lines and is caused by electric fields, leading to ionization of air surrounding the conductors, ozone production, and may also create a faint hissing noise.

residences within 300 feet, with the closest residence located approximately 18 feet from the ROW (Exh. NG-1, at 88). Overall, the longest continuous stretch of construction activities estimated to occur adjacent to any abutter location would be no more than two weeks at a time (Tr. 1, at 17-18). NEP stated it would send out periodic notifications to abutters regarding regular construction activities and would work with abutters on a case-by-case basis to address noise concerns (Exh. EFSB-NO-3; Tr. 1, at 20). As mentioned previously, the Company does not anticipate the helicopter work for this Project but noted it may be among the work methods proposed by the construction vendors; in the event helicopters are used, the Company would notify municipal officials, local fire and police departments, and any affected landowners in advance of such work (Exhs. NG-1, at 71; EFSB-CM-5).

b. Analysis and Findings on Noise

The Project would not produce noise during operation, and the record demonstrates the Project construction would generate noise from intermittent activities along the ROW with sound levels ranging from 80 to 98 dBA at 50 feet from the sound source. The record shows that there are two residences within 50 feet of the ROW, with the closest residence being 18 feet from the ROW. NEP would keep abutters informed of construction activities that may affect them and would address noise complaints on a case-by-case basis. Though the impacts of construction noise would be mitigated by the limited duration of work at each segment of the ROW, the Siting Board recognizes that the expected construction sound levels at 50 feet from the ROW may be disruptive to nearby residents. The Siting Board directs the Company to survey residents within 50 feet of the ROW and to implement additional noise mitigation measures, such as a sound barrier, for construction work if those residents report that construction noise will be disruptive.

The Company committed to working with the Towns of Palmer, West Brookfield, and Ware to develop mutually agreeable work hours, which the Company proposes would be between 7:00 a.m. to 7:00 p.m. on weekdays and 8:00 a.m. to 5:00 p.m. on Saturdays. Construction activities would be limited to this schedule except in circumstances where the Company seeks advance approval to perform work outside these hours, such as when construction activities require continuous work to be completed. The Siting Board directs the Company to limit the Project's

construction work hours to 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturdays, except as otherwise noted and agreed upon with the local municipality, and to follow any local municipal ordinance that limits work hours for specific construction activities. The Siting Board directs the Company to consult with each affected municipality to determine if additional work hour limitations may be desirable and mutually acceptable and to report these hours to the Siting Board if they differ from the Company's proposed schedule.

Should the Company need to extend construction work hours beyond the specified hours and days, with the exception of emergency circumstances necessitating extended hours, the Siting Board directs the Company to seek written permission from the relevant municipal authority (or authorities) before commencement of such work and to provide the Siting Board with a copy of said permission. If the Company and municipal officials cannot agree on whether such extended construction hours should occur, the Company may request prior authorization from the Siting Board and shall provide the associated municipality (or municipalities) with a copy of any such request. Work requiring a longer continuous duration than normal construction work hours shall be exempt from those hours. The Company shall promptly inform the Siting Board and the relevant municipal authority (or authorities) of any emergency work occurring outside of normal construction work hours.

Although the Company does not anticipate the use of helicopter work during construction, it did not rule this out as a possibility, pending future conversations with the selected construction contractors. The Siting Board directs that if the Company determines, per consultation with its construction vendor(s), that helicopter use is required, the Company shall notify any residence situated within 300 feet of the ROW boundary and adjacent to the proposed helicopter location(s) at least seven days prior to commencement.

The Siting Board finds that, with the Company's commitments and conditions above, noise impacts would be minimized.

4. Traffic

a. Company Description

NEP stated that traffic impacts would be limited to the construction phase of the Project (Exh. NG-1, at 91). NEP would work with the local municipalities and the Massachusetts Department of Transportation (“MassDOT”) to develop traffic management plans (“TMP”) to minimize the impacts of construction (Exhs. NG-1, at 92; EFSB-T-6). The Company explained that the main impacts to traffic would occur at ROW construction access locations and when stringing conductors over road crossings (Exh. NG-1, at 91). The Company stated that site traffic on a given day would vary based on the activity taking place, and it estimated that on a peak construction day there may be roughly two dozen vehicle trips at a given segment of the ROW (Exh. EFSB-T-1). The Company did not anticipate the need to transport any oversized loads during construction requiring special access considerations (Exh. EFSB-T-2).

The Company identified 13 roadway crossings and one railroad crossing where line stringing would take place along the Project route, including three crossings at state highways which would require permits from MassDOT: Route 20 in Palmer, I-90 in Palmer, and Route 32 in Ware (Exh. NG-1, at 91). The Company explained that during line stringing, boom trucks may be set up in travel lanes, shoulders, or medians to serve as support to the lines as they are attached to the transmission structures (Exh. NG-1, at 91). NEP anticipated that line stringing across I-90 may require lane closures, traffic stops, or a rolling roadblock, as dictated by MassDOT, and that this work would likely occur outside of standard work hours on weekends (Exhs. EFSB-T-3; EFSB-T-4). The Company explained that though the work across I-90 would take place over the course of one or two days, there would not be a complete shutdown of the highway and the duration of a rolling roadblock usage during line stringing would be less than one hour (Tr. 1, at 20-21). The Company did not expect stringing of the Replacement Line to impact the railroad it crosses, stating it would coordinate with the railroad owners when performing work at this crossing (Exh. EFSB-T-5).

b. Analysis and Findings on Traffic

The record establishes that the Project would only result in traffic impacts during its construction phase. NEP committed to coordinating with MassDOT and the local municipalities to

develop TMPs to minimize the temporary traffic disruptions associated with Project construction. The record shows that there would be some impacts to traffic at ROW access points as construction vehicles travel to and from the site, but these impacts are expected to be temporary and limited. The Replacement Line would cross 13 roadways, including three state highways, and one railroad, but the Company anticipates that only the line stringing across I-90 would require the use of lane closures, traffic stops, or a rolling roadblock as specified by MassDOT. The Siting Board finds that the Project's impacts to traffic have been minimized.

5. Visual Impacts

a. Company Description

The Company explained the Project would be largely screened from view due to its location in the center of the existing ROW traversing undeveloped, forested areas with few residential or commercial abutters (Exh. NG-1, at 86-87). The Company noted that even at locations where structures are visible, such as at road crossings or open fields, the Project's additional visual impacts would be minor compared to the Existing Line (Exhs. NG-1, at 87; EFSB-V-1). The new structures would range from 75 to 110 feet tall compared to the existing structure heights of 50 to 90 feet; NEP explained the visual impact of the increased height would be partially offset by the reduction from 147 to 112 structures (Exh. NG-1, at 87). The Company committed to working with abutters who may have concerns about their viewshed to determine reasonable and practical screening that could be provided (Exh. NG-1, at 87, Tr. 1, at 31-32).

b. Analysis and Findings on Visual Impacts

The Replacement Line would have taller structures than the Existing Line, which would result in minor increased visual impacts. However, the Replacement Line would have fewer structures overall and it would be largely screened from view due to its location in a remote ROW largely surrounded by vegetation. The Company would work with abutters who express concern over visual impacts to identify reasonable mitigation measures. Given the largely undeveloped and forested surroundings of the ROW and the similar visual nature of the Existing Line, the Siting Board finds that visual impacts of the Project would be minimized.

6. Air Impacts

a. Company Description

The Company stated the Project would have limited and temporary air quality impacts during construction and would have no air impacts during operation (Exh. NG-1, at 92). The Company would mitigate air impacts during construction by requiring contractors to implement air quality and dust control measures throughout construction (Exh. NG-1, at 92). NEP stated such measures would include the using water sprays during excavation, stockpiling, tire cleaning at construction vehicle entrances, and requiring the use of ultra-low-sulfur diesel in off-road diesel vehicles (Exh. NG-1, at 92-93). The Company stated it would comply with MassDEP's Diesel Retrofit Program and state law restricting unnecessary vehicle idling to five minutes, except in certain circumstances (Exh. NG-1, at 92).

b. Analysis and Findings on Air Impacts

The record shows that the Project would not generate air emissions during operation and would have limited air quality impacts during construction. The Company would comply with the MassDEP Diesel Retrofit Program, which requires all diesel-powered non-road construction equipment with 50 or more horsepower used for 30 or more days during Project construction would either be EPA Tier 4-compliant or will have EPA-verified (or equivalent) emission control devices installed. To mitigate air impacts during construction, NEP committed to following state law limiting unnecessary vehicle idling and implementing air quality and dust control measures throughout the construction area. Accordingly, the Siting Board finds that the air impacts of the Project would be minimized.

7. Hazardous Waste and Safety

a. Company Description

The Company committed to following all federal, state, and local regulations as well as industry standards and guidelines established for the protection of the public (Exh. NG-1, at 74). NEP stated it would ensure its contractors are familiar with and understand the public safety measures specified in its Safety Procedures and Work Area Protection Manual, which include measures for traffic control, excavation protection, and exclusionary fencing (Exh. NG-1, at 74).

During the Project design and construction, the Company would evaluate locations that may require the installation of signs or temporary guard structures to restrict public access to potentially hazardous work areas (Exh. NG-1, at 74). The Company stated that the Replacement Line's transmission structures would be clearly marked with warning signs to alert the public to the hazards of climbing or entering the structures (Exh. NG-1, at 74). Additionally, NEP noted that the ROW crosses through Massachusetts Department of Conservation and Recreation land that is used for hunting; NEP would post signage at access points along the ROW, would require its workers to wear high-visibility clothing during hunting season, and would coordinate with the Department of Fish and Game to share information about construction activities during hunting season (Exhs. NG-1, at 77; EFSB-SH-2).

NEP committed to handling waste materials in compliance with the applicable laws and regulations and would require its contractors to adhere to BMPs regarding the storage and handling of oil and potentially hazardous materials (Exh. NG-1, at 72, 86). The Company's SWPPP would include prevention measures for spills or inadvertent releases of fuels, oils, or other hazardous materials used in equipment (Exh. NG-1, at 73-74, 99).

b. Analysis and Findings on Hazardous Waste and Safety

The record establishes that NEP would take measures to protect the safety of the public and its workers and contractors during construction and operation of the Project. In addition to following laws and regulations related to public safety, the Company has its own internal safety manual that it would follow. NEP would also follow the laws and regulations pertaining to the handling of waste materials and would additionally develop a SWPPP that would specify procedures for dealing with fuels, oils, or other hazardous materials encountered during construction. The Siting Board directs the Company to submit the SWPPP to the Board at least 60 days before the start of Project construction. With the above mitigation measures and conditions, the Siting Board finds that the Company has appropriately addressed safety issues and minimized the risks of encountering and handling hazardous waste.

8. Magnetic Fields

a. Company Description

NEP hired Gradient to model the magnetic fields (“MF”) for three transmission line scenarios: (1) the Existing Line, (2) the Replacement Line operating at 69 kV, and (3) the Replacement Line operating at 115 kV (Exh. NG-1, at 93). For each scenario, the consultant modeled MFs one meter above the ground at two representative cross sections for both the annual average load level and the system peak load level, the results of which are shown in Table 5 (Exh. NG-1, at 93). In the table, Cross Section 1 represents a portion of the ROW where the Existing Line is the only circuit in the ROW, and Cross Section 2 represents a portion where another 69 kV circuit is also present (Exh. NG-1, at 93). The predicted MF values for all modeled cases were orders of magnitude below the health-based guideline of 2,000 milligauss (“mG”) established by the International Commission on Non-Ionizing Radiation Protection (“ICNIRP”) (Exh. NG-1, at 95). The Company explained that MFs decrease rapidly with distance such that MF levels would become negligible at short distances beyond the ROW edge (Exh. NG-1, Appendix 5-4, at 10). The Company stated that it designed the conductor arrangements and phasing configurations to minimize the Project’s MFs, and it noted that MF impacts are further mitigated by the remoteness of the ROW (Exh. NG-1, at 96). The Company maintained that compared to the MFs generated by the Existing Line, the model results demonstrate that the Replacement Line would result in decreased MFs at the left edge of the ROW and either be roughly the same or result in slight MF increases at the right edge of the ROW (Exh. NG-1, at 94).

Table 5. Magnetic Field Modeling Results.

Cross Section	Magnetic Field (mG)					
	Left Edge of ROW			Right Edge of ROW		
	Existing Line	Replacement Line (69 kV)	Replacement Line (115 kV)	Existing Line	Replacement Line (69 kV)	Replacement Line (115 kV)
Average Annual Load Levels						
Cross Section 1	4.68	1.81	1.46	2.15	3.07	2.48
Cross Section 2	4.45	1.80	1.45	1.23	1.15	1.24

System Peak Base Case Load Levels						
Cross Section 1	2.17	0.82	0.67	1.00	1.39	1.14
Cross Section 2	1.85	0.82	0.68	1.18	1.16	1.20
System Peak Sensitivity Case Load Levels						
Cross Section 1	22.80	8.78	7.08	10.48	14.92	12.03
Cross Section 2	21.71	8.73	7.04	3.96	3.64	4.10

Source: Exh. NG-6-CL(1), at 2, Table 1.

b. Analysis and Findings on Magnetic Fields

The record shows that the MFs produced by the Replacement Line operating at 69 kV would range from 0.82 to 14.92 mG at the edges of the ROW. The record demonstrates that MFs would further diminish to negligible levels at short distances from the ROW. As discussed in Section IV.B.2.b., the increased height of the Replacement Line structures compared to those of the Existing Line contributes to a reduction in MFs. Overall, at either voltage the Replacement Line would result in lower or similar MF values compared to the Existing Line, and even the highest predicted MF values would be orders of magnitude below ICNIRP's health-based guidelines for MF exposure and are within the range of MFs levels that the Siting Board has approved in other proceedings. See A1/B2 at 55; NSTAR Electric Company d/b/a Eversource Energy and New England Power Company d/b/a National Grid, EFSB 21-04/D.P.U. 21-149, at 108 (2026) ("Acushnet"); GCEP at 173. Accordingly, the Siting Board finds that the MF impacts of the Project would be minimized.

9. Summary of Environmental Impacts

The Siting Board finds that the information the Company provided regarding the Project's environmental impacts is substantially accurate and complete. The record shows that the Project would result in the loss of approximately 60 trees and 113 square feet of wetlands, as well as other impacts along the Project ROW. However, these impacts would primarily be temporary and construction-related, confined to the Project corridor, and addressed through the Company's mitigation commitments. Therefore, the Siting Board finds that with implementation of the

mitigation and conditions specified, and given compliance with all local, state, and federal requirements, the Project's temporary and permanent impacts would be minimized.

D. Cost

End-of-life or asset condition projects, such as the Project, are not subject to the same transmission planning process requirements as other Federal Energy Regulatory Commission jurisdictional transmission projects.¹⁴ However, asset condition projects are a significant and growing component of consumers' electricity bills. Regional investment in asset condition projects in the ISO-NE region increased eightfold from 2016-2023.¹⁵ The Siting Board notes the need to review the Project and determine whether it would provide a reliable energy supply for the Commonwealth, with a minimum impact on the environment, at the lowest possible cost.

The Company stated that the Project would cost approximately \$65.5 million in 2028 dollars (Exh. NG-1, at 5). The Company noted that the total Project cost allocation would be recovered through regional rates, although the final costs and allocation would be based on the actual expenditures (Exh. EFSB-C-1; Tr. 1, at 40). As noted above in Section IV.C, the Siting Board did not find that any of the Project alternatives would adequately meet the energy needs in the Project area.

Regarding the two Project design alternatives (i.e., 69 kV and 115 kV), the Company stated that both alternatives would share the same number and location of structures, as well as construction techniques; therefore, differences in material costs associated with taller structures would drive most cost variability between the two (Exh. NG-1, at 35). Altogether, the Company

¹⁴ See Resolution of the National Association of Regulatory Utility Commissioners ("NARUC"), EC-3, "Resolution on Electric Consumers' Need for Effective Oversight of Costs for Replacing Aging or Obsolete Transmission Infrastructure," adopted at the 2025 Winter Policy Summit on February 26, 2025 ("NARUC Asset Condition Resolution"), <https://pubs.naruc.org/pub/A37E3860-ECFF-DBA3-13A7-BA3B120910C2>.

¹⁵ NARUC Asset Condition Resolution at 7. See <https://pubs.naruc.org/pub/A37E3860-ECFF-DBA3-13A7-BA3B120910C2>.

noted that the cost savings for the 69 kV alternative would be \$2.1 million compared with the 115 kV alternative, or less than five percent of the Project cost (Exhs. NG-1, at 35-36; EFSB-C-3).

The Siting Board finds the additional costs of building the Project as a 115 kV-capable line would be a reasonable, and cost-effective expenditure in the long term, given the expectation of growing loads due to increasing electrification trends and the increased development of distributed energy resources. The Siting Board directs the Company to submit to the Siting Board an updated and certified cost estimate for the Project prior to the commencement of construction. The Siting Board directs the Company to file semi-annual compliance reports with the Siting Board starting within 180 days of the commencement of construction, that include projected and actual construction costs and explanations for any discrepancies between projected costs, actual costs, and completion dates. Accordingly, the Siting Board finds that the Project would provide a reliable energy supply for the Commonwealth at the lowest possible cost.

E. Reliability

The Company asserts both the 69 kV and 115 kV-capable design alternatives would address the design issues associated with the Existing Lines, including susceptibility to woodpecker damage, thus increasing system reliability (Company Brief at 39, citing Exh. NG-1, at 33). The Company emphasized that the 115 kV-capable alternative would provide greater reliability benefits (Exh. NG-1, at 33). In the short term, the Company reported that the increased insulation and phase spacing of the 115 kV-capable alternative would further improve lightning performance, and the additional structure height would reduce the probability of off-ROW vegetation striking an energized conductor (Exh. NG-1, at 33). In the long term, the Company reported that the 115 kV-capable alternative would eliminate the need for further transmission line upgrades if future planning studies determine that increased renewable energy resource deployment and increased load growth required operation of the lines at 115 kV (Exh. NG-1, at 33). Finally, the Company stated that 115 kV operation would provide a thermal capacity increase of 66 percent (Exh. NG-1, at 33). The Company reported that 115 kV operation would provide superior voltage regulation due to lower impedance on a per MVA basis, helping avoid the

need for additional transmission switching stations, capacitor banks, reactors, and dynamic voltage control devices to support new load (Exh. NG-1, at 33).

Therefore, the Siting Board finds that the Project would best meet the Siting Board's reliability objectives.

F. Conclusion on Analysis of Project Impacts

The Siting Board is charged with ensuring jurisdictional facilities approved for construction in the Commonwealth achieve an appropriate balance between environmental impacts, reliability, and cost. G.L. c. 164, §§ 69H, 69J. See GCEP at 206; Mid Cape Reliability at 87; Beverly-Salem at 108. Based on review of the record, the Siting Board finds that the Company provided sufficient information to allow the Siting Board to determine whether the Project has achieved a proper balance among cost, reliability, and environmental impacts.

The Siting Board finds that with the implementation of the specified conditions and mitigation presented above, and compliance with all applicable local, state, and federal requirements, the environmental impacts of the Project would be minimized and mitigated. Therefore, the Siting Board finds that the Project, as proposed and using the proposed route, would achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability, and cost.

VII. CONSISTENCY WITH POLICIES OF THE COMMONWEALTH

A. Standard of Review

G.L. c. 164, § 69J requires the Siting Board to determine whether plans for construction of the applicant's facilities are consistent with current health, environmental protection, and resource use and development policies as adopted by the Commonwealth. SouthCoast Wind at 166; GCEP at 206; Mid Cape Reliability at 88; Beverly-Salem at 109.

B. Position of the Company

The Company asserts the Project would be consistent with the requirements of G.L. c. 164, § 69J and would be consistent with state energy policies as articulated in the Electric Utility Restructuring Act of 1997, St. 1997, c. 164 (the "Restructuring Act"), the Green Communities Act,

St 2008, c. 169, the Global Warming Solutions Act, St 2008, c. 298 (“GWSA”), the Energy Diversity Act, St 2016, c. 188, the Clean Energy Act, St. 2018, c. 227, An Act Creating a Next-Generation Roadmap for Massachusetts Climate Policy St. 2021, c. 8, (“Roadmap Act”); and An Act Driving Clean Energy and Offshore Wind (St. 2022, c. 179) (the “2022 Clean Energy Act”) (Company Brief at 77-78).¹⁶

1. Health Policies

The Company asserts that construction and operation of the Project would be consistent with the Commonwealth’s health policies (Company Brief at 78-79; Exh. NG-1, at 101-102).

Table 6. Company’s Asserted Project Consistency with Key Health Policies.

Commonwealth Policy	Policy Description	Project Consistency Per Company
Restructuring Act	Noted that “reliable electric service is of the utmost importance to the safety, health and welfare of the Commonwealth’s citizens and economy” (Company Brief at 78-79).	The Project would enhance and ensure the reliability of the Company’s interconnected electric transmission and distribution system that would be served by the Replacement Line by replacing the Existing Line, which is subject to frequent outages, with new higher-capacity lines, thus ensuring the availability of sufficient and reliable electric service to the citizens and businesses of the Commonwealth and the region over the longer term (Exh. NG-1, at 101; Brief at 78). The Company would design, build, and maintain the Project so that the health and safety of the public are protected (Exh. NG-1, at 101-02; Company Brief at 78).
Various Federal, State, Local Laws and	Various laws and regulations established for protection of	The Company will adhere to all applicable federal, state, and local

¹⁶ The 2024 Climate Act, St. 2024, c. 239, and Executive Order 654 (March 16, 2026) are additional energy policies of the Commonwealth of Massachusetts that went into effect after this proceeding completed briefing; therefore, these policies were not considered by the Company and not analyzed by the Siting Board in this proceeding.

Commonwealth Policy	Policy Description	Project Consistency Per Company
Regulations; Industry Standards	public health and safety (Company Brief at 78-79).	regulations, and industry standards and guidelines established for protection of the public (Exh. NG-1, at 101; Company Brief at 78).
Massachusetts Environmental Policy Act (“MEPA”) Environmental Impact Report (“EIR”) Environmental Justice (“EJ”) Protocol	Identification of any environmental or public health impact from the proposed project that would likely result in a disproportionate adverse effect on EJ populations (Company Brief at 86).	The Single Environmental Impact Report (“SEIR”) states that construction-related vegetation disturbances within and along the Project's ROW are limited, and the impact of vegetation management does not worsen existing conditions nor create any new adverse conditions for these communities. SEIR indicated the Project is expected to improve the overall reliability of the power transmission system which both EJ and non-EJ communities rely on (Exh. EFSB-G-2(S1)(1), at 5-6; Brief at 88).

2. Environmental Protection

The Company asserts that the Project is consistent with the environmental protection policies as set forth in Massachusetts General Laws and other state and local environmental policies (Company Brief at 79, citing Exh. NG-1, at 102).

Table 7. Company’s Asserted Project Consistency with Key Environmental Protection Policies.

Commonwealth Policy	Policy Description	Company Arguments regarding Policy Consistency
The Restructuring Act	Demonstrate the Project minimizes environmental impacts consistent with the minimization of costs associated with avoidance, minimization, and mitigation of the environmental impacts of the Project (Exh. NG-1, at 102).	The Company compared a range of alternative projects and potential route options, and proposed specific plans to avoid, minimize and mitigate environmental impacts associated with the construction, operation, and maintenance of the Replacement Line, consistent with cost minimization (Exh. NG-1, at 102-03).

Commonwealth Policy	Policy Description	Company Arguments regarding Policy Consistency
Various Federal, State, Local Laws and Regulations	Various laws and regulations established for environmental protection (Company Brief at 90; Exh. NG-1, at 102-104)	The Company will obtain all environmental approvals and permits required by federal, state, and local agencies and the Project would be constructed and operated to comply fully with all applicable federal, state and local regulations and environmental policies (Company Brief at 80; Exh. NG-1, at 103).
The Green Communities Act	Northeastern and Mid-Atlantic states cooperate to reduce greenhouse gas (“GHG”) emissions and provides market incentives and funding for various types of energy generation (Company Brief at 81; Exh. NG-1, at 104-105).	The more robust electric system would enable the future integration of additional clean energy generated by renewables suppliers, expansion of electrification projects in the area, and would support increased usage of electric vehicles and the associated installation of electric charging stations, consistent with the Green Communities Act (Company Brief at 81; Exh. NG-1, at 105).
MEPA	• Requires consideration of reasonably foreseeable climate change impacts in GHG Emissions Policy and Protocol • EJ provisions in Roadmap Act (Exh. NG-1, at 107-110).	The Secretary of the Executive Office of Energy and Environmental Affairs (“Secretary”) confirmed that GHG emissions associated with the Project would be limited to the construction period and are de minimis. The Company’s adherence to the MEPA process demonstrates the Project’s consistency with the requirements of the GWSA and the Roadmap Act. (Company Brief at 83; Exh. NG-1, at 106).
GHG Reduction and Resiliency	• State Hazard Mitigation & Climate Adaptation Plan • Resilient MA Action Team Climate Resilience Design Standards for climate risk assessment • Net Zero by 2050 (Roadmap Act) (Exh. NG-1, at 105-106).	Project would result in a more climate-ready and resilient transmission system. Project facilitates increased injections of renewable and other clean resources to achieve decarbonization (Company Brief at 92 – 96; Exh. NG-1, at 106).

The Company states the Project does not pass through any EJ populations; however, there are three EJ populations within one mile of the Project; one each in Ware, Warren, and Monson (Company Brief at 87; Exh. NG-1, at 108). The Company stated that it has implemented all EJ requirements that are applicable to the Project and has taken measures to enhance public involvement by EJ populations by conducting a baseline assessment of any existing unfair or inequitable environmental burden and related public health consequences impacting EJ populations (Company Brief at 87; Exh. NG-1, at 108). The Project is proposed within the existing ROW, which minimizes adverse environmental impacts to both EJ and non-EJ populations (Company Brief at 88; Exh. NG-1, at 109). The Company would implement measures to avoid, minimize, and mitigate potential environmental impacts throughout the entire Project alignment, including where it crosses through or is within one mile of EJ populations (Company Brief at 88; Exh. NG-1, at 109).

3. Resource Use and Development Policies

The Project, which would contribute to the long-term maintenance and reliability of the electric transmission system in the Project area and the region, would be constructed and operated in compliance with Massachusetts's policies regarding resource use and development (Company Brief at 90; Exh. NG-1, at 110).

Table 8. Company's Asserted Project Consistency with Key Resource Use and Development Policies.

Commonwealth Policy	Policy Description	Project Consistency Per Company
Executive Office of Energy and Environmental Affairs Smart Growth/Smart Energy Policy	Sustainable Development Principles including: • Support revitalization of city centers and neighborhoods • Encourage remediation and reuse of existing sites and infrastructure	Project supports these principles because, among other reasons, the Replacement Lines would support the reliability of service to central Massachusetts, thereby supporting its revitalization and would not adversely affect environmentally sensitive lands because it would be predominantly located within previously disturbed parcels of land on existing ROWs

Commonwealth Policy	Policy Description	Project Consistency Per Company
	• Protect environmentally sensitive lands, natural resources, critical habitats, wetlands and water resources, and cultural and historic landscapes (Company Brief at 90; Exh. NG-1, at 110).	(Company Brief at 90; Exh. NG-1, at 110).

C. Analysis and Findings

1. Consistency with Health Policies

The Restructuring Act noted the fundamental importance of reliable electric service to public health in declaring that “electricity service is essential to the health and well-being of all residents of the Commonwealth” and that “reliable electric service is of utmost importance to the safety, health, and welfare of the Commonwealth’s citizens and economy.” St. 1997, c. 164. Following this reasoning, a project that increases reliability in electric service should also be deemed to contribute to the health of the Commonwealth’s residents. Mid Cape Reliability at 89; see also, Beverly-Salem at 109 (“a project that increases reliability in electric service should also contribute to the health of the Commonwealth’s citizens”). In Section V.D.3 above, the Siting Board found the Project would “ensure a reliable electric supply” for the Commonwealth. Accordingly, subject to the specified mitigation and conditions set forth in this Decision, the Siting Board finds that the Company’s plans for construction of the Project are consistent with current health policies of the Commonwealth.

2. Consistency with Environmental Laws, Regulations, and Policies

a. The Global Warming Solutions Act and Other Emissions Reductions Policies

GWSA, enacted in August 2008, constitutes a comprehensive statutory framework to address climate change in Massachusetts. St. 2008, c. 298.¹⁷ The GWSA requires the Commonwealth to reduce its GHG emissions by 10 to 25 percent below 1990 levels by 2020, and by at least 80 percent below 1990 levels by 2050. G.L. c. 21N, §3(b). These requirements have been strengthened and expanded upon in recent years. Furthermore, the GWSA obligates administrative agencies to consider reasonably foreseeable climate change impacts and related effects when reviewing permit requests. G.L. c. 30, § 61.

On April 22, 2020, pursuant to the GWSA, the Secretary issued a “Determination of Statewide Emissions Limit for 2050” which established a “net zero” level of statewide greenhouse gas emissions. The Determination defined net zero as “[a] level of statewide greenhouse gas emissions that is equal in quantity to the amount of carbon dioxide or its equivalent that is removed from the atmosphere and stored annually by, or attributable to, the Commonwealth; provided, however, that in no event shall the level of emissions be greater than a level that is 85 percent below the 1990 level” (Determination at 1).

On December 30, 2020, Secretary issued the “Massachusetts 2050 Decarbonization Roadmap” (“2050 Roadmap”). The 2050 Roadmap provides the Commonwealth with near- and long-term strategies to achieve the goal of reaching net zero emissions by 2050. The importance of additional electric transmission infrastructure in achieving net zero GHG emissions in a cost-effective manner is one of the key findings of the 2050 Roadmap: “Additional transmission increases access to, and the ability to share, additional low-cost clean energy resources across the Northeast, lowering costs overall” (2050 Roadmap at 15). The 2050 Roadmap underscores the

¹⁷ G.L. c. 164, § 69J requires consistency with environmental protection policies of the Commonwealth but does not explicitly recognize energy policies. However, the Siting Board accomplishes its statutory mandate to ensure reliable energy supply with minimum impact on the environment at the lowest possible cost within the context of current energy policies of the Commonwealth. G.L. c. 164, § 69H; see also Mid Cape Reliability at 90, n.69; NSTAR Electric Company d/b/a Eversource Energy, EFSB 19-03/D.P.U. 19-15, at 100 n.96 (2021).

importance of maintaining and enhancing transmission capability in Massachusetts to provide cost-effective, reliable service, and facilitate development and use of both local and regional clean and renewable resources (2050 Roadmap at 59, 65). In addition, the 2050 Roadmap identifies a need for increasing electrification to achieve deep GHG emission reductions and envisions the widespread deployment of electric vehicles in place of gasoline and diesel engines, and of heat pump-based electrified heating and hot water systems in place of gas and oil furnaces, boilers, and water-heating equipment (2050 Roadmap at 35, 44).

The Roadmap Act updated the GHG emissions limits in the 2008 GWSA, codified Massachusetts' commitment to achieve Net Zero emissions in 2050 and authorizes the Secretary of EEA to establish a GHG limit based on an emissions reduction of at least 50 percent below 1990 levels for 2030, and at least 75 percent for 2040. G.L. c. 21N, § 4(h). Acting pursuant to the Roadmap Act, the Secretary issued the Clean Energy and Climate Plan for 2025 and 2030 ("2025-2030 CECP") on June 30, 2022. This document updated key strategies the Commonwealth will use to reach the statutorily required 50 percent reduction in GHG emissions below 1990 levels. By letter issued contemporaneously with the 2025-2030 CECP, the Secretary set the 2025 statewide GHG emissions limit at 33 percent below 1990 levels and 50 percent below 1990 levels by 2023 (2025-2030 CECP at 2). As noted in the 2025-2030 CECP, electricity demand in the Commonwealth is projected to increase significantly by 2050 due to the widespread electrification of building and transportation services. "Thus, the emissions intensity of electricity generation must continue to decrease even while total generation increases" (2025-2030 CECP at 62).

One theme that recurs in these statutes and policies is the importance of reliable electricity transmission. The 2050 Roadmap and the 2025-2030 CECP explicitly recognize reliable electric service. With respect to the other statutes and policies, the need for reliable transmission service is implied. The Siting Board agrees with the Company that construction of the Project would strengthen and improve the reliability of the Company's transmission system, as we have found in Section III, *supra*. Furthermore, the Siting Board finds that a more robust system would be better able to accommodate future clean energy projects at a large scale that will be necessary to achieve the emission reduction goals established by GWSA, related statutes, and policies. The Siting Board also finds the Project would have beneficial impact on climate change by facilitating GHG

emissions reduction goals. The Siting Board finds that the Project would accommodate increased injections of renewable and other clean energy resources that may come online in the future, consistent with the 2022 Clean Energy Act. Therefore, the Siting Board finds that the Project would be consistent with the environmental laws, regulations, and policies of the Commonwealth.

b. Consistency with Environmental Justice Policies

The MEPA Public Involvement Protocol for Environmental Justice Populations (“EJ Protocols”) provide that “the Secretary will determine on a case-by-case basis the need for enhancing public involvement opportunities to meet the spirit of the Climate Roadmap Act.” In the Certificate on the SEIR, the Secretary stated in detail the ways in which the Company has complied with the requirements of the EJ Protocols: namely, outreach, analysis, and the measuring of environmental benefits and burdens (Exh. EFSB-G-2(S1)(1), at 4-6).

The EEA EJ Policy requires enhanced public participation and enhanced analysis where the Project exceeds a mandatory environmental impact report (“EIR”) threshold for air, solid and hazardous waste (other than remediation projects), or wastewater and sewage sludge treatment and disposal; and: (1) the Project would be located within one mile of an EJ population; or (2) the Project exceeds the mandatory EIR threshold for air and would be located within five miles of an EJ population (Exh. NG-1, at 107-108; Company Brief at 86). In the certificate issued on the SEIR, the Secretary found that the Project site is not located within any EJ populations; but the Project is within one mile of three EJ populations in three municipalities characterized by income criterion (Exh. EFSB-G-2(S1)(1), at 3). The Project does not exceed the MEPA thresholds for air, solid and hazardous waste (other than remediation projects), or wastewater and sewage sludge treatment and disposal; therefore, the EEA EJ Policy does not require any enhanced participation or enhanced analysis under the policy (Exh. NG-1, at 106; Company Brief at 83-84).

The EJ Policy and the Roadmap Act both emphasize the importance of outreach to EJ populations. In cases that require enhanced public participation, the 2021 EJ Policy calls for the “use of alternative media outlets such as community or ethnic newspapers...and [the] translation of materials or interpretation services prior to and during public meetings[.]” Similarly, the Roadmap Act requires the provision of “translation services” at public meetings. St. 2021 c. 8,

§ 60; G.L. c. 30, §60.¹⁸ The Project did not require translation based on the EJ populations in the area of the Project.

The Roadmap Act includes in its definition of EJ principles, “the equitable distribution of energy and environmental benefits and environmental burdens.” St. 2021 c. 8 § 56; G.L. c. 30, § 62. The Roadmap Act amended Section 62 of Chapter 30 to define environmental benefits as “the access to clean natural resources, including air, water resources, open space, constructed playgrounds and other outdoor recreational facilities and venues, clean renewable energy sources, environmental enforcement, training and funding disbursed or administered by the executive office of energy and environmental affairs.” St. 2021, c. 8, § 56; G.L. c. 30, § 62.

The SEIR confirmed there would be no significant disproportionate adverse effects, environmental burdens and public health impacts, to EJ populations resulting from the Project. The record shows that the Project is proposed within existing ROWs resulting in minimized adverse environmental impacts to both EJ and non-EJ populations. The record also shows that Project would improve transmission system infrastructure and comply with comprehensive regional plans for maintaining electric transmission reliability in New England, for both EJ and non-EJ Populations. The Project would increase the reliability of electricity service to the nearby EJ populations; and reliability constitutes a significant health benefit. Mid Cape Reliability at 89; see also, Beverly-Salem at 109. In addition, the record also contains examples of the ways in which the Project would not result in adverse impacts to EJ populations. The Company would implement measures to avoid, minimize, and mitigate potential environmental impacts throughout the entire Project alignment, including where it crosses within one mile of mapped EJ populations. As found above, permanent impacts to abutters and communities have been minimized and construction related impacts would be mitigated.

Therefore, the Siting Board finds that the Project is consistent with environmental policies, including EJ policies, of the Commonwealth.

¹⁸ This section of the Roadmap Act, St. 2021 c. 8 § 60, inserted a new section, Section 62J, into General Laws, chapter 30.

3. Consistency with Resource Use and Development Policies

The Smart Growth & Energy Policy established the Commonwealth's Sustainable Development Principles. These principles include: (1) supporting the revitalization of city centers and neighborhoods by promoting development that is compact, conserves land, protects historic resources and integrates uses; (2) encouraging remediation and reuse of existing sites, structures and infrastructure rather than new construction in undeveloped areas; and (3) protecting environmentally sensitive lands, natural resources, critical habitats, wetlands and water resources, and cultural and historic landscapes. The Project would use previously disturbed land on existing ROWs, which would be consistent with the policy of reusing existing sites. The Siting Board finds that construction of the Project would be consistent with the resource use and development policies of the Commonwealth.

D. Conclusion

Subject to the specified mitigation and conditions set forth in this Decision, the Siting Board finds that the Company's plans for construction of the Project are consistent with the current health, environmental protection, and resource use and development policies of the Commonwealth.

VIII. ANALYSIS UNDER G.L. C. 164, § 72

The 2024 Climate Act became effective February 18, 2025, and made a number of changes to the Siting Board's jurisdiction. St. 2024, c. 239. One of the changes was to transfer jurisdiction over transmission line siting under G.L. c. 164, § 72 ("Section 72") from the Department to the Siting Board, effective March 1, 2026. St. 2024, c. 239, §§ 75, 139. In addition, the 2024 Climate Act limited the applicability of Section 72 to eminent domain proceedings under G.L. c. 79. St. 2024, c. 239, § 75. Therefore, on March 1, 2026, transmission providers are no longer required to obtain approval to construct "a line for the transmission of electricity for distribution" pursuant to Section 72 other than for eminent domain approval. Id.

The Company's Petitions in this proceeding includes a Section 72 Petition, filed December 12, 2024, before the enactment or effective date of the 2024 Climate Act, and the Act's

changes to Section 72. The new regulations implementing the Consolidated Permit program apply to projects filed on July 1, 2026, and after, and therefore do not apply to this Project. See 980 CMR 13.00. This Project consists of transmission lines over which the Siting Board has continued jurisdiction under G.L. c. 164, § 69J. The Siting Board retains the obligation under G.L. c. 164, §§ 69H and 69J to ensure that this Project is needed, that it minimizes costs, and that it avoids, minimizes and mitigates environmental impacts, substantively fulfilling the scope of a Section 72 review. Given the change in the scope of Section 72 and the Siting Board's continued jurisdiction over the Project under G.L. c. 164, § 69J, the Siting Board concludes that it is not necessary to make findings under Section 72 for this Project.

IX. SECTION 61 FINDINGS

The Company submitted an Expanded Environmental Notification form ("EENF") on August 15, 2024 (Exh. NG-1, App. 1-1). On September 30, 2024, the Secretary issued a Certificate on the EENF requiring the submittal of an SEIR (Exh. NG-1, App. 1-2). On March 17, 2025, the Company received a Certificate of the Secretary on the SEIR for the Project, finding that the Company's SEIR adequately and properly complies with MEPA and its implementing regulations (Exhs. EFSB-G-2(S1)(1); EFSB-G-2(S2)).

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" and shall consider reasonably foreseeable climate change impacts, including additional GHG emissions, and effects, such as predicted sea level rise ("Section 61 Findings"). G.L. c. 30, § 61. Pursuant to 301 CMR 11.01(4)(c), Section 61 Findings are necessary when an EIR is submitted to the Secretary; and Section 61 Findings should be based on such EIR. Where an EIR has not been required and the Secretary has not required additional review, Section 61 Findings are not necessary. 301 CMR 11.01(4).

The Siting Board generally is not required to make G.L. c. 30, § 61, findings in a G.L. c. 164, § 69J, proceeding, as actions by the Siting Board are exempt by statute from MEPA. G.L. c. 164, § 69I. However, the Siting Board has complied with MEPA with respect to reviewing the

Section 72 Petition, where the Section 72 Petition was filed under statutory provisions implemented by the Department, because the Department is not exempt from MEPA. The Siting Board notes that Section 72 is now under the jurisdiction of the Siting Board, and not the Department. Because the Siting Board's review in this proceeding is pursuant to G.L. c. 164, § 69J, not pursuant to Section 72, the Siting Board is not required to make Section 61 Findings in this proceeding.

X. DECISION

The Siting Board's enabling statute directs the Siting Board to implement the energy policies contained in G.L. c. 164, §§ 69H to 69Q, to provide a reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost. G.L. c. 164, § 69H. Thus, an applicant must obtain Siting Board approval under G.L. c. 164, § 69J, prior to construction of a proposed energy facility.

In Section III, above, the Siting Board finds that the Project is needed for reliability, and that the need is immediate.

In Section IV, above, the Siting Board finds that the Project is superior to the other alternatives identified with respect to providing a reliable energy supply for the Commonwealth with minimum impact on the environment at the lowest possible cost.

In Section V, above, the Siting Board finds that the Company has demonstrated that it examined a reasonable range of practical siting alternatives and that its proposed facilities are sited in locations that minimize cost and environmental impacts while ensuring a reliable electric supply.

In Section VI, above, the Siting Board finds that the Project, as proposed, would achieve an appropriate balance among conflicting environmental concerns as well as among environmental impacts, reliability, and cost, and that Project impacts would be minimized and mitigated.

In Section VII, above, the Siting Board finds that the Company's plans for construction of the Project would be consistent with the current health, environmental protection, and resource use and development policies as adopted by the Commonwealth.

Accordingly, the Siting Board approves pursuant to G.L. c. 164, § 69J, the Company's Siting Board Petition to construct the Project, as described herein, subject to the following Conditions 1 through 13:

1. The Siting Board directs the Company to comply with all applicable federal, state, and local laws, regulations, and ordinances from which the Company has not received an exemption. The Company shall be responsible for ensuring such compliance by its contractors, subcontractors, or other agents.
2. The Siting Board directs the Company, within 90 days of Project completion, to submit a report to the Siting Board documenting compliance with all conditions contained in this Decision, noting any outstanding conditions yet to be satisfied and the expected date and status of compliance.
3. The Siting Board directs the Company to provide one-to-one mitigation for any trees cleared on abutting properties, by planting new trees on the property in consultation with the landowner or providing other mitigation to the landowner.
4. The Siting Board directs the Company to submit to the Siting Board the construction communication plan at least 30 days prior to the start of the Project construction.
5. The Siting Board directs the Company to restore disturbed areas using native Massachusetts vegetation mix that provides habitat value while remaining compatible with transmission clearance requirements.
6. The Siting Board directs the Company to work with the local Conservation Commissions on potential mitigation for impacts within the Riverfront Area and complete any such mitigation identified in documents issued by the Conservation Commissions or otherwise required.
7. The Siting Board directs the Company to survey residents within 50 feet of the ROW and to implement additional noise mitigation measures, such as a sound barrier, for construction work if those residents report that construction noise will be disruptive.
8. The Siting Board directs the Company to limit the Project's construction work hours to 7:00 a.m. to 7:00 p.m. on Monday through Friday, and 8:00 a.m. to 5:00 p.m. on Saturdays, except as otherwise noted and agreed upon with the local municipality, and to follow any local municipal ordinance that limits work hours for specific construction activities.
9. The Siting Board directs the Company to consult with each affected municipality to determine if additional work hour limitations may be desirable and mutually acceptable and to report these hours to the Siting Board if they differ from the Company's proposed schedule. Should the Company need to extend construction work hours beyond the specified hours and days, with the exception of emergency circumstances necessitating extended hours, the Siting Board directs the Company

to seek written permission from the relevant municipal authority (or authorities) before commencement of such work and to provide the Siting Board with a copy of said permission. If the Company and municipal officials cannot agree on whether such extended construction hours should occur, the Company may request prior authorization from the Siting Board and shall provide the associated municipality (or municipalities) with a copy of any such request. Work requiring a longer continuous duration than normal construction work hours shall be exempt from those hours. The Company shall promptly inform the Siting Board and the relevant municipal authority (or authorities) of any emergency work occurring outside of normal construction work hours.

10. The Siting Board directs that if the Company determines, per consultation with its construction vendor(s), that helicopter use is required, the Company shall notify any residence situated within 300 feet of the ROW boundary and adjacent to the proposed helicopter location(s) at least seven days prior to commencement.
11. The Siting Board directs the Company to submit the SWPPP to the Board at least 60 days before the start of Project construction.
12. The Siting Board directs the Company to submit to the Siting Board an updated and certified cost estimate for the Project prior to the commencement of construction.
13. The Siting Board directs the Company to file semi-annual compliance reports with the Siting Board starting within 180 days of the commencement of construction, that include projected and actual construction costs and explanations for any discrepancies between projected costs, actual costs, and completion dates.

Because issues addressed in this Decision relative to this Project are subject to change over time, construction of the proposed Project must commence within three years of the date of the Decision.

In addition, the Siting Board notes that the findings in this Decision are based upon the record in this case. A project proponent has an absolute obligation to construct and operate its facility in conformance with all aspects of its proposal as presented to the Siting Board. Therefore, the Siting Board requires the Company, or its successors in interest, to notify the Siting Board of any changes other than minor variations to the proposal so that the Siting Board may decide whether to inquire further into a particular issue. The Company or its successors in interest are obligated to provide the Siting Board with sufficient information on changes to the proposed project to enable the Siting Board to make these determinations.

The Secretary of the Department shall transmit a copy of this Decision to the Executive Office of Energy and Environmental Affairs, and the Company shall serve a copy of this Decision on the following: (1) the Town Clerk, the Town Administrator, the Department of Public Works, the Zoning Board of Appeals, and the Building Department for the Town of Palmer; (2) the Town Clerk, the Town Administrator, the Department of Public Works, the Zoning Board of Appeals, and the Building Department for the Town of West Brookfield; and (3) the Town Clerk, the Town Administrator, the Department of Public Works, the Zoning Board of Appeals, and the Building Department for the Town of Ware. The Company shall certify to the Secretary of the Department within ten business days of issuance that such service has been made.

A handwritten signature in black ink, appearing to read 'C. Tarr', is written over a horizontal line.

Connor C. Tarr
Presiding Officer

Dated this 28th day of August 2026

APPROVED by a unanimous vote of the Energy Facilities Siting Board at its meeting on August 26, 2026, by the members present and voting. Voting for the Final Decision as amended: Rebecca L. Tepper, Secretary of Energy and Environmental Affairs and Chair, Energy Facilities Siting Board; Jeremy McDiarmid, Chair, Department of Public Utilities; Elizabeth Mahony, Commissioner, Department of Energy Resources; Bonnie Heiple, Commissioner, Department of Environmental Protection; Thomas O'Shea, Commissioner, Department of Fish and Game; Kris Callahan, Director of Policy and Regulatory Affairs for the Bureau of Climate and Environmental Health, and designee for Dr. Robert Goldstein, Commissioner of the Massachusetts Department of Public Health; Michael P. Cahill, Mayor of the City of Beverly, Public Member; Mark Ells, Town Manager, Town of Barnstable, Public Member; and David Weeden, Selectman, Town of Mashpee, and Tribal Historic Preservation Officer of the Mashpee Wampanoag Tribe, Public Member.

A handwritten signature in black ink, appearing to read 'R. Tepper', with a long horizontal stroke extending to the right.

Rebecca L. Tepper, Secretary of Energy and
Environmental Affairs and Chair of the Siting Board

Dated this 28th day of August 2026

Appeal as to matters of law from any final decision, order or ruling of the Siting Board 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 Siting Board be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Siting Board within twenty days after the date of service of the decision, order or ruling of the Siting Board, or within such further time as the Siting Board 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. Massachusetts G.L., Chapter 25, Sec. 5; G.L. Chapter 164, Sec. 69P.