**Erin Whoriskey**
Lead Environmental Scientist
NE Environmental Permitting

June 30, 2023

Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act (MEPA) Office
100 Cambridge Street, Suite 900
Boston, MA 02114

Tori Kim, Director
MEPA Office
100 Cambridge Street, Suite 900 (9th Floor)
Boston, MA 02114

Subject: **Single Environmental Impact Report – EEA No. 16467**
New England Power Company
N12/M13 Double Circuit Tower (DCT) Separation Project
Somerset and Fall River, Massachusetts

Dear Secretary Tepper and Director Kim,

On behalf of New England Power Company d/b/a National Grid (NEP), POWER Engineers Consulting, PC (POWER) is pleased to submit the enclosed Single Environmental Impact Report (SEIR) for the N12/M13 Double-Circuit Tower (DCT) Separation Project (the Project) located in Somerset and Fall River, Massachusetts.

An Expanded Environmental Notification Form (EENF) was submitted to the Massachusetts Environmental Policy Act (MEPA) Unit on September 30, 2021. The Certificate on the EENF was issued on November 29, 2021, allowing NEP to prepare and submit a SEIR. This SEIR is prepared in accordance with the Secretary's Certificate on the EENF and in compliance with 301 CMR 11.07(6) of the MEPA regulations. The SEIR provides a summary of minor project modifications made since the filing of the EENF, addresses the items scoped in the Secretary's Certificate, and responds to comments received from parties who commented on the EENF.

NEP proposes to separate a 1.85-mile segment of its existing N12 and M13 overhead transmission lines, currently installed on double circuit steel lattice towers, and place the lines on two distinct sets of structures. The existing double circuit segment begins at existing Structure 4 on the west shore of the Taunton River in Somerset, crosses the Taunton River into Fall River,

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and continues easterly within an existing NEP transmission corridor to the Sykes Road Substation in Fall River.

To accomplish this separation, NEP will remove a total of seven existing steel lattice towers, one 3-pole structure, and one H-frame structure and replace these structures with 11 paired, single circuit steel monopole structures; four intermediate single circuit steel monopole structures; and two steel H-frame structures. Existing structures range in height from approximately 50 to 110 feet and replacement structures will range in height from 65 to 130 feet. Additionally, at the Taunton River crossing, the two existing approximately 300-foot-tall steel lattice towers will remain in place and two new approximately 300-feet-tall, galvanized steel Y-frame monopole structures will be installed (proposed structures M13N-5 and M13N-6), one on each side of the river. The existing conductor between existing structures N12-5, N12-6 and N12-7 will be electrically connected (bussed) to become the N12 Line. Overhead conductor will be installed between proposed N12 structures N12-7 and N12-19, and between proposed structures M13N-5 and M13N-19 and from there, into the Sykes Road Substation where they will be terminated onto existing structures. Two new line disconnect switches will be installed at the Sykes Road Substation to accept the N12 and M13 Lines.

The new N12 and M13 monopole structures will be constructed within NEP's existing ROW to replace the existing DCT transmission structures. Construction of the Y-frame river crossing structure proposed on the Fall River side of the Taunton River (proposed structure M13N-6) will require additional temporary and permanent property rights from the adjacent landowner for installation of the structure and to maintain safe horizontal clearance from the existing river crossing tower.

NEP respectfully requests that the Notice of Availability for this SEIR be published in the July 10, 2023, issue of the *Environmental Monitor* to initiate the public review and comment period, which will extend for a period of 30 days through August 9, 2023. The Secretary's Certificate will be issued on August 16, 2023, in accordance with 301 CMR 11.08(4). Copies of the SEIR have been distributed in accordance with 301 CMR 11.16 (see attached Circulation List).

A digital version of the SEIR can be accessed on the Project website at https://www.southcoastreliabilityprojects.com/N12M13-Upgrade/. A paper copy of the SEIR will be made available for review by the general public in the Somerset and Fall River Public Libraries. Paper copies of the SEIR can be made available upon request.

Thank you in advance for your consideration of the N12/M13 DCT Separation Project. Please do not hesitate to contact Erin Whoriskey Cahill of National Grid at (774) 364-3445, or Erin.Whoriskey@nationalgrid.com, or Jamie Durand of POWER at (774) 643-1829 or jamie.durand@powereng.com if you have any questions.

**Erin Whoriskey**
Lead Environmental Scientist
NE Environmental Permitting

Sincerely,

Erin Whoriskey Cahill
Lead Environmental Scientist
National Grid

Attachments

c: Circulation List (attached)
M. Belén Power, Undersecretary of Environmental Justice and Equity
D. Beron, PM., NEP
L. Peloquin Shea, NEP
T.J. Roskelley, Anderson & Kreiger LLP
Jamie Durand, POWER Engineers Inc

**Erin Whoriskey**
Lead Environmental Scientist
NE Environmental Permitting

June 30, 2023

Subject: **Single Environmental Impact Report EEA No. 16467**
**New England Power Company**
**N12/M13 Double-Circuit Tower (DCT) Separation Project**
**Somerset and Fall River, Massachusetts**

Dear Interested Parties,

On behalf of New England Power Company d/b/a National Grid (NEP), POWER Engineers Consulting, PC (POWER) is pleased to submit the enclosed Single Environmental Impact Report (SEIR) for the N12/M13 Double-Circuit Tower (DCT) Separation Project (the Project) located in Somerset and Fall River, Massachusetts. This SEIR provides a summary of minor project modifications made since the filing of the EENF, addresses the items scoped in the Secretary's Certificate, and responds to comments received from parties who commented on the EENF.

NEP proposes to separate a 1.85-mile segment of its existing N12 and M13 overhead transmission lines, currently installed on double circuit steel lattice towers, and place the lines on two distinct sets of structures. The existing double circuit segment begins at existing Structure 4 on the west shore of the Taunton River in Somerset, crosses the Taunton River into Fall River, and continues easterly within an existing NEP transmission corridor to the Sykes Road Substation in Fall River.

**Project Overview**

To accomplish this separation, NEP will remove a total of seven existing steel lattice towers, one 3-pole structure, and one H-frame structure and replace these structures with 11 paired, single circuit steel monopole structures; four intermediate single circuit steel monopole structures; and two steel H-frame structures. Existing structures range in height from approximately 50 to 110 feet and replacement structures will range in height from 65 to 130 feet. Additionally, at the Taunton River crossing, the two existing approximately 300-foot-tall steel lattice towers will remain in place and two new approximately 300-feet-tall, galvanized steel Y-frame monopole structures will be installed (proposed structures M13N-5 and M13N-6), one on each side of the river. The existing conductor between existing structures N12-5, N12-6 and N12-7 will be electrically connected (bussed) to become the N12 Line. Overhead conductor will be installed between proposed N12 structures N12-7 and N12-19, and between proposed structures M13N-5 and M13N-19 and from there, into the Sykes Road Substation where they will be terminated onto existing structures. Two new line disconnect switches will be installed at the Sykes Road Substation to accept the N12 and M13 Lines.

The new N12 and M13 monopole structures will be constructed within NEP's existing ROW to replace the existing DCT transmission structures. Construction of the Y-frame river crossing structure proposed on the Fall River side of the Taunton River (proposed structure M13N-6) will require additional temporary and permanent property rights from the adjacent landowner for installation of the structure and to maintain safe horizontal clearance from the existing river crossing tower.

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Lead Environmental Scientist
NE Environmental Permitting

**Timing of the Environmental Monitor Publication**

The MEPA Environmental Monitor provides information on projects under review by the MEPA Office, recent MEPA decisions of the Secretary of Energy and Environmental Affairs, and public notices from environmental agencies. Based on a SEIR filing date of on or about June 30, 2023, the N12/M13 DCT Separation Project SEIR will appear in the July 10, 2023, issue of the Environmental Monitor. Following publication in the Environmental Monitor there will be a public comment period. Any agency or person may comment on projects undergoing MEPA review. All comments received by the deadline will be provided to the Secretary for review and included in the public record for the Project. Upon publication of the availability of the SEIR in the next Environmental Monitor, the Public Comment period will extend for 30 days through Wednesday, August 9, 2023, by 5:00 p.m. and the Secretary's Certificate will be issued on Wednesday August 16, 2023, in accordance with 301 CMR 11.08(4).

**How to Navigate the Public Comment Period**

An electronic version of the SEIR can be viewed or download from NEP's N12/M13 DCT Separation Project dedicated Project website (see https://www.southcoastreliabilityprojects.com/N12M13-Upgrade/). There are multiple ways for the public to submit comments on MEPA projects including through an online portal, by email, and by hand or mail delivery. The most efficient way to submit comments on MEPA projects is through the Public Comment Portal online. The Public Comment Portal can be found at https://eeaonline.eea.state.ma.us/EEA/PublicComment/Landing/. You may register and create an account or submit comments anonymously. Comments can be e-mailed directly to the Environmental Analyst reviewing the project. Please reference the project name (N12/M13 DCT Separation Project) and EEA No. 16467 in the subject line of the e-mail.

While electronic comments are preferred, written comments may be mailed, or hand delivered to the MEPA Office. Office hours are 9 AM - 5 PM. Please note that a picture ID is required to access the office.

The MEPA mailing address is:

Secretary of Energy and Environmental Affairs, Rebecca Tepper
Executive Office of Energy and Environmental Affairs (EEA)
Attn: MEPA Office
EEA No. 16467
100 Cambridge Street, Suite 900
Boston MA 02114

Should you require an additional electronic version of the SEIR or are seeking more information on the Project, you can visit the dedicated Project website (see https://www.southcoastreliabilityprojects.com/N12M13-Upgrade/). A hard copy of the SEIR will be made available for review by the general public in the Fall River and Somerset Public Libraries. Additionally, paper copies and translations of the SEIR can be provided upon request.

**Erin Whoriskey**
Lead Environmental Scientist
NE Environmental Permitting

Sincerely,

Erin Whoriskey
Lead Environmental Scientist
National Grid

c: MEPA Office
SEIR Circulation List (attached)
M. Belén Power, Undersecretary of Environmental Justice and Equity
D. Beron, PM., NEP
L. Peloquin Shea, NEP
T.J. Roskelley, Anderson & Kreiger LLP
J. Durand, POWER Engineers Consulting Inc.

June 30, 2023

# NEW ENGLAND POWER COMPANY

## N12/M13 Double-Circuit Tower Separation Project

*Single Environmental Impact Report*

***PROJECT NUMBER:***
*242335*

***PROJECT CONTACT:***
*Jamie Durand*
***EMAIL:***
*Jamie.durand@powereng.com*
***PHONE:***
*774-643-1829*

POWER ENGINEERS CONSULTING, PC

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# *Single Environmental Impact Report*

***PREPARED FOR:*** *NEW ENGLAND POWER COMPANY*

***PREPARED BY:*** *JAMIE DURAND*
*774-643-1829*
*JAMIE.DURAND@POWERENG.COM*

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## FIGURES:



## APPENDICES:

## ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ACCC | Aluminum Composite Core Conductor |
| ACCR | Aluminum Conductor Composite Reinforced |
| ACHP | Advisory Council on Historic Preservation |
| ACS | American Community Survey |
| BMP | Best Management Practice |
| BVW | bordering vegetated wetland |
| CB | coastal bank |
| CBG | Census Block Groups |
| CBO | Community Based Organizations |
| Certificate | Certificate on the Expanded Environmental Notification Form filed with the Massachusetts Environmental Policy Act Office |
| CMR | Code of Massachusetts Regulations |
| Company | New England Power Company d/b/a National Grid |
| CSO | Combined Sewer Overflow |
| CVP | Certified Vernal Pool |
| CZM | Massachusetts Office of Coastal Zone Management |
| dBA | A-weighted decibels |
| DCT | Double-Circuit Tower |
| DPH | Department of Public Health |
| DPU | Massachusetts Department of Public Utilities |
| DSAS | Digital Shoreline Analysis System |
| E&SC | erosion and sedimentation controls |
| EEA | Executive Office of Energy and Environmental Affairs |
| EENF | Expanded Environmental Notification Form |
| EFI | Environmental Field Issue |
| EFSB | Energy Facilities Siting Board |
| EG-303NE | National Grid's Environmental Guidance: ROW Access, Maintenance and Construction Best Management Practices for New England |
| EJ | Environmental Justice |
| ENF | Environmental Notification Form |
| Eversource | NSTAR Electric Company d/b/a Eversource Energy |
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Agency |
| FERC | Federal Energy Regulatory Commission |
| GHG | Greenhouse Gas |
| HDD | horizontal directional drilling |
| IB | Inland Bank |
| ISO-NE | Independent System Operator of New England |
| IVM | Integrated Vegetation Management |
| kV | kilovolt |
| kV/m | kilovolt per meter |
| lbs | pounds |
| LGP | low ground pressure equipment |
| LNAPL | light non-aqueous phase liquid |
| LSCSF | Land Subject to Coastal Storm Flowage |
| LSP | licensed site professional |
| LUO | Land Under Ocean |
| LUWW | Land Under Water Bodies and Waterways |
| M.G.L. | Massachusetts General Law |

| | |
|---|---|
| M13 | M13 Line |
| MA DESE | Massachusetts Department of Elementary and Secondary Education |
| MA WPA | Massachusetts Wetland Protection Act |
| MA | Massachusetts |
| MassDCR | Massachusetts Department of Conservation and Recreation |
| MassDEP | Massachusetts Department of Environmental Protection |
| MassDOT | Massachusetts Department of Transportation |
| MassGIS | Massachusetts Geographic Information System |
| MBTA | Massachusetts Bay Transportation Authority |
| MC-FRM | Massachusetts Coast Flood Risk Model |
| MCP | Massachusetts Contingency Plan |
| MEPA | Massachusetts Environmental Policy Act |
| MESA | Massachusetts Endangered Species Act |
| mG | milligauss |
| MHC | Massachusetts Historical Commission |
| MHW | mean high-water |
| MVAR | Megavolt Amperes Reactive |
| MW | Megawatt |
| MWhr | Megawatt hour |
| N-1 | A first contingency; the largest impact on the system when a first power element (generation or transmission facility) of a system is lost. |
| N-1-1 | A second contingency; the loss of the facility that would have the largest impact on the system after the first facility is lost. |
| N12 | N12 Line |
| NEP | New England Power Company d/b/a National Grid |
| NEPOOL | New England Power Pool |
| NERC | North American Electric Reliability Corporation |
| NESC | National Electrical Safety Code |
| NHESP | Natural Heritage and Endangered Species Program |
| NOAA | National Oceanic and Atmospheric Administration |
| NPCC | Northeast Power Coordinating Council |
| NPDES | National Pollutant Discharge Elimination System |
| NRHP | National Register of Historic Places |
| NTA | Non-Transmission Alternative |
| OPGW | optical ground wire |
| ORW | Outstanding Resource Water |
| p.u. | per unit |
| PAC | Planning Advisory Committee |
| PAL | Public Archaeological Laboratory |
| PCN | Pre-Construction Notification |
| PEM | palustrine emergent |
| PFO | palustrine forested |
| POWER | POWER Engineers Consulting, PC |
| Project | N12/M13 Double Circuit Tower Separation Project |
| psi | pounds per square inch 8 |
| PSS | palustrine scrub-shrub |
| PTF | Pool Transmission Facilities |
| PV | Photovoltaic |
| PVP | Potential Vernal Pools |
| RFA | riverfront area |
| RI CRMC | Rhode Island Coastal Resources Management Council |

| | |
|---|---|
| RI | Rhode Island |
| RIDOT | Rhode Island Department of Transportation |
| RIE | Rhode Island Energy |
| RMAT Tool | RMAT Climate Design Resilience Tool |
| RMAT | Resilient Massachusetts Action Team |
| RMP | Risk Management Plan |
| ROW(s) | Right(s)-of-Way |
| RSP | Regional System Plan |
| Secretary | Secretary of the EEA |
| SEIR | Single Environmental Impact Report |
| SEMA-RI | Southeastern Massachusetts and Rhode Island |
| sf | square feet |
| SM | Salt Marsh |
| SWPPP | Stormwater Pollution Prevention Plan |
| TMP | Traffic Management Plan |
| U.S. | United States |
| USACE | United States Army Corps of Engineers |
| USEPA | United States Environmental Protection Agency |
| USGS | United States Geological Survey |
| VMP | Vegetation Management Plan |
| WISCP | Wetland Invasive Species Control Plan |
| WQC | Water Quality Certification |

## INDEX OF MEPA SCOPE ITEMS FROM CERTIFICATE AND RESPONSE LOCATION

| N12/M13 Double-Circuit Tower Separation Project EEA No. 16467 | | |
|---|---|---|
| **TOPIC AREA / AGENCY** | **COMMENT AND NUMBER** | **RESPONSE** |
| **Project Description and Permitting** | 1. The Single Environmental Impact Report (SEIR) should identify measures New England Power Company d/b/a National Grid (NEP) will include to further reduce the impacts of the project since the filing of the Expanded Environmental Notification Form (EENF), or if certain measures are infeasible, the SEIR should discuss why these measures will not be adopted. | Section 1.4 |
| | 2. Describe the project and identify any changes to the project since the filing of the EENF. | Section 1.4 |
| | 3. Update site plans for existing and post-development conditions. | Appendix B |
| | 4. Provide legible conceptual plans at a reasonable scale. Plans should clearly identify: all major project components (existing and proposed buildings, access roads, etc.); public areas; wetland resource areas; impervious areas; ownership of parcels including easements; pedestrian and bicycle accommodations; and stormwater and utility infrastructure. Conceptual plans should be provided for onsite work as well as any proposed off-site work for transportation or utility improvements that will benefit the project. | Section 1.0 and Appendix B |
| | 5. Provide a description and analysis of all applicable statutory and regulatory standards and requirements and describe how the project will meet those standards. Include a list of required State Permits, Financial Assistance, or other State or local approvals and provide an update on the status of each. | Section 9.0 |
| | 6. Clarify whether a c.91 License will be required from Massachusetts Department of Environmental Protection (MassDEP). | Sections 9.1 and 9.3.1 |
| **Project Impacts to Wetlands** | 7. Describe how any work on or adjacent to the coastal bank meets the performance standards for coastal banks. | Sections 5.2.1 and 9.3.1 |
| | 8. Explain how the proposed grading might change how flood water flows across the site, and an analysis of potential impacts to adjacent areas from increased velocities and volumes of floodwater, under existing and future conditions. | Sections 4.4 and 4.5 |
| | 9. Provide details on the storm bollards and how their size and height were determined should also be provided. | Section 4.5 |
| | 10. Provide an update on the development of any bordering vegetated wetland (BVW) mitigation, and possible locations of the wetland replication area(s), if a single location has not been identified yet. | Section 5.4 |
| | 11. Specify methods proposed to cross these coastal wetland resource areas, the potential impacts, and strategies to mitigate impacts. | Sections 5.2.1, 5.3 and 5.5 |

| N12/M13 Double-Circuit Tower Separation Project EEA No. 16467 | | |
|---|---|---|
| **TOPIC AREA / AGENCY** | **COMMENT AND NUMBER** | **RESPONSE** |
| | 12. Outline proposed pre-and post-construction monitoring plans to determine whether any marsh impacts occur for either of the proposed temporary crossing methods. | Section 5.3 |
| | 13. Further describe temporary construction mat alternative including the proposed timing of this part of the project. | Sections 1.4 and 5.3 |
| | 14. Address how the existing elevation of the Salt Marsh shall be maintained, the low ground pressure equipment or matting shall not compact the Salt Marsh vegetation, lead to pooling in the marsh, or cause marsh vegetation dieback. | Sections 1.4 |
| **Climate Change Adaptation and Resiliency** | 15. The proposed design appears to be resilient to the current-day 10-year storm, and not the 200-year storm as recommended by the Resilient MA Action Team (RMAT) tool by the year 2070. Provide a full explanation of what measures have been taken to improve the project's resiliency to climate change, including how siting and elevation choices were made for the project. | Sections 2.3 and 4.0 |
| | 16. Specify the useful life of the project, and whether the project is planning for current or future conditions over the useful life of the project; if the former, the project should explain why future conditions are not being considered. | Sections 4.3, 4.4 and 4.5 |
| | 17. Identify what year the sea level rise (SLR) projections described in the EENF are based on. | Section 4.3 |
| | 18. Use the results of the Massachusetts Coast Flood Risk Model (MC-FRM) to assess the frequency and depth of flooding, and overall vulnerability of the proposed new towers and reconducted towers within the utility corridor over the entire life span of the project, and discuss the measures proposed to protect the structures from storm damage, debris impacts, and potential erosions around the base of the structures. | Sections 4.3, 4.4, and 4.5 |
| | 19. Explain under what conditions (10-year, 50-year, 100-year) the currently proposed structure will be inundated under future climate conditions in 2030, 2050, and 2070. | Section 4.3 |
| | 20. Explain whether further elevation of the new M13 tower or additional resiliency measures were considered, and if dismissed, explain why these options were dismissed. | Sections 4.4 and 4.5 |
| | 21. Explain whether and how the other alternatives studied for the project would have increased climate resiliency for the project (for instance, through underground lines or upland siting), and whether any additional alternatives to improve climate resiliency could be considered, either as part of this project or future upgrades. | Section 2.3 |

| N12/M13 Double-Circuit Tower Separation Project EEA No. 16467 | | |
|---|---|---|
| **TOPIC AREA / AGENCY** | **COMMENT AND NUMBER** | **RESPONSE** |
| | 22. To the extent future climate resiliency planning for this area has been presented to other regulatory agencies, such as the DPU as part of rate-making proceedings, a summary of those planning efforts should be provided. | Sections 1.5 and 4.2 |
| | 23. Include an engineering analysis of the scour likely to occur around the pilings and pile cap as part of the resiliency analysis for this project. | Sections 4.4 and 4.5 |
| | 24. Identify how the wave reflection off the vertical concrete pile cap will affect the stability of the adjacent coastal bank. | Sections 4.4 and 4.5 |
| **Transportation** | 25. Address the details of the permitting process and any traffic and construction management plans that may be required for temporary work within the state highway layout. | Section 6.0 |
| | 26. Provide an update on any coordination with MBTA regarding project described herein and the South Coast Rail project. | Section 6.1.4 |
| **Environmental Justice** | 27. Provide an update on efforts to conduct outreach and promote public involvement by nearby communities, including Environmental Justice (EJ) populations. | Section 7.3 |
| | 28. Provide specific details about the public involvement plan and explain how public involvement efforts will continue throughout subsequent permitting and through the construction period for the project. | Section 7.3 |
| | 29. Survey public health conditions of the surrounding EJ populations using the EJ Tool issued by the Department of Public Health (DPH), including whether they are included within a municipality or census tract identified as demonstrating "vulnerable EJ criteria." | Sections 7.1 and 7.3 |
| | 30. Utilize the Executive Office of Energy and Environmental Affairs (EEA) EJ Mapper to identify languages that are spoken by 5% or more of the population within census tracts containing the above EJ populations who self-identified as "do not speak English very well." Provide language services in all languages identified in the EEA EJ Mapper based on the 5% census tract threshold. | Section 7.1 |
| | 31. Provide more analysis of climate change scenarios applicable during the useful life of the project and provide an analysis of flooding and erosion risks from the project design. Explain whether the level of climate planning and flooding risks pose any increased risks for the surrounding EJ populations. | Sections 4.3 and 7.2 |
| | 32. Confirm that, with issuance of a Water Quality Certification (WQC), no water quality degradation is anticipated from the project that would impact the public health of neighboring communities, including EJ populations. Any specific terms of the WQC intended to address risks to public health should be explained. | Sections 5.5, 7.2, 9.3.1, and 10.3 |

| N12/M13 Double-Circuit Tower Separation Project EEA No. 16467 | | |
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| **TOPIC AREA / AGENCY** | **COMMENT AND NUMBER** | **RESPONSE** |
| **Mitigation and Section 61 Findings** | 33. Summarize proposed mitigation measures and provide draft Section 61 Findings for each State Agency Action. Include clear commitments to implement these mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. | Section 10.0 |
| **Responses to Comments / Circulation** | 34. Copy of this Certificate and a copy of each comment letter received. | Appendix A |
| | 35. Include direct responses to comments to the extent that they are within Massachusetts Environmental Policy Act (MEPA) jurisdiction. This directive is not intended, and shall not be construed, to enlarge the scope of the SEIR beyond what has been expressly identified in this certificate. | Section 11.0 |
| | 36. Circulate the SEIR to those parties who commented on the ENF, to any state agencies from which the proponent will seek permits or approvals, and to any additional parties specified in Section 11.16 of the MEPA Regulations. | NEP acknowledges this item |
| | 37. Make available copy of the SEIR for review at the Somerset and Fall River public libraries. | NEP acknowledges this item |
| **Secretary of Energy and Environmental Affairs** | 38. Analysis of Climate Change Scenarios applicable during the useful life of the Project. | Section 4.3 |
| | 39. Justify siting and design choices made by the Project. | Section 2.0 |
| | 40. Justify that no water quality degradation is anticipated that would impact the public health of the neighboring communities. | Sections 5.5 and 7.2 |
| | 41. (Provide more detail) Area for wetland replication. | Section 5.4 |
| | 42. (Provide more detail) Jurisdiction of waterbodies. | Section 5.2 |
| | 43. Identify additional information that supports the goal of the Project and justifies impacts to salt marsh. | Section 1.4 |
| | 44. Consider reasonable environmental impacts including, greenhouse gas emissions and effects, and predicted sea level rise. | Sections 4.3 and 8.5 |
| | 45. Measures that have been implemented into project design include reinforced structure foundations, storm protection measures, minimizing impacts to the existing topography/contours, and site stabilization and reestablishment of natural vegetation. | Sections 4.4, 4.5, and 8.1 |
| | 46. Specify what year SLR was estimated for. | Section 4.3 |

| N12/M13 Double-Circuit Tower Separation Project EEA No. 16467 | | |
|---|---|---|
| **TOPIC AREA / AGENCY** | **COMMENT AND NUMBER** | **RESPONSE** |
| | 47. Provide a full justification for siting the new structure in the Federal Emergency Management Agency (FEMA) VE Zone and explain why alternatives that improve climate resiliency were deemed infeasible. | Section 2.3 |
| | 48. A target planning horizon of 2070 and that the project be designed to withstand the effects of a 200-year storm. | Sections 4.3, 4.4 and 4.5 |
| | 49. Manage All construction activities accordance with applicable MassDEP's regulations regarding Air Pollution Control (310 CMR 7.01, 7.09-7.10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00, including the waste ban provision at 310 CMR 19.017). The project should include measures to reduce construction period impacts (e.g., noise, dust, odor, solid waste management) and emissions of air pollutants from equipment, including anti-idling measures in accordance with the Air Quality regulations (310 CMR 7.11). | Sections 8.3, 8.5, and 10.3 |
| **Massachusetts Coastal Zone Management (CZM)** | 50. Factor in the expected sea level rise and increases in storm frequency and intensity that will be caused by climate change over the expected life span of the proposed tower structures. | Sections 4.3 and 4.4 |
| | 51. Design Structure 7 using the best available information regarding the likely future flood zone extents. | Sections 4.4 and 4.5 |
| | 52. Use the results of the MC-FRM to assess the frequency and depth of flooding, and overall vulnerability of the proposed new towers and reconducted towers within the utility corridor over the entire life span of the project, and discuss the measures proposed to protect the structures from storm damage, debris impacts, and potential erosions around the base of the structures. | Section 4.3 |
| | 53. Include Engineering analysis of the scour likely to occur around the pilings and pile cap as part of the resiliency analysis for this project. | Section 4.4.3 |
| | 54. The SEIR should identify how the wave reflection off the vertical concrete pile cap will affect the stability of the adjacent coastal bank. | Section 4.4.3 |
| | 55. Include survey transects to determine the extent of the coastal bank. Guidance on the information that should be submitted to determine the extent of a coastal bank is available in Chapter 1 of Applying the Massachusetts Coastal Wetlands Regulations: A Practical Manual for Conservation Commissions to Protect the Storm Damage Prevention and Flood Control Functions of Coastal Resource Areas (aka the Coastal Manual). | Section 9.3.1, Appendix B |
| | 56. Describe how any work on or adjacent to the coastal bank meets the performance standards for coastal banks. | Section 9.3.1 |
| | 57. Include information on how the proposed grading might change how flood water flows across the site, and an analysis of potential impacts to | Sections 4.4 and 4.5 |

| N12/M13 Double-Circuit Tower Separation Project EEA No. 16467 | | |
|---|---|---|
| **TOPIC AREA / AGENCY** | **COMMENT AND NUMBER** | **RESPONSE** |
| | adjacent areas from increased velocities and volumes of floodwater, under existing and future conditions should be provided. | |
| | 58. Provide additional detail on the storm bollards and how their size and height were determined. | Sections 4.4 and 4.5 |
| | 59. Provide more detail on the specific methods proposed to cross these coastal wetland resource areas, the potential impacts, strategies to mitigate. impacts, and if necessary potential restoration of those coastal wetland resources. | Sections 1.4 and 5.3 |
| **MassDEP** | 60. Ensure construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor, or noise. | Sections 8.4 and 8.5 |
| | 61. Maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece of equipment on file for Departmental review. | Section 11.4 |
| | 62. Present to workers at the site a spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities, include refueling of machinery, storage of fuels, and potential on-site activity releases. | Sections 5.3 and 8.1 |
| | 63. Dispose and recycle waste materials discovered during construction that are determined to be solid waste (e.g., construction and demolition waste) and/or recyclable material (e.g., metal, asphalt, brick, and concrete) in accordance with the Solid Waste Regulations including *310 CMR 19.017: Waste Bans.* Waste Ban regulations prohibit the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items at solid waste facilities in Massachusetts, including, but not limited to, metal, wood, asphalt pavement, brick, concrete, and clean gypsum wallboard. | Section 8.3 |
| | 64. Consider source separation or separating different recyclable materials at the job site. | Section 8.3 |
| | 65. Handle clean wood in accordance with 310 CMR 16.03(2)(c)7 which allows for the on-site processing (i.e., chipping) of wood for use at the Site (i.e., use as landscaping material) and/or the wood to be transported to a permitted facility (i.e., wood waste reclamation facility) or other facility that is permitted to accept and process wood. | Section 11.4 |
| | 66. Prepare Proposed Section 61 Findings in a separate chapter updating and summarizing proposed mitigation measures Pursuant to MEPA Regulations 301 CMR 11.12(5)(d) In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each | Section 10.0 |

| N12/M13 Double-Circuit Tower Separation Project EEA No. 16467 | | |
|---|---|---|
| **TOPIC AREA / AGENCY** | **COMMENT AND NUMBER** | **RESPONSE** |
| | proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation. | |
| **Massachusetts Division of Marine Fisheries (MA DMF)** | 67. Outline proposed pre-and post-construction monitoring plans to determine whether any marsh impacts occur for either of the proposed temporary crossing methods. | Sections 1.4 and 8.1.1 |
| | 68. Further describe the temporary construction mat alternative particularly proposed timing of this part of the project. | Section 1.4 |
| **Massachusetts Department of Transportation (MassDOT)** | 69. Work with MassDOT to address the details of the permitting process and any traffic and construction management plans that may be required for temporary work within the state highway layout. | Sections 6.2 and 6.3, Appendix D |

# EXECUTIVE SUMMARY

This Single Environmental Impact Report (SEIR) responds to the November 29, 2021, Certificate of the Secretary of the Executive Office of Energy and Environmental Affairs (EEA) (Certificate) on the Expanded Environmental Notification Form (EENF) for New England Power Company's (NEP) N12/M13 Double-Circuit Tower (DCT) Separation Project (Project) (EEA #16467). The Certificate and comment letters on the Expanded ENF are included in Appendix A.

This SEIR addresses the scope outlined in the Certificate and responds to comments received within the scope of MEPA review, as required per the Massachusetts Environmental Policy Act (MEPA) (Massachusetts General Law [M.G.L.] c. 30 §§ 61-62H) and MEPA regulations (301 Code of Massachusetts Regulations [CMR] 11.00). The main chapters of the SEIR are organized according to the following key scope items identified in the Certificate by the Secretary of the EEA (Secretary) as follows:

- Executive Summary
- Section 1.0 – Project Description
- Section 2.0 – Alternatives Analysis
- Section 3.0 – Land Alterations and Mitigation Measures
- Section 4.0 – Climate Change Adaptation and Resiliency
- Section 5.0 – Wetlands and Stormwater Management
- Section 6.0 – Traffic and Transportation
- Section 7.0 – Environmental Justice
- Section 8.0 – Construction Period Considerations
- Section 9.0 – Statutory and Regulatory Standards
- Section 10.0 – Mitigation and Draft Section 61 Findings
- Section 11.0 – Response to Comments Received on the EENF

Table A-1 at the beginning of this document (starting on page viii) provides a comprehensive index of responses to the items in the Scope of the Certificate (referred to as the SEIR Scope and Response Index).

## Project Description and Location

NEP is proposing to undertake the N12/M13 DCT Separation Project to improve transmission system reliability in the Southern Massachusetts and Rhode Island (SEMA-RI) service area. The 1.85-mile Project will be located within a section of existing 115-kilovolt (kV) electric transmission line right-of-way (ROW) that extends from NEP's existing Pottersville Switching Station in Somerset, Massachusetts to the existing Sykes Road Substation in Fall River, Massachusetts.

## Overview of Changes

The Project changes reflect minor engineering construction changes and coastal bank resource delineations. Anticipated resource impacts have been updated to reflect these design refinements along with additional data collection. Section 1.4 explains in detail the changes undertaken since the filing of the EENF.

## List of Permit Requirements and Status

The major permits, approvals and regulatory compliance[1] required for the Project are detailed in Section 10.0. NEP will obtain all required approvals and permits required by federal, state, and local agencies for the Project, and the Project will be constructed and operated to comply fully with state and local environmental performance standards.

## Overview of Alternatives

NEP analyzed a no action alternative and four transmission alternatives along with non-transmission alternatives to meet the need as identified by Independent System Operator for New England. The alternatives were compared on the basis of cost, reliability, potential environmental impacts, and engineering and construction feasibility. Details of the analysis can be found in Section 2.0.

## Overview of Environmental and Public Health Impacts

At the census tract level, there is no statistical significance or concern for lead poisoning and low birth weight where the Project is located. There is however, a statistically higher than average heart attack rate and childhood asthma rate in the City of Fall River (data is not available by census tract for these two Environmental Justice Vulnerable Health impacts, as defined by the Massachusetts Department of Public Health). The Project will not cause any impacts that will exacerbate these existing health impacts or further impact these vulnerable populations. Please refer to Section 7.0 of this analysis.

## Overview of Mitigation Measures

The NEP mitigation measures fall into three primary categories: (i) avoidance/minimization, (ii) construction Best Management Practices to be implemented in the field, and (iii) compensatory mitigation. NEP has established Best Management Practices that will be followed by all employees and its contractors for accessing sites and performing construction activities on the transmission ROW. These procedures ensure that the Project will be completed in accordance with applicable environmental laws and regulations as well as with Company policies and compliance objectives.

Where permanent impacts cannot be avoided, appropriate compensatory mitigation will be provided in terms of wetland replication/restoration/enhancement. Wetland mitigation is being proposed and developed by NEP to address unavoidable loss of wetland by placement of permanent fill essential to the installation of select transmission line structures in bordering vegetated wetland habitat. While mitigation plans are currently in the preliminary phases of development, NEP is committed to working with the United States Army Corps of Engineers, Massachusetts Department of Environmental Protection, and the Fall River Conservation Commission to develop an appropriate mitigation package so there is no net loss of wetland functions and values as a result of the Project.

NEP will obtain all required approvals and permits required by federal, state, and local agencies for the Project, and the Project will be constructed and operated to comply fully with state and local environmental performance standards and will provide mitigation measures as appropriate. Please refer to Sections 5.0 and 10.0 for details of mitigation measures to be completed.

[1] Regulatory compliance as referenced herein refers to applicable statutory and regulatory standards or requirements the Company anticipates for the Project.

# 1.0 PROJECT DESCRIPTION

## 1.1 N12/M13 DCT Separation Project

New England Power Company d/b/a National Grid (NEP) is proposing to undertake the N12/M13 Double-Circuit Tower (DCT) Separation Project to improve transmission system reliability in the Southern Massachusetts and Rhode Island (SEMA-RI) service area. The Project is located within a section of an existing 115 kilovolt (kV) electric transmission line right-of-way (ROW) that extends from NEP's existing Pottersville Switching Station in Somerset, Massachusetts to the existing Sykes Road Substation in Fall River, Massachusetts, a distance of approximately 1.85 miles. This ROW is currently occupied by two 115 kV overhead transmission circuits, designated as the N12 Line (N12) and the M13 Line (M13).[2] Both lines are supported on a single series of double-circuit towers, i.e., the two circuits, each consisting of three individual phase conductors, share the same series of towers within the ROW. The main disadvantage of the current DCT configuration is reliability; a contingency affecting a single structure could cause an outage to both lines. Placing the N12 and M13 Lines onto separate sets of structures within the existing ROW, will improve the reliability of the electric transmission system.

In order to accomplish the DCT separation, the Project consists of the following electric reliability upgrades:

- Separation of the N12 and M13 transmission lines by installing and replacing 1.85 miles of the N12/M13 transmission line onto a new series of single-circuit monopole transmission structures and installing new 115 kV overhead conductors and optical ground wire from the NEP's Pottersville Switching Station in Somerset to the Sykes Road Substation in Fall River. The proposed structures will be located within NEP's existing overhead ROW and will replace the existing N12 and M13 DCT structures. The Project will include:
- Replacement of the existing transmission structures from the Fall River side of the Taunton River to the Sykes Road Substation to include:
    - Removal of a total of seven existing steel lattice towers, three 3-pole structures, and one H-frame structure and replace these structures with 21 single-circuit steel monopole structures, three single-circuit H-frame structures, and one single-circuit three pole structure.
- Installation of two single-circuit steel monopole "Y-Frame" river crossing structures to accommodate an aerial span of the conductors and wires over the Taunton River (parallel to the existing N12 aerial crossing of the Taunton River).[3] The two existing 300-foot-high steel lattice towers at the Taunton River crossing will be retained.
- Installation of new "Bittern" Aluminum Composite Core Conductor (ACCC) and Optical Ground Wire (OPGW) onto the new transmission structures.

[2] The M13 Line between the Pottersville Switching Station and the Bell Rock Substation will be redesignated M13N Line following the completion of an on-going rebuild of the Bell Rock Substation. NEP anticipates that this redesignation may take place sometime during the pendency of this proceeding. For ease of discussion, this SEIR refers to both the existing M13 Line and the proposed separated M13 Line as "M13". However, proposed structure numbers (e.g., M13N-6) reflect the anticipated redesignation. The N12 Line will retain the designation of N12 Line.

[3] The installation of the proposed approximately 300-foot-tall Y-frame river crossing structure (Structure M13N-6) on the Fall River side of the Taunton River requires additional easement to maintain a safe separation distance from the existing adjacent 300-foot-tall steel lattice river crossing structure.

  - Where the new M13 will span the Taunton River, the conductor wire will consist of 1622 "Pecos" Aluminum Conductor Composite Reinforced (ACCR) conductor. This specialized conductor will minimize sag and maintain line clearances over the Taunton River. Special high-strength OPGW cable will be used for the river crossing to minimize sag in relation to the conductors and to provide adequate shielding.
  - New conductor and OPGW will be installed onto the N12/M13 replacement structures from Structure N12/M13N-7 to Structure N12/M13N-19.
- Bussing together (connect electrically) NEP's existing N12 and M13 115 kV DCT conductors over the Taunton River. Work activities include bussing together the existing N12 and M13 conductors which span the Taunton River from Structure N12/M13N-5 in Somerset to Structure N12/M13N-6 in Fall River and from Structure N12/M13N-6 to Structure N12/M13N-7. The existing conductors are currently designated as N12 and M13; the bussed conductors will retain the N12 designation.

The new N12 and M13 structures will be constructed within NEP's existing ROW to replace the existing DCT transmission structures. The NEP ROW averages approximately 80 feet in width from the Pottersville Switching Station easterly to State Route 24 and widens to approximately 150 feet east of the State Route 24 crossing extending to the Sykes Road Substation. The existing DCT structures, consisting of steel lattice towers and one H-frame structure, will be replaced predominantly with single-circuit steel monopoles supported on concrete caisson foundations.

The two existing 300-foot-high steel lattice towers which support the aerial conductor span over the Taunton River will remain in place. The proposed new Y-frame structures located on either side of the Taunton River will be approximately 300 feet in height and will hold the M13 transmission line. The existing N12/M13 DCT crossing of the Taunton River will maintain a minimum conductor height of 150 feet above mean high-water (MHW), in compliance with the existing Chapter 91 Licenses and Section 10 Permits. The existing conductors will be replaced and bussed from Structures N12-5, N12-6, and N12-7. These structures will be located primarily within NEP's ROW and/or easements.

The existing Sykes Road Substation will be upgraded to accept the reconnections of the N12 and M13 into the station, including the replacement of the following electrical equipment within the footprint of the existing station:

- N12 - Replace line taps, two line disconnect switches, connecting bus and taps to station bus.
- M13 - Replace taps.

No equipment upgrades are proposed at the Pottersville Switching Station.

## 1.2 Purpose and Need

Overall, the Independent System Operator of New England (ISO-NE) has determined that the existing DCT configuration of N12 and M13 between Pottersville Switching Station and Sykes Road Substation contributes significantly to the potential for widespread voltage collapse and loss of load under the studied contingencies. Separation of the two circuits onto separate transmission structures will eliminate this configuration and, with it, the risks posed to customers serviced by this portion of NEP's transmission system. Construction of the Project will therefore ensure continued compliance with applicable federal and regional transmission reliability standards and maintain reliable electric service within the SEMA-RI area.

### 1.2.1 Existing and Proposed Conditions

The Project will be located within an existing electric transmission line ROW extending from NEP's Pottersville Switching Station in Somerset, Massachusetts to Sykes Road Substation in Fall River. This ROW is currently occupied by the existing overhead N12 and M13 structures and transmission lines. For approximately 1.85 miles, N12 and M13 are supported on double-circuit steel lattice towers (i.e., the two circuits, each consisting of three individual phase conductors, share the same series of towers within the ROW). This double-circuit segment begins at existing Structure 1 (through this Project will be identified at N12-5) on the west shore of the Taunton River in Somerset, crosses the Taunton River into Fall River, and continues easterly within an existing NEP transmission corridor to the Sykes Road Substation in Fall River (refer to Figures in Appendix B).

#### Double Circuit Tower Separation

To accomplish the DCT separation, existing Structures 2 through 10 (refer to Appendix B for depiction of existing structure locations) in Fall River will be removed and replaced with two sets of predominantly galvanized steel, single circuit monopoles and overhead conductors on caisson foundations. Existing structures range in height from approximately 50 to 110 feet and replacement structures will range in height from 65 to 130 feet depending on their location along the ROW. At the Taunton River crossing, the two existing approximately 300-foot steel lattice towers (existing Structures 1 and 2) will remain in place and the existing conductors that cross the river will be electrically connected (or bussed) to become the single-circuited N12. A typical cross-section of the N12 and M13 ROW showing existing and proposed structure size and placement is provided in the Figures in Appendix B. Two new approximately 300-foot galvanized steel Y-frame monopole river crossing structures on concrete pile-caps with micro-piles will be constructed to carry the M13 Line across the Taunton River. Two new line disconnect switches will be installed at the Sykes Road Substation to accept N12 and M13. New overhead conductor will be installed between proposed structures N12-7 and N12-19, and between proposed structures M13N-5 and M13N-19 and from there, into the Sykes Road Substation where they will be terminated onto existing structures. An aerial map of the Project ROW and proposed DCT separation is provided in the Project Figures in Appendix B.

#### Transmission Line Reconductoring

The existing N12 and M13 overhead wires will also be replaced in conjunction with the DCT separation. Reconductoring involves replacement of the existing conductors with new conductors (overhead wires), and any necessary structure reinforcements or replacements. New conductors will be pulled through each transmission structure and spliced with a suitable connector to provide a continuous span of conductor. Splice locations are depicted on the Single Environmental Impact Report (SEIR) figures (found in Appendix B) and involve a temporary work pad to allow transmission line crews the ability to safely work on the overhead lines.

#### Installation of Optical Ground Wire and Grounding Systems

The improvements and upgrades to N12 and M13 will involve the installation of new OPGW overhead on the new N12 and M13 single-circuited monopole structures. The OPGW serves to support high speed relaying and communication requirements.

Overhead transmission lines are intermittently subjected to overvoltage caused by lightning strikes or switching surges. System grounding and protection devices are installed to prevent damage caused by currents from such overvoltage conditions (Beaty 1998). The function of grounding is to dissipate the

discharge from an overvoltage, such as a lightning strike, over a larger area of ground, thereby lessening the resistance to the flow of these discharges (Pansini and Smalling 1998). To ground the transmission line, ground rods will be installed alongside the base of each transmission line structure. The grounds are connected to the common neutral conductor or shield wire on each structure. The ground rods provide a low resistance path for the current to flow to the ground should a fault occur on the system.

## 1.3 Construction Stages for the N12/M13 DCT Separation

Construction of the proposed Project will occur in stages over an approximately 18-month work period which will be driven by allowable outage windows. The proposed construction schedule and timing of activities is also subject to federal, state, and local approvals of the Project. Conventional overhead electric transmission line construction techniques will be used to construct the separated transmission lines. The work will be completed in a progression of activities that will generally proceed as follows:

1. ROW mowing and select tree removal in advance of construction.
2. Installation of soil erosion and sediment controls, and best management practices (BMPs).
3. Construction, repairs, and improvements to access roads.
4. Installation of structure work pads and construction staging areas.
5. Installation of foundations and structures.
6. Installation of conductor, optical ground wire, and shield wire.
7. Removal and disposal of existing transmission line components.
8. Restoration and stabilization of the ROW.

Each construction activity is further described below.

Throughout all phases of construction, NEP and their contractors will follow National Grid's policies and procedures to avoid, minimize and mitigate environmental impacts. Avoidance and minimization measures include the following: pre-construction delineation of Resource Areas, conducting work in accordance with National Grid's Best Management Practices, installing and maintaining soil erosion and sedimentation controls (E&SC), using construction mats for wetland access and work pads and restoring these areas post construction. Mitigation measures are also discussed more specifically in Sections 5.0 and 10.0.

### 1.3.1 Vegetation Management in Advance of Construction

Construction of the Project will require mowing vegetation along access routes and work locations as well as selective tree removals to provide safe and efficient equipment access and work areas.

Prior to vegetation management, wetland boundaries will be clearly marked to prevent unauthorized encroachment into wetland areas. Appropriate forestry techniques will be implemented within wetlands to minimize ground disturbance. Other sensitive resources, such as cultural resource features, will be flagged and encompassed with protective fencing prior to removal of vegetation on the ROW. Existing access routes along the ROW will be used by vegetation management personnel and equipment to the extent practicable. Road improvements will be kept to a minimum during this phase of the work. The temporary placement of construction mats will be used to gain access to and across forested wetlands, to minimize wetland disturbance and to provide a stable platform for safe equipment operation. Typical construction

mats consist of timbers that are bolted together into 4-foot by 16-foot sections. The mats are placed over wetland areas to distribute equipment loads and minimize impacts to the wetlands and soil substrates in accordance with National Grid's *ROW Access, Maintenance and Construction Best Management Practices* (EG-303NE). Please refer to EG-303NE submitted under Appendix B with the EENF for more details on temporary placement of construction mats.

Mowing will occur along all access points and at work and pull pads. Limited tree removal will occur along the ROW, as needed. Generally, trees to be removed will be cut close to the ground, leaving the stumps and roots in place, reducing soil disturbance and erosion. NEP plans to use the existing network of ROW access roads to the greatest extent practicable. In circumstances where grading is required for new access roads and at structure locations, stumps will be removed. Brush, limbs, and cleared trees will be mowed or chipped. Chipped material will be removed from the site or applied to upland areas as an erosion control measure, with prior approval. Post construction, the ROW will be allowed to naturally revegetate.

In certain environmentally sensitive areas, such as wetlands, it may be necessary and desirable to leave felled trees and snags to decompose in place instead of disturbing existing soil conditions. Where the ROW crosses streams and brooks, vegetation along the stream banks within the ROW will be selectively cut to minimize disturbance to bank soils and to reduce the potential for Project-related soil erosion. A minimum of a 25-foot-wide riparian zone will be selectively managed along watercourses, to the extent feasible.

### 1.3.2 Installation of Soil Erosion and Sediment Controls

Following vegetation management activities, soil erosion and sediment control devices such as straw wattles/bales, siltation fencing, and/or chip bales will be installed in accordance with approved plans, permit requirements and National Grid's EG-303NE.

The installation of sediment control devices will be overseen by NEP's environmental monitor. During construction, these devices will be periodically inspected by the environmental monitor, and the findings will be reported regularly to NEP's Environmental Scientist and Construction Supervisor. The soil erosion and sediment controls will be installed between the work site and environmentally sensitive areas such as wetlands, streams, drainage courses, roads, and adjacent properties where work activities may disturb soils and result in the potential for soil erosion and sedimentation. The devices will function to mitigate construction-related soil erosion and sedimentation and will also serve as a physical boundary to delineate resource areas and contain construction activities within approved areas.

Where dewatering is necessary during excavations within or adjacent to wetland areas, water will be pumped into appropriate temporary dewatering basins or silt bags. At all times, dewatering will be performed in compliance with National Grid's EG-303NE and all relevant permits and approvals. The dewatering basin and all accumulated sediment will be removed following dewatering operations and the area will be seeded and mulched. Soil erosion and sediment controls will be used to contain excess soil.

Staging areas and equipment storage, where feasible, will be situated outside of 100-foot wetland buffers and other environmentally sensitive areas. Equipment refueling (except for fixed equipment such as drill rigs) will occur outside of environmentally sensitive areas and secondary containment will be utilized. Where structures are located within or near wetlands, proper soil erosion and sediment controls will be installed to prevent impacts to these areas.

### 1.3.3 Construction, Repairs, and Improvements to Access Roads

NEP proposes to improve existing access roads and construct new access, as needed, to provide the ability to construct, inspect and maintain N12 and M13. Where feasible, NEP plans to use its existing network of access roads to construct the Project. Many of the existing access roads will require maintenance or upgrading to support construction vehicles and equipment. For example, clean gravel or trap rock may be used to stabilize and level the roads for construction vehicles. Construction of new access roads and access road improvement and maintenance will be carried out in compliance with the conditions and approvals of the appropriate federal and state regulatory agencies. Crushed stone aprons will be used at all access road entrances to public roadways to clean the tires of construction vehicles and minimize the migration of soil off-site. In uplands and in state regulated 100-foot buffer zone to bordering vegetated wetland (BVW), access road improvements will be left in place to facilitate future access to the ROW for inspection, and operation and maintenance purposes.

At present, NEP plans to improve existing ROW access roads and to construct new access roads in two locations:

- Upgrades to an approximately 885-foot-long road within NEP's existing ROW to provide access, in Fall River, to proposed Structures N12-7, M13N-7, N12-8 and M13N-8 (adjacent to the railroad ROW) from North Main Street and will have a travelled width of approximately 14 to 16 feet to accommodate construction vehicles and equipment deliveries, including pole deliveries.
- Construction of an approximately 670-foot-long road adjacent to the MBTA-owned railroad facilities and the existing rail line operated by Mass Coastal Rail, in Fall River, to access Structures N12-6 and M13N-6 ("Y-frame" structure). NEP's facilities on this parcel are currently landlocked by private property and MBTA rail tracks. The new access road will be constructed with trap rock underlain by geotextile fabric and will have a travelled width of approximately 14 to 16 feet to accommodate construction vehicles and equipment deliveries, including pole deliveries.

Access across wetlands and streams, where upland access is not available, will be accomplished by the temporary placement of construction mats and/or timber mat air-bridges. Construction mats will be removed following completion of construction, and areas will be restored to reestablish pre-existing topography and hydrology as necessary. The use of construction mats allows for heavy equipment access within wetland areas. Additionally, the temporary placement of construction mats minimizes the need to remove vegetation beneath the access way and helps to reduce the degree of soil disturbance, soil compaction, and rutting in soft wetland soils.

Mats will be certified clean by the vendor prior to installation. Clean is defined as being free of plant matter (stems, flowers, roots, etc.), soil, or other deleterious materials prior to being brought to the project site. Any equipment or construction mats that have been placed or used within areas containing invasive species shall be cleaned of plant matter, soil, or other deleterious materials prior to being moved to other areas on the project site. Mats will be cleaned prior to being removed at the completion of the Project.

### 1.3.4 Installation of Structure Work Pads and Construction Staging Areas

Upland work pads will be constructed at structure locations by grading or adding gravel or crushed stone to level work surface for construction equipment and crews. Once construction is complete, the work pads in uplands will remain in place, and will be stabilized with through seeding and mulch to allow vegetation to re-establish, per EG-303NE standards. Stone-covered work pads or other disturbances within the 100-foot buffer or 200-foot riverfront area (RFA) in Somerset and 25-foot RFA in Fall River, will be removed and restored upon consultation with the Somerset and Fall River's Conservation Commission. Stone-

covered work pads within the RFA will be removed and the areas stabilized and reseeded or, as an alternative, the temporary installation of construction mats. In wetlands, these work pads will be constructed by temporarily installing construction mats and will be removed after the completion of construction activities. More detail on work pads within wetland areas is provided in Section 5.0 of this SEIR.

Temporary work areas may be cleared, grubbed, and leveled with temporary fill over geotextile fabric to create a level workspace. Any exposed or loose sediment will be secured with straw mulch and/or seed mix, as appropriate. Once construction is complete, the temporary fill and geotextile fabric will be removed, and the area will be stabilized and allowed to revegetate. NEP will conduct minor grading within the proposed access road and associated structure work pad to bring the topography to grade. Stone will be placed on top of the work pad and access road to restrict occurrences of soil erosion and to provide stability to the area when heavy construction vehicles transverse these locations.

Earthwork is necessary to accommodate the construction of the steel monopole "Y-frame" river crossing structure on the west side of the Taunton River (Structure M13N-6). Physical constraints on NEP's peninsula-shaped fee-owned property necessitates earthwork to create a level work pad for equipment access and successful maneuvering and assembly of prefabricated parts.

### 1.3.5 Installation of Foundations and Structures

The proposed transmission line structures include a combination of steel structure types including monopole, H-frame, and Y-frame that will be installed either on reinforced concrete caisson foundations or direct embedment into buried steel casings, dependent upon the structure type. Excavation for direct embedment structures will be performed using a soil auger or standard excavation equipment depending on field conditions. Excavation depths will range from approximately 10 to 20 feet, with diameters typically between three and five feet. A steel casing will be placed vertically into the excavated area and then the pole base will be installed. The poles will be field assembled and inserted by cranes into the embedded steel casings. The annular space between the pole and the steel casing will then be backfilled with crushed stone.

Some structures will require drilled concrete caisson foundations, typically 20 to 35 feet deep, with typical diameters in the range of approximately 6 and 10 feet. These structures may include 3-pole structures and monopoles. Caissons will be constructed by drilling a vertical shaft, installing a steel reinforcing cage, placing steel anchor bolts, pouring concrete, and backfilling as needed. Structures will be lifted by a crane and placed onto the anchor bolts.

Two single-circuit galvanized steel monopole "Y-frame" dead end structures will be installed on pile-supported concrete caisson foundations located on the east and west sides of the Taunton River. These proposed structures will be approximately 300 feet tall and supported by a series of micro-piles stabilized with a 42-foot-wide concrete foundation cap. The foundation cap will be connected to the structure using a 23-foot-wide concrete pedestal, which will extend four feet above the surface of the ground. The piles for these foundations will vary in depth based on the respective soil profile, ranging from 59 to 121 feet below grade. These will be connected to the concrete foundation cap.

Rock that is encountered during foundation excavation will generally be removed by means of drilling with rock coring augers rather than a standard soil auger. This method allows the same drill rig to be used and maintains a constant diameter hole. However, in some cases, rock hammering and excavation may be used to break up the rock.

Excavated material will be temporarily stockpiled next to the excavation outside of resource areas. The stockpile of excavated material will be enclosed by staked straw bales or other sediment controls.

Additional controls, such as watertight mud boxes, will be used for saturated stockpile management in work areas in wetlands (i.e., construction mat platforms) where sediment-laden runoff would pose an issue for the surrounding wetland. Handling and management of wetland soils will be performed in accordance with National Grid's EG-303NE, wetland topsoil will be stripped during structure installation and stockpiled in an approved upland location, segregated for reuse. Following the backfilling operations, excess soil will be spread over unregulated upland areas or removed from the site in accordance with NEP's policies and procedures.

Dewatering may be necessary during excavations or pouring concrete for foundations. Dewatering will be performed in compliance with National Grid's EG-303NE. If overnight dewatering is required, the contractor will develop a plan for review and approval by NEP prior to commencing overnight dewatering activities.

Dust suppression such as misting ground surfaces via water trucks will be used during drilling operations, as deemed necessary, to minimize fugitive dust particles from leaving the Project work site.

### 1.3.6 Installation of Conductor, Optical Ground Wire, and Shield Wire

Following the construction of transmission line structures, insulators will be installed to isolate the energized power conductors from the structure. OPGW, shield wires, and power conductors will be installed using stringing blocks and wire stringing equipment. First, a temporary lead line is installed on the structures within a given stringing section. The lead line is then used to pull the final wire into place. The wire stringing equipment is used to pull the conductors from a wire reel on the ground through stringing blocks attached to the structures to achieve the desired sag and tension condition. During the stringing operation, temporary guard structures or boom trucks will be placed at road and highway crossings and at crossings of existing utility lines. These guard structures are used to ensure public safety and uninterrupted operation of other utility equipment by keeping the wire away from other utility wires and roadway traffic at crossings. Temporary wire stringing and pulling sites will be constructed to provide safe and level locations for equipment and personnel to perform wire stringing operation.

NEP plans to install overhead wires between Structures M13N-5 and M13N-6 (i.e., to cross the Taunton River) either by helicopter, or by using a boat to tow the lead line across the river. NEP may also use helicopter installation in other locations.

A small embayment of the Taunton River containing salt marsh lies between proposed Structures M13N-6 and M13N-7 (see Appendix B). To pull the wires between these structures, all work will occur by hand to minimize NEP's salt marsh impacts. NEP will walk the lead line up the access road to be constructed near M13N-6, across the South Coast Rail tracks, and then along the western edge of the tracks to Structure 7. At this time, NEP has no plans to use low ground pressure equipment (e.g., a Marsh Master) or place construction mats over the salt marsh.

### 1.3.7 Removal and Disposal of Existing Transmission Line Components

As part of the Project, NEP will need to remove existing structures from the ROW. Once both the M13 and N12 transmission line replacement structures are set and the separated lines are energized, the old structures will be cut below the ground line and removed from the ROW.

NEP proposes to recycle as much of the removed material as possible. Those components that are not salvageable and any debris that cannot be recycled will be removed from the ROW and disposed of at an approved off-site facility. Such materials will be handled in compliance with applicable laws and regulations and in accordance with NEP's policies and procedures.

NEP's Investment Recovery Department manages the recycling and disposal of company facilities, equipment, and materials. The Investment Recovery Department will oversee the recycling and disposal activities associated with the Project and incorporate these materials into the recycling program as appropriate.

### 1.3.8 Restoration and Stabilization of the ROW

Restoration efforts, including removal of construction debris, final grading, stabilization of disturbed soil, and the installation of permanent sediment control devices will be completed following construction. All disturbed areas around structures and other graded locations will be seeded with an appropriate conservation seed mixture and/or mulched to stabilize the soils in accordance with applicable regulations. Temporary sediment control devices will be removed following the stabilization of disturbed areas. Stone walls that require dismantling or alteration will be restored to pre-existing conditions unless authorized by a National Grid Environmental Scientist or their designated representative and in accordance with EG-303NE. Where authorized by property owners, permanent gates and access roadblocks will be installed at key locations to restrict access onto the ROW by unauthorized persons or vehicles. Regulated environmental resource areas that are temporarily disturbed by construction will be restored to pre-construction configuration and elevations to the extent practicable and in accordance with applicable permit conditions. Temporary disturbances within wetlands will be restored and stabilized. If necessary, herbaceous vegetation in disturbed areas will be restored using a native wetland or conservation seed mix. In tree removal areas, enhancements may be proposed as mitigation for important wildlife features lost due to tree removal and construction activities. Potential enhancement activities include seeding, planting native shrub species, leaving snags, and placing woody debris, slash, or stone piles to create wildlife cover. Wetland mitigation will occur in accordance with 301 CMR 10.55, as necessary.

## 1.4 Project Changes Since Filing of the Expanded Environmental Notification Form

Table 1-1 below provides an overview of Project changes since the filing of the Expanded Environmental Notification Form (EENF). Updated site plans for existing and post development conditions are found in Appendix B. The Project changes reflect minor engineering construction changes and coastal bank resource delineations conducted in response to the EENF. Anticipated resource impacts have been updated to reflect these design refinements and additional data collection. Table 1-2 presents a comparative overview of the resource impacts presented in the EENF and SEIR.

**TABLE 1-1 SUMMARY OF PROJECT CHANGES SINCE THE EENF**

| ACTIVITY | TYPE OF CHANGE | DESCRIPTION OF CHANGE | CHANGE IN IMPACT | APPLICABLE MAP SHEET (REFER TO APPENDIX B) |
|---|---|---|---|---|
| Reconfirmation of coastal bank delineation | New Resource Areas identified | Addition of a vertical coastal bank near proposed structure M13N-6 and N12-7 | Approximately 10,426 square feet (sf) (0.24 acre) of permanent coastal bank impacts.<br><br>Approximately 4,142 sf of temporary coastal bank impacts. | Coastal Bank map and transects found in Appendix B |

| ACTIVITY | TYPE OF CHANGE | DESCRIPTION OF CHANGE | CHANGE IN IMPACT | APPLICABLE MAP SHEET (REFER TO APPENDIX B) |
|---|---|---|---|---|
| NEP Wire Pull Pads | Increase in land alteration disturbance | Additional work area identified | Upland pull pad approx. 350 sf added east of Structures M13N-16 and N12-16. | Refer to Appendix B |
| Contingency use of low ground pressure equipment (LGP) or construction matting within the salt marsh to facilitate wire pulling at M13N-6 | LGP and construction matting will not be used within the salt marsh to facilitate wire pulling. | Wire pulling will occur by hand by walking the line up the access road, over the railroad and to Structure 7. | Impacts to the Salt marsh avoided, reducing impacts by approximately 6,850 sf. | Refer to Appendix B |
| Removal of Structures M13N-13 and N12-13 | Decrease in number of structures proposed to be constructed. | Wire blowout easements were acquired on Highland Ave in Fall River, thus structure 13 is not necessary. | Reduced fill in upland habitat. | Refer to Appendix B |

**TABLE 1-2 COMPARISON OF IMPACTS TO RESOURCE AREAS – EENF AND SEIR**

| RESOURCE AREA | TEMPORARY IMPACTS | | PERMANENT IMPACTS | |
|---|---|---|---|---|
| | EENF | SEIR* | EENF | SEIR* |
| **Coastal Bank (CB)** | No temporary impacts were proposed to coastal banks in the EENF. | Approximately 4,142 sf<br><br>Temporary grading/earthwork where level area is necessary to create a safe and effective work pad for equipment and crews. | No permanent impacts were proposed to CB in the EENF. | Approximately 10,426 sf (0.24 acre)<br><br>Construction of permanent access road where CB could not be avoided (4,154 sf).<br><br>Permanent gravel work pad for future operations and maintenance of electric facilities where CB could not be avoided. (6,272 sf) |

| RESOURCE AREA | TEMPORARY IMPACTS | | PERMANENT IMPACTS | |
|---|---|---|---|---|
| | **EENF** | **SEIR*** | **EENF** | **SEIR*** |
| **Land Subject to Coastal Storm Flowage (LSCSF)** | Approximately 119,313 sf (2.74 acres)<br><br>Construction mats for temporary work pads where LSCSF could not be avoided.<br><br>Temporary grading/earthwork where level area is necessary to create a safe and effective work pad for equipment and crews. | Approximately 115,171 sf (2.64 acres)<br><br>Temporary grading/earthwork where level area is necessary to create a safe and effective work pad for equipment and crews.<br><br>Value differs from EENF due to the delineation of the CB. | Approximately 53,066 sf (1.22 acres)<br><br>Structure foundations where LSCSF could not be avoided (1,385 sf) and where clearance requirements dictate spatial distance between adjacent transmission structures.<br><br>Permanent access road and associated grading where LSCSF could not be avoided (3,790 sf).<br><br>Permanent gravel work pad for future operations and maintenance of electric facilities where LSCSF could not be avoided. (47,891 sf). | Approximately 43,098 (0.99 acre)<br><br>Structure foundations where LSCSF could not be avoided (1,385 sf) and where clearance requirement dictate spatial distance between adjacent transmission structures.<br><br>Permanent access road and associated grading where LSCSF could not be avoided (94 sf).<br><br>Permanent gravel work pad for future operations and maintenance of electric facilities where LSCSF could not be avoided. Permanent rip rap apron for mitigation against sea level rise and storm surges (41,619 sf).<br><br>Value differs from EENF due to the delineation of the CB. |
| **Salt Marsh (SM)**** | Approximately 6,850 sf<br><br>Temporary crossing using low ground pressure equipment of the installation of temporary construction mats to pull the lead line to facilitate wire pulling and installation of the overhead conductors and wires. | Impacts Eliminated<br><br>Temporary impacts to Salt Marsh have been eliminated. | No permanent impacts were proposed to SM through the EENF. | No permanent impacts are proposed to SM through this SEIR. |

| RESOURCE AREA | TEMPORARY IMPACTS | | PERMANENT IMPACTS | |
|---|---|---|---|---|
| | EENF | SEIR* | EENF | SEIR* |
| **Land Under Ocean (LUO)** | Approximately 1,397 sf<br><br>Temporary crossing using low ground pressure equipment or the temporary installation of construction mats to pull the lead line to facilitate wire pulling and installation of the overhead conductors and wires. | No temporary impacts are proposed to LUO through this SEIR.<br><br>Temporary impacts to LUO have been eliminated by proposed to by pulling the lead line to facilitate wire pulling by foot rather than utilizing low ground pressure equipment or installation of construction mats. | No permanent impacts were proposed to LUO through the EENF. | No permeant impacts are proposed to LUO through this SEIR. |

Notes:
*As shown on Table 1-2 above, NEP has reduced the overall impacts to wetland resource area, since filing of the Expanded ENF.
**Impacts to salt marsh presented in the Expanded ENF have been eliminated. The only activity proposed in salt marsh is foot traffic to allow for walking a lead rope/ line between transmission structures to facilitate installation of the overhead conductors and wires.

## 1.5 Agency Interactions Since Filing the EENF

NEP received an email response from Massachusetts Environmental Policy Act (MEPA) staff on October 18, 2021, stating that NEP needs to address the MEPA Interim Protocol on Climate Change Adaptation and Resiliency. On October 21, 2021, NEP provided supplementary information addressing MEPA's interim policy on Climate Change Adaptation and Resiliency for the Project. This response and email interaction is provided in Appendix E.

On November 3, 2021, the NEP participated in a remote consultation meeting/site visit with Environmental Analyst, Eva Murray, and other state agencies and stakeholders to review the proposed Project (see Table 1-3 below). During the virtual meeting, participants posed various questions and requested NEP incorporate the responses to these questions into the record of the EENF. NEP responded to these comments on November 9, 2021. These responses are provided in Appendix E.

**TABLE 1-3 AGENCY INTERACTIONS SINCE EENF**

| AGENCY | DATE(S) | NOTES |
|---|---|---|
| Massachusetts Environmental Policy Act (MEPA) | October 21, 2021<br>November 2, 2021<br>May 26, 2022 | Remote consultation, NEP provided supplemental information for the EENF<br>Pre-filing meeting |
| City of Fall River | December 20, 2021<br>February 8, 2022 | General status updates |
| Massachusetts Natural Heritage and Endangered Species Program | May 3, 2022 | Response to MESA Checklist, correspondence with NHESP is provided in Appendix E |
| Department of Public Utilities | March 30, 2023 | Public Hearing |
| Department of Public Utilities | April 27, 2023 | Site visit |

# 2.0 ALTERNATIVES ANALYSIS

## 2.1 Overview

This section describes alternatives to the proposed Project and identifies why those alternatives were rejected. The ISO-NE determined the need for improvements to the existing electric transmission system to provide safe, reliable, and cost-effective delivery of electricity to existing customers, and to address the reliability and voltage issues identified for the N12 and M13 115 kV transmission lines. NEP's overriding goal throughout the planning and design phases of the Project has been to select the alternative that best: (i) meets the identified Project need and reliability; (ii) addresses the various regulatory and permitting objectives; (iii) minimizes environmental impacts; and (iv) provides a cost-effective solution to customers.

The Project is being proposed in response to certain transmission system needs identified by ISO-NE in a series of studies assessing the reliability of the transmission system serving Southeastern Massachusetts and Rhode Island. The May 2016 ISO-NE's *SEMA-RI Area 2026 Needs Assessment* (May 2016) (*2026 Needs Assessment*) evaluated the performance of the SEMA-RI transmission system through calendar year 2026 and identified reliability-based transmission needs in the study area while considering:

- Future load growth.
- Reliability over a range of generation patterns and transfer levels.
- Limited short circuit margin in the SEMA-RI area.
- Coordination with plans in Boston, Northeastern Massachusetts and Eastern Connecticut.
- Existing and Forward Capacity Market-cleared supply resources.
- All applicable North American Electric Reliability Corporation (NERC), Northeast Power Coordinating Council (NPCC) and ISO-NE transmission planning reliability standards.

ISO-NE's *SEMA-RI Area 2026 Solutions Study*, Revision 1 (March 2017) (*2026 Solutions Study*) identified numerous transmission system upgrades required to address the concerns presented in the *2026 Needs Assessment*. The *2026 Solutions Study* identified contingencies that could have the following results:

- Loss of service (disconnection) to approximately 144,000 customers and approximately 450 megawatts (MW) of load in all or parts of Fall River, Assonet, Freetown, Westport, Dartmouth, New Bedford, Acushnet, Fairhaven, Mattapoisett, Marion, Rochester, and Wareham, Massachusetts, as well as Jamestown, Newport, Middletown, Portsmouth, Tiverton, and Little Compton, Rhode Island.
- Voltage collapse that could spread beyond the cities and towns listed above to affect approximately 600 MW of load.

ISO-NE's *2026 Solution Study* identified four separate transmission line alternatives to address the reliability concerns presented in its *2026 Needs Assessment*. The *2026 Solution Study* identified the need for two of the four proposed solutions to address the reliability-based transmission needs in the SEMA-RI study area and recommended the N12/M13 DCT Separation Project.

In 2019 and 2020, ISO-NE reassessed transmission system needs in SEMA-RI in light of reduced load forecasts and other transmission system changes. This reassessment is documented in ISO-NE's *Southeastern Massachusetts and Rhode Island (SEMA-RI) Area 2029 Needs Assessment Update* (*2029*

*Needs Update*), issued in October 2020 and based on ISO-NE's 2020 *Capacity, Energy, Loads and Transmission (CELT) Report* forecasts. The *2029 Needs Update* confirmed the continuing need for the Project. The previously described contingency scenarios continued to show the potential for large load losses and voltage collapse.

## 2.2 Comparison of Alternatives

NEP analyzed a no action alternative and multiple alternatives evaluated by ISO-NE to meet the identified need. These alternatives are compared below on the basis of cost, reliability, potential environmental impacts, and engineering and construction feasibility.

- **Alternative 1**: The No Action Alternative would not resolve the regional electric reliability problems that the ISO-NE identified. This alternative does not achieve the Project goals and benefits. If no action is taken, existing and projected transmission reliability issues will remain unresolved, and components of the existing system will remain at risk for failure under certain contingencies studied by ISO-NE. Because it does not meet the identified need and would not satisfy applicable transmission planning reliability criteria, the No Action Alternative was not considered a feasible option and was dismissed.
- **Alternative 2**: The Undersea Cable Alternative includes installation of a new underground cable extending approximately five miles from the Bristol 51 Substation in Bristol, Rhode Island to a new proposed switching station (Old Boyd's Lane Switching Station) in Portsmouth, Rhode Island. This alternative would require the installation of an undersea cable via a horizontal directional drill (HDD) beneath Mount Hope Bay adjacent to the Mount Hope Bridge, as the most feasible water crossing method. There is currently no transmission circuit between these two locations. This alternative would also require reconductoring of 5.1 miles of the existing F-184 Line and replacement of transmission line structures from the Merriman Junction Tap in Swansea, Massachusetts to the Warren Substation in Warren, Rhode Island to the Bristol 51 Substation in Bristol, Rhode Island.
- **Alternative 3A (Preferred Solution)**: Separation of the N12 and M13 double-circuit transmission lines between the Pottersville Switching Station and the Sykes Road Substation (approximately 1.85 miles) via construction of a new M13 transmission line. The existing M13 Line crossing over the Taunton River would be replaced with a new overhead crossing adjacent to the existing N12/M13 double-circuit crossing of the Taunton River beginning at NEP's Pottersville Switching Station.[4] From its landing point on the east side of the Taunton River, the new M13 line would travel overhead within NEP's existing ROW to NEP's Sykes Road Switching Station. Some limited new permanent land rights would be required both for access and for one new transmission structure. Additionally, this alternative would require the reconductoring of the existing N12 and M13 Lines would be reconductored between the Sykes Road and the Bell Rock Substations.
- **Alternative 3B**: This alternative, which is a variation of Alternative 3A described above, also involves separation of the existing N12/M13 double circuit configuration via construction of a new M13 transmission line between Pottersville Switching Station and Sykes Road Substation. Alternative 3B retains the new overhead crossing of the Taunton River proposed in Alternative 3A. However, in Alternative 3B, the new M13 line east of the landing point on the east side of the Taunton River would consist of a hybrid configuration of overhead and underground

[4] NEP recently constructed a new substation to replace the existing, aging Somerset Substation. The new replacement substation, which is named the "Pottersville Switching Station," is located across the street from the existing Somerset Substation, in Somerset, Massachusetts.

construction, including construction of a segment of the new line within NEP's existing overhead ROW, installation of a new overhead to underground transition station, and construction of the remainder of the line as an underground cable system within state and local roadways. Alternative 3B will also require the reconductoring of 3.6 miles each of the existing N12 and M13 Lines from the Pottersville Switching Station to the Bell Rock Substation.

- **Alternative 4**: Install a third new 115 kV line extending approximately 3.5 miles, as an overhead option to the underground option, from the Pottersville Switching Station in Somerset to the Bell Rock Substation in Fall River, and reconductor 3.6 miles each of the N12 and M13 circuits from the Pottersville Switching Station to the Bell Rock Substation.
- **Alternative 5**: Non-Transmission Alternatives such as energy efficiency/demand response, energy storage and solar photovoltaic, and conventional and renewable generation. The Non-Transmission Alternatives (NTAs) considered by NEP included active and passive demand response, energy storage and solar photovoltaics, utility-scale generation, and off-shore wind. Active and passive demand response are not deployable at the scale necessary to mitigate the needs addressed by the Project. Neither solar PV nor storage alone is feasible due to technical limitations. Conventional generation would have more significant environmental impacts and would need to overcome significant challenges, including the necessary development time, land requirements, and infrastructure requirements, and therefore would not be practical. Currently proposed wind resources are intermittent and will rely on the Project to support their interconnection plans. For these reasons, NTA's were dismissed as a feasible alternative to meet the Project purpose and need.

Table 2-1 summarizes the characteristics and potential impacts of the no-action alternative and the transmission alternatives.

Ultimately, Project alternatives were evaluated based on Massachusetts Department of Public Utilities (DPU) standards ensuring that the proposed facility will provide a "reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost." Overall, the Project as proposed, compared to any feasible alternative, better meets the goal of providing a robust, secure, and reliable energy supply for the Commonwealth with a minimum impact on the environment at the lowest possible cost. Consequently, NEP concluded that the Project – the separation of the double-circuited N12 and M13 Lines between the Pottersville Switching Station and Sykes Road Substation – is the alternative that best balances the various considerations required to satisfy its obligations.

### 2.2.1 Assessment Parameters

The criteria applied to the four transmission alternatives is summarized below.

#### Environmental (Natural and Social Impacts) and Permitting Considerations

Preference was given to the alternatives that would minimize impacts to the natural and social environment. The potential impact on the surrounding natural environment must be considered, as well as the ability of the solution to meet environmental laws and regulations. The feasibility of avoiding and/or minimizing adverse impacts to environmental resources, such as wetlands, watercourses, wildlife habitats, vernal pools, and other designated resources must be considered.

The potential impact on customers and local community interests must be taken into account by considering the impact of the upgraded/new facilities on the stakeholders and landowners they will serve and the communities where they are located. The feasibility of avoiding and/or minimizing adverse

impacts to social resources, such as public lands and conservation areas, schools, daycare facilities, playgrounds and ball fields, and historical and archaeological sites must be considered. The placement of transmission facilities in densely developed areas, such as dense residential areas, typically creates additional complexity during permitting/licensing, the initial construction, and for future maintenance. In addition, both temporary impacts such as construction noise, dust, and traffic and longer-term impacts such as visibility need to be taken into account.

## Engineering Feasibility

Selecting an engineering design that minimizes impact to existing facilities and infrastructure is a consideration. The density of existing utilities located along and within a ROW corridor can affect the available space above and below grade to physically construct transmission lines. Overhead and underground electric facilities (both transmission and distribution), underground pipelines, municipal water, sewer, and gas facilities, and features such as manholes and catch basins can significantly constrain available space. Such constraints complicate the construction process, and increase construction duration, traffic disruption, and costs. Avoiding conflicts that may pose risks to meeting current and reliable engineering design standards is of key importance.

## Construction Feasibility

Preference was given to routes that would minimize constructability constraints. For example, road crossings or working within other utility corridors can result in access restrictions, congestion with existing utility infrastructure, work-space constraints, safety concerns, traffic disruptions, and restrictive work hours. Additionally, consideration is given to avoiding or minimizing line outages and taking existing facilities out of service.

The number of existing utilities located along and within a ROW corridor can affect the available space above and below grade to physically construct transmission lines. Overhead and underground electric facilities (both transmission and distribution), underground pipelines, municipal water, sewer, and gas facilities, and features such as manholes and catch basins can significantly constrain available space. Such constraints complicate the construction process, and increase construction duration, traffic disruption, and costs.

## Right-of-Way Requirements

Acquiring land or easements for transmission purposes, either by voluntary agreement or through condemnation, is a lengthy and costly process. Identifying alternatives with manageable land acquisition requirements that minimize real estate constraints is a key consideration. In addition to reducing delays associated with property rights acquisition, the use of an existing ROW to accommodate a new transmission line typically minimizes both the environmental impacts and costs of a project.

## Cost to the Consumer Considerations

As  a regulated public utility NEP must consider costs in the evaluation process, including implementing opportunities for cost reductions, and giving consideration to the full lifetime costs and the anticipated longevity of the electrical solutions.

**TABLE 2-1 COMPARISON OF TRANSMISSION ALTERNATIVES**

| ALTER-NATIVE NO. | ALTERNATIVE DESCRIPTION | ENGINEERING FEASIBILITY | CONSTRUCTION FEASIBILITY | RIGHT-OF-WAY REQUIREMENTS | ENVIRONMENTAL & PERMITTING CONSIDERATIONS | MAGNITUDE OF COST |
|---|---|---|---|---|---|---|
| 1 | No Action – Do not proceed with a solution to the ISO-NE reliability needs. | The No Action Alternative would not address the regional reliability problems that ISO-NE has identified on the transmission system. If no action is taken, the existing electric system reliability issues will remain unresolved and components of the existing grid will remain at risk for failure under certain contingencies studied by ISO-NE. | | | | 0 |
| 2 | Construct a new 115 kV line from Bristol 51 Substation (Bristol, RI) to new greenfield switching station (Old Boyd's Lane) in Portsmouth, RI. ~7.2 miles underground duct bank and manhole system, including ~1.0-mile crossing of Mount Hope Bay at the Mount Hope Bridge (HDD), ~2.0 acres for new greenfield substation. | • Requires construction easements for HDD entry and exit points.<br>• Requires marine geophysical and geotechnical surveys, HDD contingency plan, frac-out plan.<br>• Length of HDD crossing requires special oversized and overweight cable reel handling. | • Potential restrictions on in-roadway work requiring nighttime work.<br>• In-water crossing of Mount Hope Bay will be complex, require extensive onshore construction spread and will extend the construction schedule.<br>• Siting and construction of new greenfield substation would require local approval.<br>• Underground cable system in state and local roadways will require traffic permit, preparation of traffic management plans and possible construction detours. | • New easement/rights within state and local roadways would be required from the RIDOT and municipalities of Bristol and Portsmouth, RI.<br>• Requires temporary construction easements from the RI Bridge and Turnpike Authority and Roger Williams University.<br>• A submarine crossing of the Mount Hope Bay would require a Submerged Lands License from the RI CRMC.<br>• 2+ acres of land would need to be purchased in Portsmouth, RI to construct a new substation/switching station. | • Requires HDD crossing under 80-feet deep navigation channel of Mount Hope Bay.<br>• Requires development of a new substation on currently undeveloped land.<br>• Underground cable system would be installed in medium density residential areas.<br>• Historic Districts present in Bristol and Portsmouth. | $$$<br>• Increased costs for HDD installation beneath Mount Hope Bay.<br>• Increased costs for underground installation.<br>• Increased costs for acquisition of greenfield site for new substation. |

| ALTER-NATIVE NO. | ALTERNATIVE DESCRIPTION | ENGINEERING FEASIBILITY | CONSTRUCTION FEASIBILITY | RIGHT-OF-WAY REQUIREMENTS | ENVIRONMENTAL & PERMITTING CONSIDERATIONS | MAGNITUDE OF COST |
|---|---|---|---|---|---|---|
| 3A | Separate 1.85 miles of the N12/M13 DCT configuration, rebuild the N12 circuit from Pottersville Switching Station to Sykes Road Substation, construct new <u>overhead</u> M13N Line. | • Install 115 kV line and transmission structures within existing ROW.<br>• Reconfigure and rebuild existing transmission line structures.<br>• Cross the Taunton River at the existing overhead transmission line corridor previously permitted. | • Limited space on Fall River side of the Taunton River to serve as a landing for the transmission structure/line.<br>• Relative narrowness of the existing overhead ROW. | • The overwhelming majority of the project would be constructed with exiting NEP ROW, which is land owned in-fee by the Company.<br>• New easement is required to facilitate the construction of the proposed Y-frame transmission structure on the Fall River side of the Taunton River.<br>• Some additional aerial easements are required to address contingency blowout conditions of the overhead conductor. | • Taunton River crossing.<br>• Medium density multi-family and single-family residences along project route. | $<br>Cost-effective solution aligning with NEP standard installation practices within existing easement. |
| 3B | Separate 1.85 miles of the N12/M13 DCT configuration, rebuild the N12 circuit from Pottersville Switching Station to Sykes Road Substation, construct new <u>hybrid overhead and underground</u> M13N Line | • Underground duct bank and manhole system would be installed within congested roadways, including CSO, water line, sewer line, drainage conduits, communication | • Construction of an underground duct bank and manhole system presented significant constraints including:<br>• Identifying a corridor in the public roads that did not conflict with the City Fall River CSO Separation project and existing subsurface utilities;<br>• Crossing of the Wilson Road bridge over Route 24 in which the bridge is slated by the MassDOT for reconstruction and available real estate to | • New easement would be required to facilitate the construction of the proposed Y-frame transmission structure on the Fall River side of the Taunton River.<br>• New easement would be required from the MBTA to construct an overhead to | • Taunton River crossing.<br>• Medium density multi-family and single-family residences along project route. | $$<br>• Increased costs for river crossing Y-frame structures.<br>• Increased costs for underground installation.<br>• Increased costs for possible |

| ALTER-NATIVE NO. | ALTERNATIVE DESCRIPTION | ENGINEERING FEASIBILITY | CONSTRUCTION FEASIBILITY | RIGHT-OF-WAY REQUIREMENTS | ENVIRONMENTAL & PERMITTING CONSIDERATIONS | MAGNITUDE OF COST |
|---|---|---|---|---|---|---|
| | | line and gas line.<br>• Underground duct bank and manhole system would cross to State highway routes. | perform a trenchless crossing is severely limiting; and<br>• Underground cable system in state and local roadways will require traffic permit, preparation of traffic management plans and possible construction detours.<br>• Limited space on Fall River side of the Taunton River to serve as a landing for the transmission structure/line.<br>• Relative narrowness of the existing overhead ROW. | underground transition structure.<br>• New easement would be required to allow for a trenchless crossing of Route 24.<br>• Need to acquire real estate from the MBTA to construct on property reserved for the South Coast Rail yard. | | relocation of existing underground services. |
| 4 | Construct a new 115 kV line from the Pottersville Switching Station to the Sykes Road Substation and continue the new line to the Bell Rock Substation (~3.6 miles), and reconductor 3.6 miles each of N12 & M13 circuits from Pottersville Switching Station to Bell Rock Substation | • Installing a third overhead line within the route corridor would require the two existing circuits (N12 and M13) to be entirely reconfigured.<br>• Additional easement would be required along the majority of the length of existing easement.<br>• Installation of an underground | • Additional substation equipment would need to be installed at the Pottersville Switching Station, Sykes Road and Bell Rock Substation.<br>• A new access road network would need to be constructed for an overhead route option. Construct new access road spurs to new structure locations. | • New easement would be required for a distance of ~3.6 miles along the existing N12/M13 ROW to install a third 115 kV overhead transmission line.<br>• To reduce the need for new easement, the N12 and M13 circuits would need to be reconfigured and rebuilt along the entire ~3.6 miles to accommodate a new third line. | • For an overhead line, acquisition of new easement from abutters (residential areas) parallel to the existing transmission line corridor would be required.<br>• For an overhead line, acquisition of additional easement would be required from the City of Fall River Water Department and the MassDCR for properties located within the Watuppa Reservation.<br>• An overhead line would require steel monopoles on concrete caisson | $$<br>• Increased costs for material and construction for steel monopoles with caisson foundations.<br>• Increased costs of underground utility construction. |

| ALTER-NATIVE NO. | ALTERNATIVE DESCRIPTION | ENGINEERING FEASIBILITY | CONSTRUCTION FEASIBILITY | RIGHT-OF-WAY REQUIREMENTS | ENVIRONMENTAL & PERMITTING CONSIDERATIONS | MAGNITUDE OF COST |
|---|---|---|---|---|---|---|
| | | duct bank and manhole system would require construction within congested roadways, including CSO, water line, sewer line, drainage conduits, communication line and gas line. | | | foundations or require significant anchoring and guying for new structures.<br>• Potential for greater impact to state-listed species and outstanding resource waters.<br>• Construction of an underground cable would occur within public roadways through medium density residential areas. | |

Note: Acronyms and abbreviations used in this table are defined on the list at the beginning of this document.

## 2.3 Consideration of Alternative Locations and Design Strategies in Light of Climate Change

The EEA's *Climate Change and Adaptation Report* documents that with increasing temperatures, as a result of climate change, electricity demand in the Commonwealth could increase by 40% by 2030. A concern, stated in the report with regard to energy service reliability is that without reliable energy service, the basic needs of residents, visitors, businesses, and governments cannot be met. The Project, which is designed to improve reliable energy service within the region, serves this overall purpose. NEP integrated climate adaptation and resiliency strategies into the overall Project planning and design to the greatest extent feasible, including, reinforced structure foundations where necessary, soil amendments to strengthen in-situ soil characteristics, structure protection measures, utilization of the existing ROW and access roads to minimize additional disturbances to topography/contours, and site stabilization and re-establishment of natural vegetation following completion of construction. See Section 4.0 for details on design elements incorporated through this Project which reduce the Project's vulnerability to anticipated climate risks and improving resiliency for future climate conditions.

### 2.3.1 Alternatives Considered for the River Crossing Structures

NEP evaluated several alternatives to site proposed Structure M13N-6 in Fall River away from the waterfront, in lieu of the climate change and resiliency protocols to reduce environmental impact.

- NEP considered siting the proposed river crossing structure (on the Fall River side of the Taunton River) further to the east of the railroad tracks. This alternative is not feasible. The construction of the Massachusetts Bay Transportation Authority (MBTA) South Coast Rail Yard precluded the construction of a 300-foot-tall transmission structure in the midst of the proposed rail facilities. Construction on the South Coast Rail site would interfere with the Mass Coastal Rail freight rail and the ongoing construction of the South Coast Rail Project. Due to the proximity of the railroad, the railroad would have to be closed temporarily during construction to allow for a crane to lift transmission pole sections over the rail and a drop zone would need to be established for safety purposes.
- A similar alternative was considered and consisted of constructing a series of underground transmission cables under the railroad tracks. However, the expansiveness of the rail project, and the prolonged schedule of the N12/M13 DCT Separation Project would have created potential construction delays for the Massachusetts Department of Transportation (MassDOT) and the MBTA. In addition, at the time of consideration in 2020 the MassDOT and MBTA project engineering was further advanced than the NEP engineering design. To address this, NEP also considered the option of installing multiple conduits or a single large culvert under the railroad tracks to accommodate a future build of the transmission lines. Although NEP considered "right-sizing" the Project in parallel with the South Coast Rail Project. Ultimately, this option was deemed infeasible from an engineering and planning perspective.
- NEP considered installing the transmission lines as underground cables via HDD technology and drilling under the Taunton River. The key criteria that caused NEP to dismiss this alternative included: (i) lack of available space on both sides of the river to stage and advance the HDD operations; (ii) the geology of the Taunton River riverbed and the potential for the inadvertent release of drilling returns into the river; (iii) the known soil and groundwater contamination located on the Fall River side of the Taunton River in the vicinity of the former Shell Oil Terminal; and (iv) the exorbitant cost to customers if this alternative installation method were to

be implemented. In general, the railroad authority does not permit an HDD under the operating tracks, if a feasible alternative exists, and therefore an HDD was deemed infeasible.

### 2.3.2 Climate Change and Resiliency Strategies

For the proposed Project, NEP integrated climate adaptation and resiliency strategies into the overall Project planning and design to the greatest extent feasible, including, reinforced structure foundations where necessary, soil amendments to strengthen in-situ soil characteristics, incorporate structure protection measures, utilize existing ROW and access roads to minimize additional disturbances to topography/contours, and site stabilization and re-establishment of natural vegetation following completion of construction (see Section 4.0). The Project will also allow renewable energy sources to come online by offering a more robust and reliable transmission system. These design elements are meant to protect the long-term viability and operability of the electric transmission assets by reducing the vulnerability to anticipated climate risks and improving resiliency for future climate conditions.

The Project contributes to regional climate change adaptation strategies for the SEMA-RI area through the construction of a resilient transmission line that can withstand more extreme weather events while also addressing existing system capacity shortages and increased demand. As previously described, EEA's *Climate Change and Adaptation Report* documents that with increasing temperatures, electricity demand in the Commonwealth could increase by 40% by 2030. The Report documents the vulnerability of existing aging infrastructure and identifies key strategies to alleviate these vulnerabilities, including repair, upgrades and reuse, and timely maintenance. The Project addresses the issues identified in the Report and ISO-NE studies by supporting future growth and forecasted demand within the SEMA-RI area. The Project will result in a stronger electrical transmission system that is vital to the area's safety, security, and economic prosperity.

The Project is consistent with these reliability strategies in the following ways:

- Reinforces system reliability in the SEMA-RI region and provides a more robust transmission system in the area of need.
- Incorporates new design standards and the latest in design materials.
- Minimizes impacts to the natural and social environments because the proposed improvements are located within existing transmission line ROW.
- Provides a stronger electrical transmission system that is vital to the area's safety, security and economic prosperity.
- Meets growing transmission needs identified by the ISO-NE and supports future growth and forecasted demand within the SEMA-RI area.
- Improves the capability of the existing transmission system to move power more reliably into load centers.

The proposed Project location meets the identified Project need and reliability, addresses the various regulatory objectives, minimizes environmental impacts, and provides a cost-effective solution to customers.

## 2.4 Conclusion

After consideration of the alternatives, NEP determined that the Alternative 3A was the Preferred Solution. This determination was based on consideration of environmental impacts, engineering requirements, construction feasibility, minimizing real estate acquisition requirements, facility reliability and security, and overall project costs, all while addressing the ISO-NE identified need.

Alternative 1 (the No Action Alternative) was rejected because it would not address the regional reliability problems on the transmission system. Alternative 2 would require acquisition of land to construct a new switching station, would involve a complex marine crossing of Mount Hope Bay and would be considerably more expensive to build than any of the other alternatives; therefore, it was rejected. Alternative 3B introduces numerous physical constraints such as dense utility congestion within local roadways and no feasible option for a trenchless crossing of State Route 24 and therefore was rejected. Alternative 4 was rejected because of the need to reconfigure and rebuild the N12 and M13 Lines in their entirety and the need to obtain additional easement for either an overhead route option or underground route option. Alternative 5 was dismissed because it did not feasibly meet the purpose and need for the Project.

NEP's alternatives analysis demonstrates that Alternative 3A (N12/M13 DCT Separation Project) as proposed will best address the identified need and will improve transmission system reliability. The preferred project route is the best solution when balancing considerations of potential environmental impacts, system reliability, costs to customers, and engineering and construction feasibility. This choice is also consistent with ISO-NE's recommendation of the Project as the preferred solution to meet the identified need.

# 3.0 LAND ALTERNATIONS AND MITIGATION MEASURES

## 3.1 Construction-Phase Impacts

The majority of Project construction will occur within existing NEP ROW, with the exception where additional temporary and permanent ROW will be secured by NEP from applicable landowners. Construction will result in land disturbance within NEP's existing transmission line corridor and easements, as identified in Table 3-1. Grading and earth work is required on the Fall River side of the Taunton River to construct a safe and level access road and workspace to construct the proposed Y-frame structure (Structure M13N-6). A new access road is required to access existing Structures N12-7 and N12-8 M13N-8 and to replace these structures with new single circuit monopoles. Constructing the new access road will require grading, earth work and import of suitable fill material. Select tree removal will be required within the NEP ROW in Fall River to facilitate safe clearance for the DCT separation and construction requirements for the installation of the Y-frame structures. Select tree removal will take place at several locations along the ROW including on the Fall River side of the Taunton River to construct the new Y-frame structure (Structure M13N-6) and within the NEP ROW east of State Route 24 and extending to Sykes Road where the tree removal will occur along the southern edge of the ROW. Tree removal locations are depicted in Appendix B. Beyond these specific locations vegetation removal will be limited to mowing, side trimming and selective removal of danger and hazard trees.

Select tree removal within the ROW between State Route 24 and Sykes Road will occur on the south side of the ROW and the clearing width will range between 5 and 28 feet. A visual buffer of existing trees measuring in the range of 25 to 65 feet wide will be retained between the southern edge of the ROW and the residences along Wilson Road.

Table 3-1 below displays the Project's anticipated construction-related impacts.

**TABLE 3-1 ANTICIPATED LAND USE IMPACTS**

| RESOURCE AREA | PERMANENT IMPACTS |
|---|---|
| Land Altered<br>(Structure N12-6 and M13N-6) | ~1.34 acres for construction of an access road to structures N12-6 and M13N-6 and work pad for M13N-6 |
| Land Altered<br>(Structures N12-7, N12-8 & M13N-8) | ~0.9 acre for construction of an access road to structures N12-7, N12-8, and M13N-8 |
| Tree Removal<br>(Structure M13N-6) | ~2.15 acres (upland forest) |
| Tree Removal<br>(State Route 24 to Sykes Road) | ~0.25 acre (upland forest)<br>~0.15 acre (forested wetland) |

### 3.1.1 Construction Access and Mitigation Measures

Improvements to existing access roads and construction of some new segments of access roads are required along the ROW to provide NEP with the ability to construct, inspect and maintain the existing and proposed transmission line facilities. For the Project, existing access roads will require maintenance or upgrading to support the proposed construction vehicles and equipment. For example, clean gravel or trap rock will be necessary to stabilize and level the roads for construction vehicles. It will be necessary to improve existing access roads in certain locations within the ROW to facilitate new construction. The majority of the existing access roads will require some improvements (refer to existing and proposed access routes shown on the figures in Appendix B).

Any access road improvements and/or maintenance will be carried out in compliance with the conditions and approvals of the appropriate federal and state regulatory agencies. Stabilized crushed stone aprons, underlain by geotechnical fabric, will be used at all access road entrances to public roadways to clean the tires of construction vehicles and minimize the migration of soils off-site. In uplands and in state regulated 100-foot buffer zones to BVW, access road improvements will be left in place to facilitate future access to the ROW for inspection, operation, and maintenance purposes.

Typical access roads are 20 feet wide with a travel lane of approximately 16 feet wide to accommodate the vehicles and equipment needed to construct the Project. NEP is planning to use the existing network of access roads previously established on the ROW to the greatest extent practicable. New access roads will be located to avoid or minimize disturbance to water resources and follow the existing contours of the land as closely as practicable.

Access across wetlands and streams, where upland access is not available, will be accomplished by the temporary placement of construction mats. Construction mats will be placed to facilitate access over resource areas at the beginning of the Project (see Section 1.3 for more details on this phase of construction) and will remain in place until Project activities conclude. Temporary timber mat air-bridges will be installed over stream channels to maintain ambient flows during the construction-phase of the Project. Such construction mat access roads will be remain in place temporarily and removed following completion of construction, and areas will be restored to reestablish pre-existing topography and hydrology as necessary.

The use of construction mats allows for heavy equipment access within wetland areas. Construction mats minimize the need to remove vegetation beneath the access way and help reduce the degree of soil disturbance and rutting in soft wetland soils. Construction mats most often used by NEP are wooden timbers bolted together typically into 4-foot by 16-foot sections, wooden lattice mats, or composite mats.

Typically, construction mats may be installed on top of the existing vegetation; however, in some instances cutting large woody vegetation may be required.

Construction mats will be certified clean by the vendor prior to installation. Clean is defined as being free of plant matter (stems, flowers, roots, etc.), soil, or other deleterious materials prior to being brought to the project site. Any equipment or timber mats that have been placed or used within areas containing invasive species within the project site will be cleaned of plant matter (stems, flowers, roots, etc.), soil, or other deleterious materials at the site of the invasive species prior to being moved to other areas on the project site to prevent the spread of invasive species from one area to another. Construction mats will be cleaned prior to being removed at the completion of the project, please refer to the Wetland Invasive Species Control Plan (WISCP) submitted with the EENF for more details on methods used to clean construction mats.

Once construction mats are removed at the conclusion of the Project, wetlands shall be inspected for buildup of sand or other materials that may have fallen through construction mats. Care shall be taken to inspect wetland crossings as each mat is removed to ensure any materials are properly removed and disposed of off-site. Wetlands will be restored to pre-construction configuration and elevations to the extent practicable. Vegetation will also be allowed to revegetate. If necessary, a native or wetland herbaceous seed mix will be used to amend the wetland soil.

### 3.1.2 Grading Plans to Facilitate Construction

NEP is proposing grading activities to facilitate safe access and work areas for large construction vehicles and equipment. Within most areas of the ROW grading activities will be minor, the topography will be graded and stone will be placed on the access road or work pads to provide stable and safe work areas.

Grading plans were sent to MEPA following the submittal of the EENF and discussed during a remote consultation on November 9, 2021. Refer to Appendix B to view preliminary drafts of the grading plans for structures N12-7, N12-8 and M13N-8, and M13N-6 and N12-6.

#### Access and Work Pad for Proposed Structure M13N-6 and Existing Structure N12-6

NEP is proposing the construction of a single circuit steel monopole "Y Frame" river crossing structure located on the Fall River side of the Taunton River to support the M13N Line overhead span over the Taunton River. Due to environmental and engineering constraints, structure M13N-6 on the Fall River side of the Taunton River is sited near the boundary of the existing NEP-fee owned property. NEP is seeking new permanent and temporary easements from the adjacent landowner to accommodate the construction, operation, and maintenance of the proposed structure. The purpose of the permanent easements is to accommodate the M13N Line foundation diameter, wire blowout design criteria and to allow for the establishment of a permanent gravel access road to the structure. Temporary easements are necessary to allow equipment and crews safe and adequate workspace to construct the structure. Temporary work areas may be cleared, grubbed, and leveled with temporary fill over geotextile fabric. NEP anticipates approximately 1.34 acres of land alternations will be necessary to accommodate construction of M13N-6 and to provide access for long-term maintenance needs of both the proposed and existing structure at this location. Table 1-2 in Section 1.0 details the proposed temporary and permanent land alterations resulting from the Project.

NEP is proposing the installation of a permanent access road to M13N-6 and N12-6, the river crossing structure found on the east side of the Taunton River. NEP is proposing to rebuild an access route within the existing NEP easement to enable safe accessible admittance to the river crossing structure location for

construction of the Project. NEP will conduct minor grading within the proposed access road and associated structure work pad to bring the topography to grade. Stone will be placed on top of the work pad and access road to restrict occurrences of soil erosion and to provide stability to the area when heavy construction vehicles traverse these locations.

A section of the M13N-6 proposed access road is found within a vertical coastal bank. To ensure the access road does not impact stability of the coastal bank NEP is proposing to install permeable grids which allow water penetration and infiltration into the soil below without impacting the areas stability.

### Access and Work Pads to Proposed Structures N12-7, N12-8, and M13N-8

NEP is proposing to place N12 and M13 paired Structures 7 and 8 within existing NEP ROW between the MBTA rail tracks and existing residential homes. The topography in proximity to the nearby existing structures and proposed structure locations drops off sharply behind the residential homes and levels out in proximity to the railroad tracks. To facilitate access and workspace for construction vehicles and equipment, NEP is proposing the construction of a new access road from structures N12-8 M13N-8 to N12-7. The access road and work pads will require grading/earthwork of the adjacent steep slope. NEP has obtained the services of a civil engineer to ensure earthwork is completed in a manner which does not compromise the private residential property. The final grading plan will be included in the Notice of Intent plans to be submitted to the Fall River Conservation Commission.

The ROW between structures N12-7 and N12-8 M13N-8 is currently characterized by low, scrubby growth of opportunistic species, a gravel bed associated with the railroad, and three buried pipelines owned by third parties other than NEP, including a 4-inch line, 6-inch line, and 20-inch line. NEP's understanding in speaking with the pipeline owners, Shell Oil, is that the three pipelines have been retired in-place. NEP has coordinated with the pipeline owners during planning and permitting of this Project. Shell Oil has released the easements of these pipelines therefore NEP will be removing segments of the pipeline to install proposed structure N12-7. NEP will continue to coordinate with Shell Oil prior to and during construction of the Project. A segment of the City of Fall River's sewer main parallels the N12 and M13 ROW near N12-7 and M13N-8 N12-8. NEP will coordinate with the City of Fall River to ensure that the sewer main is clearly marked and avoided during construction.

## 3.2 Vegetation Management and Removal

Along the majority of the ROW, vegetation management and removal is required to include mowing, tree pruning and select tree removal prior to construction. These activities will be limited to those areas necessary to provide access to existing and proposed Project structure locations, to facilitate safe equipment passage, to provide safe work sites for personnel within the ROW, and to maintain safe clearances between vegetation and transmission line conductors for reliable operation of the overhead conductors.

Vegetation is managed within the ROW and fee owned property according to standards and regulations including, but not limited to, the following regulations:

- Federal Energy Regulatory Commission (FERC) standards including NERC Standard FAC-003-1, Commissioner Order 693, FAC-003-2 (effective July 1, 2014).
- NERC Standard FAC-003-1 – Transmission Vegetation Management Plan (VMP), effective date of April 7, 2006.

- NESC Section 21, Part 2, Rule 218 and the ANSI pruning standards, A300, Part 1, Part 7, and Z-133.

In regard to long term maintenance of the existing ROW, NEP has followed established plans and procedures for applying an Integrated Vegetation Management (IVM) approach to manage vegetation within existing utility corridors in accordance with transmission line clearance standards. The vegetation maintenance cycle follows a five-year timeline and encourages the growth of low-growing shrubs and other vegetation which provide a degree of natural vegetation control. Vegetation management is necessary to ensure the reliable and safe delivery of electric services to customers. This is accomplished by allowing for the proper clearance between vegetation and electrical conductors.

Routine vegetation maintenance will continue within the existing transmission line corridor after construction of this Project. Vegetation will be maintained as low-growth shrubs or grasses and herbs which provide a degree of natural vegetation control. Vegetation management will occur once every three to five years within the ROW in accordance with the VMP, which is in compliance with the Massachusetts ROW Management regulations (333 CMR 11.00) administered by the Massachusetts Department of Agricultural Resources. Treatment methods used on the ROW are selected based upon timing, site sensitivity, target species composition and density, site access, topography, and treatment methods.

The general methods for vegetation maintenance is further described below.

## Vegetation Maintenance

Tree removal and vegetation maintenance proposed will be completed by applying the applicable BMPs in accordance with National Grid's Environmental Guidance Document EG-303NE – Access, Maintenance and Construction Best Management Practices (dated August 2020). In general, the following practices are implemented:

- Tree removal in the ROW will, in most instances, be felled using bucket trucks and chainsaws. Wood waste will be disposed of by means of chipping, mowing, and/or hauled off-site.

- In some locations, trees will be felled with tree harvesting equipment, transported by forwarder or skidder to the landing and chipped or loaded onto trucks for removal to an appropriate location for disposal.

- Brush, limbs, and cleared trees will typically be chipped and removed from the site.

- In limited locations, trees, and branches may be chipped or just cut and lopped and left on the ROW to decay.

## ROW Mowing

Proposed ROW access roads and work pads will be mowed prior to construction to facilitate safe equipment passage and provide safe work sites for personnel within the ROW. In general, the following practices are implemented:

- Mowing will be completed with a skid-steer and/or excavator type of mowing equipment.

- Small trees and shrubs within the ROW will be mowed as necessary with the intent of preserving roots and low-growing vegetation to the extent practical.

- Brush, limbs, and cleared trees will typically be chipped and removed from the site.

## Off-ROW Tree Removal or Pruning

Off-ROW trees located just outside the maintained ROW edge will be assessed for their potential to damage the transmission lines. To ensure the safety and reliability of the line, danger and hazard trees may have to be pruned or removed. A danger tree is a tree located either on or off the ROW, which may contact electric lines if it were to fall, and hazard trees are danger trees that are structurally weak, broken, damaged, decaying or infested and that could contact the structures or conductors (or violate the conductor clearance zones).

In cases where an off-ROW tree needs to be pruned or removed for the Project, NEP will work with landowners to address the hazardous tree situation(s). Property owners who have a danger or hazard tree which poses a risk to the transmission line will be notified prior to tree removal and landscape mitigation may be provided, as necessary.

## Wildlife Habitat Mitigation

The management and maintenance of ROW creates early successional habitats dominated by scrub-shrub vegetation and open areas with dense grasses and other herbaceous vegetation. Many animal species use the habitats provided along the ROW as their homes, feeding and breeding grounds, migration corridors or nurseries, and many plant species adapt to the growing conditions provided within the managed portions of the ROW. The early successional landscape maintained within the ROW, however, is not by nature stable; it is instead the sustained result of the IVM program NEP has utilized since the 1960s. The select removal of the trees within the ROW to accommodate the Project will not result in a loss of overall wetland habitat, but rather will create a change in habitat type, from forested to scrub-shrub or emergent wetland. An estimated 3.81 acres of trees will be removed with a majority of this removal being limited to the edge of the existing ROW.

Different types of successional communities have various benefits to flora and fauna. For example, a study in Massachusetts indicated an increase in wildlife use, notably avian species, following clearing of ROW (Nickerson and Thibodeau 1984). This study attributed the increase in wildlife use to the conversion of forested areas into wetland and upland shrub and emergent plant communities. Creating and maintaining additional shrub-land habitat along the ROW, in many instances, represents a long-term positive effect on some species, since shrub-land habitat is otherwise declining in New England. This is important because land use trends suggest that this habitat type will continue to decline, and ROW will become increasingly significant (Confer 2003). This decline is a result of various factors (e.g., development, ecological succession, absence of fire). A managed transmission ROW is considered a major source of shrub-land habitat (Saucier 2003; Confer and Pascoe 2003); in fact, in the eastern United States utilities maintain more acreage of managed shrub-lands on ROW than all other sources of this habitat combined (Confer et al. 2008).

Other studies also have indicated that this change may be beneficial (King et al. 2009; Yahner et al. 2004; Bramble et al. 1992). Scrub-shrub habitats within the ROW can provide wildlife habitat such as nesting for birds, browse for deer, and cover for small mammals (Ballard et al. 2004). Shrub land birds and other disturbance dependent species are now more dependent than ever on human activities to maintain the habitat required for their survival (King et al. 2009; Confer and Pascoe 2003; Confer et al. 2008). In

response to shrub land habitat loss and the decline in shrub land dependent species in the Northeast, the United States Fish and Wildlife Service (USFWS) has recently approved the Great Thicket National Wildlife Refuge, which will be dedicated to managing shrub land wildlife habitat in the Northeast (USFWS 2016). In this regard, transmission line ROW is considered a major source of shrub land habitat (Saucier 2003).

The establishment of low-growing species, i.e., grasses and forbs, assist in reducing the re-invasion of the ROW corridor by tree species (Ballard et al. 2004). Some plant species also have the ability to inhibit the growth or invasion of other species which is referred to as allelopathy (Money 2008). Establishment of such dense shrub and herbaceous emergent plant communities that do not require continued disturbances for management activities may contribute to minimizing the spread of invasive species.

### Avian Nest Mitigation

Raptors and other birds of prey may be nesting on structures or within forested fringes within and adjacent to the ROW that are slated for tree removal. Osprey are known to build nests and occupy steel lattice on the existing 300-foot tall river crossing towers. Other migratory birds may also nest within or along the forested portions of the ROW. It is not feasible or practical for NEP to restrict tree removal and vegetation management during certain times of the year, however NEP's policy is to leave active nests alone unless they interfere or present an immediate impact to operations. Inactive nests are removed, as appropriate. Trained field personnel (i.e., Forestry Supervisor, Supervisory Linemen) only are to implement this protocol, which is appropriate for safe operation of the electric transmission lines.

### Type and Frequency of Vegetation Maintenance Activities

Post construction, vegetation will be maintained as it has been through the VMP, fostering low-growth shrubs and herbaceous species which provide a degree of biological control. In the areas where forested vegetation removal is required for this Project, there will be long-term impacts, but these impacts will be incremental and localized on both the vegetation and associated wildlife habitats. Vegetation management will occur once every three to five years with the ROW in accordance with National Grid's 2019-2023 VMP, which is in compliance with the Massachusetts ROW Regulations (333 CMR 11.00) administered by the Massachusetts Department of Agricultural Resources. Treatment methods used on the ROW are selected based upon timing, site sensitivity, target species composition and density, site access, topography, and treatment methods. These vegetation management strategies are existing protocols that have already received approval for their implementation.

## 3.3 Notification to Property Owners

Landowners that will be affected by tree and vegetation removal related to the construction of the Project will be notified using the following protocol:

- Property owners will be notified by mail 10 to14 days prior to the start of work. The notification letter will include the projected timeline of the clearing, hours that the clearing will take place, and a phone number and email address for additional information or questions. Recipients will receive the letter in English, Spanish, European Portuguese, and Cape Verdean. Information may also be provided through door-to-door visits (door hangers) or at a Project open house, depending on the situation and timing of the work. More information on notification to property owners is included in Section 7.3.

- NEP will contact the municipal representative to provide the same information and will typically share the property owner notification letter via email or through an in-person visit.

- Information about clearing and vegetation management activities will also be posted on the Project website.

# 4.0 CLIMATE CHANGE ADAPTATION AND RESILIENCY

## 4.1 Overview

NEP has addressed climate change adaptation and resiliency through the planning and design of this transmission line replacement Project. Since filing the EENF, NEP has further evaluated the Project in terms of sea level rise and increased storm frequency over the expected life span of the Project. The Project will result in a more robust and reliable climate-ready and resilient transmission system that can address existing system capacity shortages and increased demand; support future interconnections from renewable energy projects and offshore wind; and withstand more extreme weather events.

By separating and reconfiguring the existing double-circuit tower configuration, the Project improves reliability, avoids the potential for widespread voltage collapse and loss of load, and supports future growth and forecasted demand within the SEMA-RI area, including forecasted injection of renewable energy into the grid. In addition, the newly separated transmission lines (N12 and M13 Lines) will be located within the existing NEP ROW thereby minimizing new land alteration. The Project will result in a stronger electrical transmission system that is vital to the area's safety, security, and economic prosperity.

## 4.2 Alternative Location and Design

NEP integrated climate adaptation and resiliency strategies into the overall N12/M13 DCT Separation Project planning and design to protect the long-term viability and operability of the electric transmission assets for future climate conditions. The proposed Project location meets the needs and reliability identified by ISO-NE, addresses the various regulatory objectives, minimizes environmental impacts, and provides a cost-effective solution to customers. To understand the location and design of this Project in reference to climate change and future climactic conditions view Section 2.3 of this SEIR.[5]

## 4.3 RMAT's Climate Design Resilience Tool Outputs

Effective October 1, 2021, all projects subject to MEPA review are required to submit an output report from the RMAT Climate Design Resilience Tool (RMAT Tool) to assess the climate risks to the Project. NEP reviewed the RMAT Tool output report to determine current and future exposure/risk to higher high tides, storm surge and sea level rise. The RMAT output report identified the Project as having a high exposure rating based on the Project's location for the following climate parameters: sea level rise/storm surge, extreme precipitation (urban/riverine flooding), and extreme heat. Based on the updated 50-year

[5] Siting and need for the Project was presented to the DPU in NEP's Application to Support the Petition before the Department of Public Utilities (D.P.U. 22-95) submitted August 5, 2022. This application addressed the need for the Project when considering actual and weather-adjusted peak loads for 2020 and 2021 for the Load Pocket to the ISO-NE projected 2021 load from the 2021 CELT Report. Through this application to the DPU, NEP showed net summer peak loads for the entire New England region will rise from 26,416 MW to 27,139 MW between 2022 and 2031 and the proposed Project would address the risk of voltage collapse from increased temperatures.

useful life identified for the Project, the RMAT Tool recommends a planning horizon of 2070 and a return period associated with a 200-year (0.5% chance) storm event when designing the onshore components of the Project related to sea-level rise and a 50-year (2.0% chance) storm event for the onshore Project components for extreme precipitation.

NEP retained the services from CDM Smith, an engineering and construction firm based in Boston, Massachusetts, to identify the potential coastal impacts from various conditions over multiple planning horizons at six proposed monopole structure foundations, identified as M13N-5, M13N-6, M13N-7, N12-7, N12-8 and M13N-8. Additionally, coastal impacts were examined at two existing tower locations identified as N12-5 and N12-6, these existing structures will be retained design. All structure locations examined through the RMAT Tool are located in close proximity to the Taunton River crossing, a tidally influenced waterbody. A copy of the output report generated by the RMAT Tool is found in Appendix F.

Table 4-1 provides the Climate Resilience Design Standards Summary as produced by the RMAT Tool. This data is based on the user defined polygon drawn in the RMAT Tool, responses to the questions during the setup of the tool, and values based on the MC-FRM developed by Woods Hole Group in coordination with UMass Boston. The reports were generated on July 6, 2022 and are presumed to use the latest data available as of those dates.

**TABLE 4-1 CLIMATE RESILIENCE DESIGN STANDARDS SUMMARY**

| EXPOSURE | ASSET RISK | TARGET PLANNING HORIZON | INTERMEDIATE HORIZON |
|---|---|---|---|
| Sea Level Rise/Storm Surge | High Risk | 2070 | 2050 |
| Extreme Precipitation | High Risk | 2070 | N/A |
| Extreme Heat | High Risk | 2070 | N/A |

Note: This data was extrapolated from the RMAT Tool, values are based on MC-FRM. Data was generated on July 6, 2022. https://resilientma.mass.gov/rmat_home/.

Resilience Design Standards and Guidance are recommended for each asset and climate parameter. Below are applicable design criteria as shown through the RMAT Tool. Table 4-2 below depicts the normal range of tides expected in 2030, 2050, and 2070 when sea level rise is considered, and Table 4-3 provides the projected still water and wave action water elevations[6] and projected wave heights for various storm events. The results are utilized in the individual transmission structure analysis.

**TABLE 4-2 PROJECTED TIDAL DATUMS WITH SEA LEVEL RISE****

| PLANNING HORIZON | MHHW | MHW | MTL | MLW | MLLW |
|---|---|---|---|---|---|
| | (feet – NAVD88) | | | | |
| Current[1] | 2.4 | 2.2 | -0.1 | -2.3 | -2.5 |
| 2030 | 3.8 | 3.6 | 1.4 | -0.9 | -1.0 |
| 2050 | 5.0 | 4.8 | 2.6 | 0.4 | 0.3 |
| 2070 | 6.8 | 6.6 | 4.4 | 2.3 | 2.2 |

Notes: Planning Horizons are defined as follows: Mean Higher High-Water (MHHW), Mean High-Water (MHW), Mean Tidal Land (MTL), Mean Low-Water (MLW), and Mean Lower Low-Water (MLLW).
** This data was extrapolated from the RMAT Tool, values are based on MC-FRM. Data was generated on July 6, 2022 and obtained from
[1] Obtained from NOAA's Online Vertical Datum Transformation, https://vdatum.noaa.gov/

[6] All elevation data referred to herein is based on North American Vertical Datum of 1988 (NAVD 88).

**TABLE 4-3 PROJECTED WATER SURFACE ELEVATIONS AND WAVE HEIGHTS***

| ANNUAL EXCEEDANCE PROBABILITY (RETURN PERIOD) | RECOMMENDED PLANNING HORIZON | PROJECTED STILL WATER SURFACE ELEVATIONS | PROJECTED WAVE ACTION WATER ELEVATIONS | PROJECTED WAVE HEIGHTS |
|---|---|---|---|---|
| | | (feet - NAVD88) | (feet - NAVD88) | (feet) |
| 5% (20-year) | 2030 | 11.0 | 12.4 | 1.8 |
| | 2050 | 13.2 | 14.8 | 2.3 |
| | 2070 | 15.5 | 17.4 | 2.6 |
| 2% (50-year) | 2030 | 12.3 | 13.7 | 2.0 |
| | 2050 | 14.8 | 16.6 | 2.6 |
| | 2070 | 17.2 | 19.3 | 2.9 |
| 1.0% (100-year) | 2030 | 13.2 | 14.8 | 2.2 |
| | 2050 | 15.9 | 17.9 | 2.8 |
| | 2070 | 18.5 | 20.8 | 3.1 |
| 0.5% (200-year) | 2030 | Unable to obtain from RMAT Tool | | |
| | 2050 | 17.1 | 19.3 | 2.9 |
| | 2070 | 19.8 | 22.2 | 3.3 |

* This data was extrapolated from the RMAT tool, values are based on MC-FRM. Data was generated on July 6, 2022. https://resilientma.mass.gov/rmat_home/.

With the assessment of exposure and risk, the RMAT Tool provides design criteria for each proposed structure location for further evaluation. The design criteria for projected water surface elevations (Table 4-4), wave action water elevations (Table 4-5), wave heights (Table 4-6), and total projected precipitation (Table 4-7) at each structure location. Raw data from the RMAT tool is depicted in Tables 4-4 through 4-7 below. Each attribute is further discussed in subsequent sections. Total projected precipitation was not utilized in this evaluation.

**TABLE 4-4 PROJECTED WATER SURFACE ELEVATIONS**

| ASSET NAME | RECOMMENDED PLANNING HORIZON | RECOMMENDED RETURN PERIOD | MAX. | MIN. | AREA WEIGHTED AVERAGE |
|---|---|---|---|---|---|
| | | | (feet - NAVD88) | | |
| M13N-5 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |
| | 2070 | | 19.8 | 19.8 | 19.8 |
| N12-5 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |
| | 2070 | | 19.8 | 19.8 | 19.8 |
| M13N-6 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |
| | 2070 | | 19.8 | 19.8 | 19.8 |
| N12-6 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |
| | 2070 | | 19.8 | 19.8 | 19.8 |
| M13N-7 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |
| | 2070 | | 19.8 | 19.8 | 19.8 |
| N12-7 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |
| | 2070 | | 19.8 | 19.8 | 19.8 |
| M13N-8 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |

| ASSET NAME | RECOMMENDED PLANNING HORIZON | RECOMMENDED RETURN PERIOD | MAX. | MIN. | AREA WEIGHTED AVERAGE |
|---|---|---|---|---|---|
| | | | (feet - NAVD88) | | |
| | 2070 | | 19.8 | 19.8 | 19.8 |
| N12-8 | 2050 | 0.5% (200-year) | 17.1 | 17.1 | 17.1 |
| | 2070 | | 19.8 | 19.8 | 19.8 |

* This data was extrapolated from the RMAT Tool, values are based on MC-FRM. Data was generated on July 6, 2022. https://resilientma.mass.gov/rmat_home/.

## TABLE 4-5 PROJECTED WAVE ACTION WATER ELEVATIONS

| ASSET NAME | RECOMMENDED PLANNING HORIZON | RECOMMENDED RETURN PERIOD | MAX. | MIN. | AREA WEIGHTED AVERAGE |
|---|---|---|---|---|---|
| | | | (feet - NAVD88) | | |
| M13N-5 | 2050 | 0.5% (200-year) | 17.5 | 17.1 | 17.4 |
| | 2070 | | 20.5 | 19.8 | 20.2 |
| N12-5 | 2050 | 0.5% (200-year) | 17.5 | 17.1 | 17.4 |
| | 2070 | | 20.5 | 19.8 | 20.2 |
| M13N-6 | 2050 | 0.5% (200-year) | 20.5 | 17.1 | 19.3 |
| | 2070 | | 23.9 | 19.8 | 22.2 |
| N12-6 | 2050 | 0.5% (200-year) | 20.5 | 17.1 | 19.3 |
| | 2070 | | 23.9 | 19.8 | 22.2 |
| M13N-7 | 2050 | 0.5% (200-year) | 18.2 | 17.1 | 17.4 |
| | 2070 | | 20.9 | 19.8 | 20.0 |
| N12-7 | 2050 | 0.5% (200-year) | 18.2 | 17.1 | 17.4 |
| | 2070 | | 20.9 | 19.8 | 20.0 |
| M13N-8 | 2050 | 0.5% (200-year) | 18.2 | 17.1 | 17.4 |
| | 2070 | | 20.9 | 19.8 | 20.0 |
| N12-8 | 2050 | 0.5% (200-year) | 18.2 | 17.1 | 17.4 |
| | 2070 | | 20.9 | 19.8 | 20.0 |

* This data was extrapolated from the RMAT tool, values are based on MC-FRM. Data was generated on July 6, 2022. https://resilientma.mass.gov/rmat_home/.

## TABLE 4-6 PROJECTED WAVE HEIGHTS

| ASSET NAME | RECOMMENDED PLANNING HORIZON | RECOMMENDED RETURN PERIOD | MAX. | MIN. | AREA WEIGHTED AVERAGE |
|---|---|---|---|---|---|
| | | | (feet) | | |
| M13N-5 | 2050 | 0.5% (200-year) | 0.5 | 0 | 0.4 |
| | 2070 | | 1.0 | 0 | 0.6 |
| N12-5 | 2050 | 0.5% (200-year) | 0.5 | 0 | 0.4 |
| | 2070 | | 1.0 | 0 | 0.6 |
| M13N-6 | 2050 | 0.5% (200-year) | 4.5 | 0 | 2.9 |
| | 2070 | | 5.0 | 0 | 3.3 |
| N12-6 | 2050 | 0.5% (200-year) | 4.5 | 0 | 2.9 |
| | 2070 | | 5.0 | 0 | 3.3 |

| ASSET NAME | RECOMMENDED PLANNING HORIZON | RECOMMENDED RETURN PERIOD | MAX. | MIN. | AREA WEIGHTED AVERAGE |
|---|---|---|---|---|---|
| | | | (feet) | | |
| M13N-7 | 2050 | 0.5% (200-year) | 1.0 | 0 | 0.3 |
| | 2070 | | 1.0 | 0 | 0.2 |
| N12-7 | 2050 | 0.5% (200-year) | 1.0 | 0 | 0.3 |
| | 2070 | | 1.0 | 0 | 0.2 |
| M13N-8 | 2050 | 0.5% (200-year) | 1.0 | 0 | 0.3 |
| | 2070 | | 1.0 | 0 | 0.2 |
| N12-8 | 2050 | 0.5% (200-year) | 1.0 | 0 | 0.3 |

* This data was extrapolated from the RMAT tool, values are based on MC-FRM. Data was generated on July 6, 2022. https://resilientma.mass.gov/rmat_home/.

**TABLE 4-7 PROJECTED TOTAL PRECIPITATION**

| ASSET NAME | RECOMMENDED PLANNING HORIZON | RECOMMENDED RETURN PERIOD | PROJECTED 24-H TOTAL PRECIPITATION Depth (inches) |
|---|---|---|---|
| M13N-5 | 2070 | 1% (100-year) | 10.4 |
| N12-5 | 2070 | 1% (100-year) | 10.4 |
| M13N-6 | 2070 | 1% (100-year) | 10.4 |
| N12-6 | 2070 | 1% (100-year) | 10.4 |
| M13N-7 | 2070 | 1% (100-year) | 10.4 |
| N12-7 | 2070 | 1% (100-year) | 10.4 |
| M13N-8 | 2070 | 1% (100-year) | 10.4 |
| N12-8 | 2070 | 1% (100-year) | 10.4 |

* This data was extrapolated from the RMAT tool, values are based on MC-FRM. Data was generated on July 6, 2022. https://resilientma.mass.gov/rmat_home/.

## 4.4 Project Design to Promote Resilience

The RMAT Tool identified three primary climate change concerns for the energy sector: flooding, extreme weather events, and increased temperature. NEP considered each of these factors in designing the Project.[7]

### 4.4.1 Flooding, Storm Surges, and Sea Level Rise

With respect to flooding, NEP reviewed the RMAT Tool for climate projections including coastal vulnerability, sea level rise, and coastal flooding from the National Oceanic and Atmospheric Administration (NOAA).

Recognizing that the Project will address reliability concerns in an area that crosses the Taunton River, the Project area is mostly located outside of areas identified as vulnerable to sea level rise and coastal flooding, with the exception of structures N12-5, M13N-5, N12-6, M13N-6, and N12-7.

Structures M13N-7, M13N-8, and N12-8 are located on the east side of the Taunton River, with ground elevations of 27.7, 27.4, and 24.4 feet at the structure locations, respectively. The proposed foundations

[7] The information outputted from the RMAT Tool described in Section 4.4.1 and 4.4.2 of this SEIR was provided to the DPU in NEP's Application to Support the Petition before the Department of Public Utilities (D.P.U. 22-95) submitted August 5, 2022.

for these structures consist of concrete drilled piers with the top of the driller piers approximately 12 inches above the finished grade. Due to the existing higher ground elevations, the M13N-7, M13N-8, and N12-8 structures are not anticipated to be influenced directly by sea level rise or future storm surge plus sea level rise. By 2070, the RMAT Tool estimates that areas located at 20 feet of elevation could see wave action during a 200-year storm event. Since finished grades around the foundations at these structures are higher than this elevation (27.7 feet for M13N-7, 27.4 feet for M13N-8, and 24.4 feet for N12-8) these structures have a low vulnerability to storm surges, flooding, and sea level rise.

## Proposed Structure M13N-5 and Existing Structure N12-5

Based on the results of the RMAT Tool, the proposed structure M13N-5 and the existing structure N12-5 are rated at moderate risk to sea level rise and storm surge. Existing structure N12-5 and proposed M13N-5 monopole structure is located on the west side of the Taunton River in Somerset, behind a vertical bulkhead, both structures have an existing ground elevation of approximately 23 to 24 feet. The proposed foundation for the new structure consists of an exterior ring of micro-piles, connected to a cast-in-place concrete pile cap.

Due to the existing higher ground elevation at both structure locations and presence of the vertical bulkhead on the west side of the Taunton River, structures N12-5 and M13N-5 are not anticipated to be influenced directly by sea level rise but could be affected by future storm surge under predicted sea level rise conditions. By 2070, the RMAT Tool estimates a 200-year storm event could create wave action at elevation 20.2 feet, which is less than the proposed final grade of 22.0 feet around the pile cap of structure M13N-5. At the proposed and existing structure locations the existing ground surface is composed of a combination of asphalt and concrete on the backside of the bulkhead, this existing surface will assist in reducing impacts by wave energy under projected 2070 storm conditions.

## Proposed Structure M13N-6 and Existing Structure N12-6

Based on the results of the RMAT Tool, the proposed structure M13N-6 and existing transmission structure N12-6 are at high exposure and high risk to sea level rise and storm surge. The design criteria output is utilized to further evaluate potential impacts to sea level rise, scour, erosion, and wave and debris impact loads during a 200-year storm event in 2070 for M13N-6 and 2050 for N12-6. Existing structure N12-6 was considered for a future 2050 planning horizon due to its shorter future service life compared to proposed structure M13N-6.

Existing structure N12-6 is equipped with concrete pedestals that extend approximately 13 feet above the current ground elevation of 5.0 feet at each leg of the lattice structure. During a 200-year storm event in 2050 The RMAT Tool estimates up to 1.3 feet of the steel legs above the supporting concrete pedestals will be exposed to transient wave action.

The proposed M13N-6 structure foundation consists of two circular components of reinforced concrete, the lower part is the pile cap and the upper part is the pedestal to support the monopole structure. The circular concrete pile cap is 8.0 feet thick and 42.0 feet in diameter, connected to approximately 36 micro-piles driven into bedrock or solid material. Centered on the pile cap is the smaller round pedestal that is 5.0 feet thick and 25 feet in diameter to support the monopole Y-frame structure. The pile cap extends from elevation -3.0 to 5.0 feet with the proposed finished grading at elevation 6.0 feet. Figure 4-1 depicts the cross-sectional view of the proposed foundation for structure M13N-6.

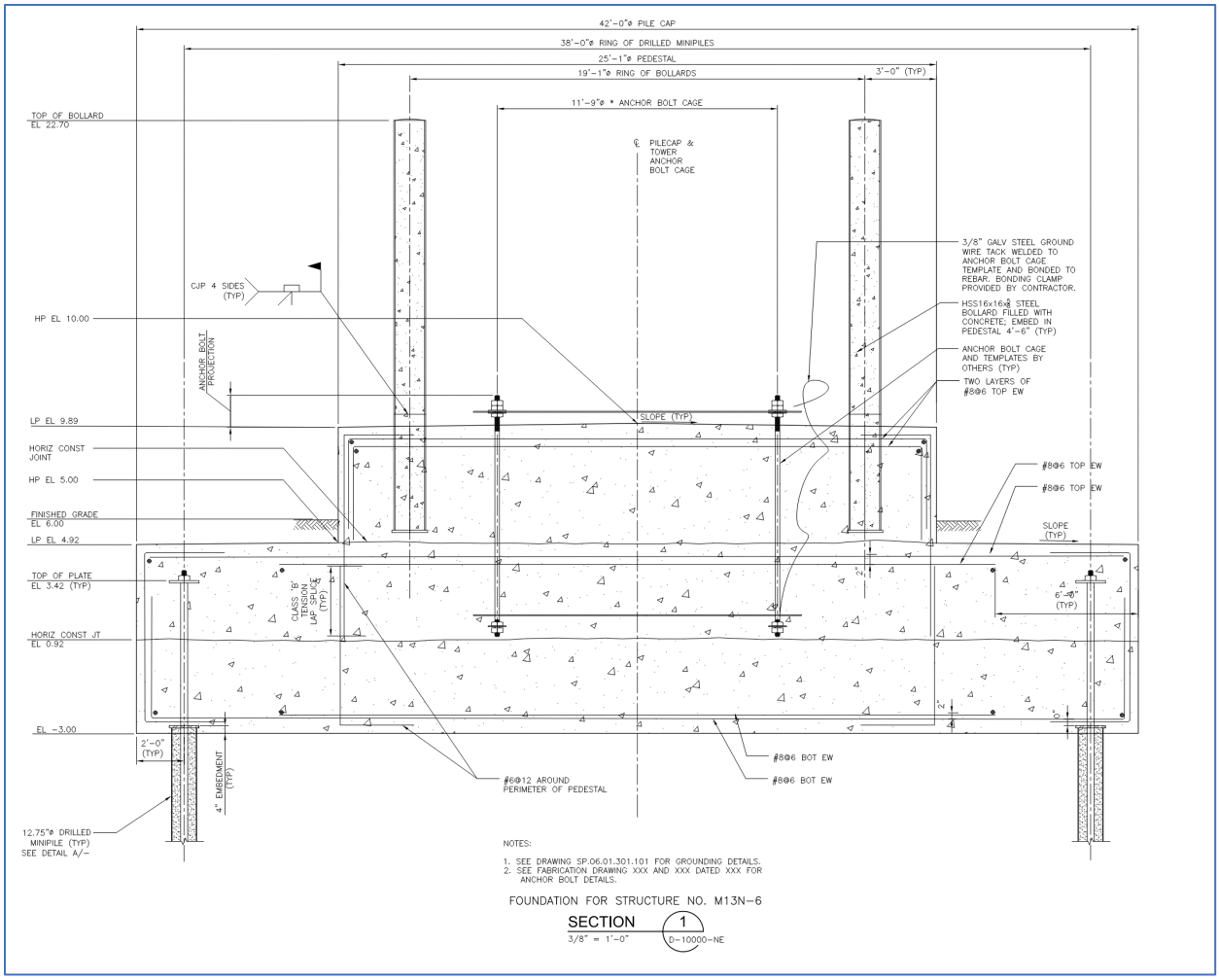


**FIGURE 4-1 PROPOSED STRUCTURE M13N-6 FOUNDATION CROSS-SECTION**

## Sea Level Rise and Storm Surge Vulnerability at M13N-6

The projected mean higher high-water and the still water and water with wave action elevations for 2050 and 2070 for the 200-year flood event were provided from the RMAT Tool and compared to the M13N-6 structure to evaluate impacts of sea level rise and storm surge. The data from Table 4-2 was utilized in the following scenarios.

- Normal daily tide cycle in 2070: The projected mean higher high-water elevation in 2070 is estimated at 6.8 feet. Compared to the proposed final grade of 6.0 feet around the pile cap it is anticipated the pile cap would be impacted by tidal water and waves multiple days each month, if not daily. The pile cap would be surrounded by up to 0.8 feet of water and influenced by waves during high tides.
- Storm surge from a 200-year storm event in 2030: In less than a decade, higher frequency storms like the 5% AEP or 20-year event are projected to produce still water levels of 11 feet and wave heights of 1.8 feet. This type of event would flood the structure foundation and pedestal in 5.0 feet of water and bring water in direct contact with the monopole.

- Storm surge from a 200-year storm event in 2050: There is the potential for an additional 7.2 feet of stillwater (elevation 17.1 feet) or 9.4 feet of water with wave action (elevation 19.3 feet) included above the top of the concrete pedestal (elevation 9.9 feet).
- Storm surge from a 200-year storm event in 2070: There is the potential for another 9.9 feet of stillwater (elevation 19.8 feet) or 12.3 feet of water with wave action (elevation 22.2 feet) included above the top of the concrete pedestal (elevation 9.9 feet).

### Wave and Debris Impact Loads on Structure M13N-6

Wave forces acting on the structure during a flood event are calculated using the FEMA Coastal Construction Manual. The wave loads are estimated at the water surface elevation where they are greatest.[8]

- Under the 2050 200-year flood event scenario the estimated breaking wave load with stillwater at elevation 17.1 resulted in 484,726 pounds (lbs) or 484.7 kips and a moment of 5,380,492 feet-lbs.
- Under the 2070 200-year flood event scenario the estimated breaking wave load with stillwater at elevation 19.8 resulted in 749,219 lbs or 749.2 kips and a moment of 10,339,222 feet-lbs.

Impact loads are dependent on the depth of water as it influences the velocity of the water, therefore the 2070 200-year flood event with a stillwater elevation of 18.9 feet was used to estimate the impact forces.

Under the 2070 scenarios, N12-6 and M13N-6 are predicted to be in direct contact with the flood waters which may cause corrosion to the structures. There is also potential risk of damage from floating and semi-submerged debris carried by projected wave action. The existing grade around M13N-6 pile cap is susceptible to scour and erosion and the exposed concrete would be subjected to the floodwaters if scour or erosion were to occur. Measures to mitigate these risks are detailed in Subsection 4.4.3 below.

### Structure N12-7

For structure N12-7, the RMAT tool projects the mean higher high water and the still water, and water with wave action elevations during a 200-year flood event with an additional 0.2 feet of still water (elevation 19.8 feet) or 0.4 feet of water with wave action (elevation 20 feet) included above the top of the drilled pier (elevation 19.6 feet) in 2050 and 2070. Under the 2070 scenario, the structure would be in direct contact with the floodwaters. The existing grade around the proposed structure would be susceptible to scour and erosion and the exposed concrete would be subjected to the floodwaters if scour/erosion occurred. Measures to mitigate these risks are discussed in Subsection 4.4.3 below.

## 4.4.2 Extreme Weather and Heat

In regard to extreme weather and heat, NEP reviewed the RMAT Tool for climate projections including predicted temperature rise from NOAA.

Recognizing that the Project will address reliability concerns in southern Massachusetts, the Project is designed to account for more frequent extreme weather events. The engineering design used structure loading criteria required by the National Electric Safety Code (NESC) and National Grid Design Loads

[8] Debris impacts were estimated using the FEMA Coastal Construction Manual. Equation 8.9 for calculating debris impact loads was used to find the point impact force from various weights of debris. The breaking wave load per length of wall was used over the diameter of the monopole estimated as 11 feet.

for Overhead Transmission Structures. The NESC load criteria require consideration of combined ice and wind district loading, extreme wind conditions, and extreme ice with concurrent wind conditions. NEP's standards also include consideration and contingency for heavy load imbalances and heavy ice conditions that could be encountered at an overhead crossing of a coastally influenced river. All of these considerations result in a design that is better equipped to withstand extreme weather. The design also incorporates materials, including steel structures and state of the art conductors, that have long life cycles and respond well to corrosive environments. The Project is also equipped to respond to increases in temperature. The RMAT Tool temperature forecasts project a minimum change in temperature of 3.5°F and a maximum change in temperature of 3.9°F in the Project area. The new 115 kV transmission line conductors are designed to operate at higher maximum operating temperatures at a higher carrying capacity and under fluctuations in air temperature, while remaining at the voltage of the existing transmission line at 115 kV.[9]

### 4.4.3 Scour and Erosion Analysis

Beyond utilization of the RMAT Tool, NEP retained services from CDM Smith to conduct a sea level rise analysis and local scour and erosion analysis for the Project. A summary of scour and wave and erosion analyses are described in the proceeding sections of this report.

#### Scour and Wave

It was projected that under the 2070 scenario the proposed M13N-6 and existing N12-6 transmission structure would be in direct contact with flood waters rising from the Taunton River, potentially causing corrosion to the structures. The existing grade around the proposed pile cap of the structure foundation is susceptible to scour and erosion and the exposed concrete relief on the foundation would be subjected to the flood waters. Proposed grading at this structure location will not have a differing effect on the flow of water across the site. Estimated scour depths at the existing Structure N12-6 is about 10.0 feet. The analysis of scour at M13N-6 was conducted assuming the foundation was constructed as proposed and then backfilled with the existing in-situ soils to the proposed finish grade of 6.0 feet. Key findings of the scour calculations found that under a 200-year storm event in 2050 there is the potential for 11.0 feet of local scour around the foundation for the proposed Structure M13N-6. Estimated scour depths at the existing Structure N12-6 is approximately 9.9 feet. Additionally, the 2070 200-year storm event scenario there is the potential for 11.4 ft of local scour around the foundation for the proposed Structure M13N-6.

Through data outputs obtained from the RMAT Tool, no other proposed structure locations are subject to direct scour and wave action under the 2070 scenario. Additionally, through construction of the Project it is not anticipated that there will be impacts to adjacent areas from increased velocities and volumes of floodwater, under both existing and future conditions.

#### Erosion

An erosion analysis was generated for the proposed structure M13N-6 foundation utilizing a Digital Shoreline Analysis System (DSAS) software created by USGS to calculate shoreline change using multiple shoreline locations over various timeframes.

[9] Projected temperature increases as outputted by the RMAT Tool were provided to the DPU in NEP's Application to Support the Petition before the Department of Public Utilities (D.P.U. 22-95) submitted August 5, 2022.

Structure M13N-6 is currently located approximately 75 feet from the mean high tide line. Utilizing an average of the erosion rates from transects the average erosion rate near the tower is anticipated to be -0.5 feet/year. At the average rate, the MHW line will begin to impact the edge of the proposed M13N-6 structure foundation by 2170, well beyond the useful life of the Project. This relates to the horizontal movement of the shoreline and not vertical movement associated with the tides. The daily tidal cycle adjusted for sea level rise will impact the pile cap by 2070, prior to the predicted erosion.

**Corrosion**

Under the 2070 design scenario, the drilled pier structure would be in direct contact with the floodwaters, which may cause corrosion.

### 4.4.4 Scour, Corrosion, and Erosion Prevention and Mitigation

From the results of the RMAT Tool and the assessment conducted by CDM Smith, specific adaptations were incorporated in the design of the Project to address vulnerabilities to climate change through sea level rise and storm surges.

As discussed, transmission structure M13N-6 is projected to be susceptible to scour and erosion in anticipated 2070 conditions. To resist the potential scour and erosion during a 200-year storm event a stone rip rap apron around the M13N-6 structure foundation is proposed.

Utilizing the results from RMAT Tool of the predicted still water elevations in 2050 and 2070 during a 200-year flood event, the following stone sizes were calculated.[10]

- Under the 2050 200-year flood event scenario the minimum stone size required to resist uplift from the current is between 6.4 to 7.7 inches in diameter.
- Under the 2070 200-year flood event scenario the minimum stone size required to resist uplift from the current is between 10.5 to 12.6 inches in diameter.

The apron will extend out from the pile cap in an approximate 20 feet radius around the perimeter of the foundation. The proposed apron will be a 30-inch layer of rip rap, 6.0 inches of bedding, and a bottom layer of geotextile fabric. The rip rap will be at least 13 inches in size to resist uplift. Below the rip rap there will be 6 inches of structural fill with a layer of geotextile fabric. At the pedestal of the structure, the rock will be ramped up on a 5:1 slope for added protection of the pedestal. The top elevation of the foundation combined with the rip rap apron will aid in reducing corrosion to structure M13N-6. Figure 4-2 depicts the proposed rip rap apron at structure M13N-6.

[10] The stone sizing to resist uplift analysis utilized the outputs from the RMAT Tool for the stillwater surface elevations to input to the United States Army Corps of Engineers Engineer Manual 1110-2-1601, *Hydraulic Design of Flood Control Channels*.

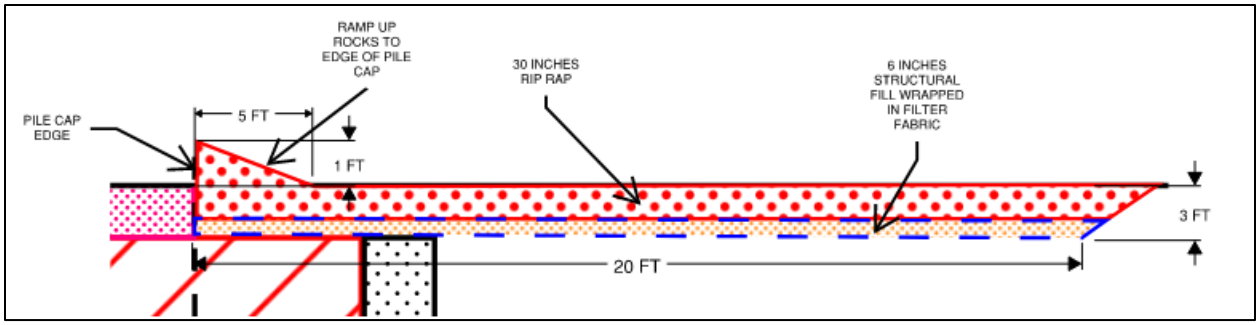


*Figure not drawn to scale

**FIGURE 4-2 RIP RAP APRON PROPOSED AT M13N-6**

The rip rap apron extending 20 feet beyond the perimeter of the foundation for proposed structure M13N-6 will help to protect against potential scour and direct exposure of the drilled pier to floodwaters, and provide additional buffer for the steel pole to reduce direct contact with salt-water and the effects of corrosion.

The rip rap apron is also proposed to combat anticipated scour and wave induced uplift of stone from both wind waves and boat waves at this location.[11] The rip rap apron is the primary means of providing erosion and scour protection for the foundation system and surrounding environment at proposed structure M13N-6. This will reduce wave impacts, erosion, and scour to the structure and to the surrounding environment of the proposed structure. Additionally, it will reduce the likelihood of the structure corroding.

The outer ring of the jet-grout columns constructed as part of ground improvement for seismic considerations at M13N-6 provides a secondary means of protection for the pile cap and micro-piles. The jet-grout columns will limit further scouring and erosion of the coastal bank, thus preventing the pile cap and micro-piles from becoming exposed. Furthermore, the pile cap has been conservatively designed without assuming any lateral support from the soils surrounding the pile cap. Therefore, the lateral capacity of the pile cap to resist shear forces will not be affected even if the soils around the pile cap are affected by erosion or scouring.

At M13N-6 the proposed rip rap apron will be found entirely within the FEMA Velocity Zone (VE) or coterminous with LSCSF, above the MHW mark, and will not extend into Coastal Bank nor Chapter 91 jurisdictional area.

At this time, no supplemental scour or erosion prevention are proposed at existing Structure N12-6 and proposed Structure N12-7. These structures will be inspected routinely by NEP post-construction to monitor for scour or erosion at the base of the transmission structures. If scour or erosion are observed to pose risk to the integrity of the structures, NEP may propose corrective actions to maintain the stability and reliability of the structures.

### 4.4.5 Structure Design Protection and Mitigation

NEP has incorporated the following design strategies to protect proposed structure M13N-6 from the effects of climate change. The proposed new structure will be located above the existing 10-year storm

[11] Wind waves were provided as output from the RMAT tool and boat waves was determined using the *Empirical Model for Ship-generated Waves* published by David Kriebel and William N. Seeling in 2005.

level and include 4.0 feet of reveal on the new structure foundation. This will create approximately 2.5 feet of buffer between the projected 2070 MHW mark and the bottom of the steel structure. The proposed structure foundation reveal will sit above the forecasted 2070 sea level in this section of the Taunton River.

### 4.4.6 Wave and Debris Impact Protection and Mitigation

The proposed 12.5 feet diameter steel monopole Y-frame structure will be centered on a 42 feet diameter concrete pile cap supported by 36 micro-piles to secure the structure's position within the limits of LSCSF. The pedestal of the concrete foundation at M13N-6 has been specially designed to incorporate 12, 5.0 to 6.0 feet tall steel bollards filled with concrete to protect the structure from the potential impact of floating debris that could potentially be released and carried during extreme flooding and wave action. The design elevation for the top of bollards is 22.7 feet, approximately 0.5 feet higher than the projected wave action water elevation of 22.2 feet at the structure location for a projected 200-year storm event for the year 2070. The bollards have been designed to withstand impact forces from a debris load of 5,000 lbs which corresponds to the weight of a floating pleasure craft typically found in the nearby marinas in the Taunton River.

Proposed structures N12-7, M13N-7, N12-8, and M13N-8 are found on the east side of the Taunton River directly to the east of the MBTA railroad. An aspect of the MBTA South Coast Rail Project included elevating the existing railroad track near NEP's ROW to approximately 4.0 to 5.0 feet above grade via sheet piling and stone. This measure may indirectly provide protection from storm surges and sea level rise to the proposed structures located east of the railroad.

## 4.5 Conclusion

Some areas of the Project located parallel to the Taunton River are susceptible to projected future flooding, projected extreme precipitation and projected extreme heat. NEP has utilized NESC design criteria to combat these impacts, to the extent feasible. NEP also integrated climate adaptation and resiliency strategies into the overall Project design, as recommended in the Municipal Vulnerability Preparedness program to include: (i) elevated structures, (ii) reinforced structure foundations, (iii) storm protection measures, (iv) minimized impacts to the existing topography/contours, and (v) site stabilization and re-establishment of natural vegetation. Additionally, NEP will be incorporating mitigation measures at proposed structure M13N-6 to ensure the Project maintains reliability through storm surges and sea level rise. Mitigation measures includes but is not limited to rip rap apron around this structure, construction of bollards, and jet-grout columns. These design elements are meant to protect the long-term viability and operability of the electric transmission assets by reducing the vulnerability to anticipated climate risks and improving resiliency for future climate conditions. The Project will be built to withstand the conditions predicted and continuously monitored during the lifetime of the Project.

NEP will monitor the integrity of the structures and transmission line constructed to ensure the assets remain viable, reliable, and operable during the lifetime of the Project. If it is determined that impacts of climate change pose a greater risk to the transmission line and associated assets, appropriate action will be taken. Should climate change have an unforeseen impact on the Project components or should new advancements in technology be introduced, NEP will take the necessary corrective actions, if needed, to maintain a robust and reliable electric network. If the integrity of the structure(s) is determined to be jeopardized by storm surges or sea level rise NEP will consider installing additional shoreline protection measures potentially including rip rap, sheet piles or shoring. These actions would be considered under a separate project only if action is necessary to avoid excessive impacts to coastal wetland resource areas and the transmission structures.

# 5.0 WETLANDS AND STORMWATER MANAGEMENT

## 5.1 Overview of Existing Conditions

Within the Town of Somerset and the City of Fall River, the Project traverses watercourses and wetlands that are designated as Class B water resources that serve as habitat for fish and other aquatic life and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. The Taunton River is also classified as an area of Land Containing Shellfish since American oysters, quahogs, and soft-shell clams have been mapped within coastal areas of the Taunton River. However, the shellfish area has been classified as restricted.

Five wetlands and five watercourses were identified in the Project ROW (refer to Appendix B). There are a variety of wetland habitats in the ROW that include both coastal and freshwater wetlands. The predominant freshwater wetland habitat is scrub-shrub wetland (PSS) within the existing transmission line ROW and deciduous wetland forest (PFO) adjacent to the ROW. The watercourses identified traversing the ROW include the tidal Taunton River (SM10), two perennial streams (SM9 and SM9A-Steep Brook), one intermittent stream (SM8), and one ephemeral stream (SM9B) that is a tributary to Steep Brook (SM9A).

Based on a review of Massachusetts Geographic Information System (MassGIS) Natural Heritage and Endangered Species Program (NHESP) vernal pool data layers, no Certified Vernal Pools (CVPs) or Potential Vernal Pools (PVPs) are located within the Project Route, and no CVPs were identified within the ROW. There are no inventoried public water supplies, well head protection areas, or tributaries to Outstanding Resource Waters (ORWs) located within the Project study area or within the Project ROW. No impacts to ORW or public water supplies are anticipated to result from this Project.

## 5.2 Wetland and Watercourse Impacts

The Project as proposed will have minimal and largely temporary impacts to wetlands and watercourses. These impacts include:

- Approximately 2.6 acres of temporary impact and approximately 1.0 acre of permanent impact to Land Subject to Coastal Storm Flowage for the purposes of creating access to and erecting the proposed 300-foot-tall river crossing structure along the east bank of the Taunton River.
- Approximately 0.25 acre of permanent impact to coastal bank, which is not a significant sediment source, to establish access to the proposed river crossing structure in Fall River.
- Approximately 2.7 acres of temporary impact (i.e., temporary placement of construction mats) and approximately 400 square feet of permanent impact to bordering vegetated wetlands resulting from the temporary installation of construction mats and installation of new structure foundations, respectively.

Throughout Project planning and design, wetland impacts have been minimized to the greatest extent practicable by utilizing the existing transmission line corridors and access roads. However, given the scale and landscape setting of the Project, certain wetland impacts cannot be avoided. Construction will result in temporary, permanent, and secondary impacts to wetland resources and watercourses.

Temporary anticipated impacts include the temporary placement of construction mats. Permanent anticipated resource impacts include grading and earthwork for access and work pads, and the construction of structure foundations. Secondary impacts to water resources involve the conversion of

forested wetland habitat to scrub-shrub or emergent wetland habitat, whereby the cover type changes but results in a no net-loss of wetlands. These impacts are further described in Table 5-1.

**TABLE 5-1 PROJECT SUMMARY OF ANTICIPATED RESOURCE AREA IMPACTS**

| RESOURCE AREA | TEMPORARY IMPACTS | PERMANENT IMPACTS |
|---|---|---|
| **Coastal Wetland Resource Areas** | | |
| Land Subject to Coastal Storm Flowage (LSCSF) | • Approximately 115,171 square feet (sf) (2.6 acres)<br>• Temporary grading/earthwork/construction matting where level area is necessary to create a safe and effective work pad for equipment and crews. | • Approximately 43,098 (0.99 acre)<br>• Structure foundations where LSCSF could not be avoided.<br>• Permanent access road and associated grading where LSCSF could not be avoided.<br>• Permanent gravel work pad for future inspection, operations and maintenance of electric facilities where LSCSF could not be avoided. |
| Coastal Bank (CB) | • Approximately 4,142 sf<br>• Temporary grading/earthwork where level area is necessary to create a safe and effective work pad for equipment and crews. | • Approximately 10,426 sf (0.24 acres)<br>• Re-construction and realignment of permanent access road where CB could not be avoided (4,154 sf).<br>• Permanent gravel work pad for future inspection, operations and maintenance of electric facilities where CB could not be avoided. (6,272 sf) |
| **Inland Wetland Resource Areas** | | |
| Bordering Vegetated Wetland (BVW) | • Approximately 120,996 sf (2.7 acres)<br>• Temporary placement of construction mats for access routes where BVW crossings could not be avoided.<br>• Construction mats where work pads for construction and pull pads overlap with BVW. | • Approximately 388 sf permanent impact resulting from transmission line structure foundations where BVW could not be avoided within the existing ROW |
| Inland Bank (IB) | • Approximately 208 linear feet (lf)<br>• Approximately 208 lf of construction mats for an access route over the banks (IB) of the perennial Steep Brook (SM9A) and the associated ephemeral tributary (SM9B) of Steep Brook. | • Approximately 47 lf secondary<br>• Conversion of forested wetland to scrub shrub wetland due to the removal of tree canopy over the banks (IB) of SM9. |
| Riverfront Area (RFA) | • Approximately 75,037 sf (1.7 acres)<br>• Approximately 1,951 sf of these impacts are accounted for as BVW secondary impacts above and 16,099 sf of these impacts are accounted for as LSCSF temporary impacts above.<br>• Construction mats for access routes where RFA crossings could not be avoided.<br>• Construction work pads and pull pads on paved surfaces where activities within RFA could not be avoided (Somerset). | • Approximately 1,018 sf permanent impact resulting from transmission line structure foundations where RFA could not be avoided in Somerset. |

Temporary impacts are anticipated within wetlands and watercourses for the temporary placement of construction mats used for equipment access and staging during construction. Construction mats will be used in areas where access is required and where access is required for such activities as tree clearing, vegetation removal, and for structure installation and overhead wire pulling. After work has been

completed, the mats will be removed and the temporarily impacted areas will be restored and restored to their pre-existing conditions, to the extent practicable, and allowed to revegetate and/or supplemental seeding with an approved native wetland seed mixture will be applied, refer to EG-303NE submitted with the EENF for National Grid's guidance on approved seed mixtures.

### 5.2.1 Impacts to Coastal Wetland Resource Areas

Installation of transmission structure M13N-6 (located on the Fall River side of the Taunton River) will result in permanent fill in LSCSF associated with the Taunton River in Fall River. The upper tier of the foundation will include perimeter bollards to prevent damage to the structure should a future coastal storm result in significant wave action and running water carrying floating debris within the velocity zone. Details on this structure are provided in Section 4.5.

NEP is proposing to construct a permanent work pad on NEP-fee owned property within LSCSF and Coastal Bank to maintain access to and workspace around the structure. The work pad is necessary to accommodate construction and future inspection, operations and maintenance of structures N12-6 and M13N-6. The work pad will be constructed with gravel and trap rock underlain by geotextile fabric.

Construction mats will also be temporarily placed in LSCSF and Coastal Bank to allow for construction equipment and crews to safely construct structure M13N-6. NEP will anchor temporary construction matting within LSCSF and Coastal Bank at the time of construction. The temporary removal and replacement of construction mats will be determined based on considerations of the field conditions, weather conditions, forecasted water levels, coastal storm events, crew safety and the size of the matting footprint.

NEP is proposing the construction of a new access road within its existing, undeveloped easement within LSCSF and Coastal Bank to the Taunton River. The new access road is required to perform installation of structure M13N-6 and for future maintenance of the transmission line facilities. NEP's facilities in this area are currently landlocked by private property and the MBTA rail tracks and South Coast rail yard in Fall River. Permanent grading/earthwork will be necessary to accommodate the improved access route to existing structure N12-6 and proposed structure M13N-6, the river crossing structures located on the Fall River side of the Taunton River. The permanent access road will be constructed with gravel and trap rock underlain by geotextile fabric. The width of the travelled way on the proposed new access road will be approximately 14 feet to accommodate large construction vehicles and equipment such as cranes, material deliveries, including poles, concrete, and wire reels.

The design of the access route to structure N12-6 and M13N-6 takes advantage of the collocation opportunity within the existing electric transmission line corridor and existing easement. The re-construction and realignment of the permanent access route to structure N12-6 and M13N-6 takes into consideration historic access and existing topography of the area; therefore, the area will still act as a vertical coastal bank, protecting the upslope area from flooding and storm surges. The impact from the access road reconstruction is expected to result in a minimum effect on LSCSF and Coastal Bank and mitigation efforts at the structure location will be implemented to reduce scour and erosion to the west of the Coastal Bank. Other than the footprint of one structure foundation, no new impervious surfaces are proposed within Coastal Bank, therefore, this Coastal Bank would be able to continue to protect upslope areas from storm surges and flooding.

Salt marsh habitat located on the Fall River side of the Taunton River may be traversed by foot traffic only to facilitate pulling the lead line for wire pulling to install the overhead conductors and wires. Beyond foot traffic no activities are proposed to occur nor materials or equipment will be placed within this resource area, therefore this impact is *de minimus* and considered negligible.

### 5.2.2 Impacts to Inland Wetland Resource Areas

Existing access roads within the transmission line ROW will be improved to allow for safe construction vehicle access. Access roads were designed to avoid BVWs, where feasible. Where access routes traverse wetland resource areas, construction matting will be temporarily installed. The disturbance area for the temporary matting has been conservatively estimated to be 20 feet wide, with the actual mat travel surface having an approximate 16-foot width. One BVW (M8) will be temporarily impacted for construction access. This wetland is located between the State Route 24 crossing and the Sykes Road Substation in Fall River. Additionally, construction mats will be used to construct a temporary air-bridge over IB associated with Steep Brook (SM9A) and its associated ephemeral tributary (SM9B). All mats will be removed after construction and impacted areas will be restored and stabilized.

Construction mats will be used to create temporary work areas to safely accommodate equipment and crews during work activities including structure replacement and wire pulling. Construction mats typically consist of timber members that are bolted together. The temporary use of these wooden mats is a best management practice to alleviate the loading of heavy equipment while working on wet or soft soils. Work pad dimensions vary by structure type and location. Proposed monopole and H-frame structure work pads will generally have a footprint of 100 feet by 100 feet. Pull pad areas, used for wire installation, generally have a footprint of 150 feet by 50 feet. The actual area required will be determined by site-specific grade, topography, the type of equipment required, and site-specific activities. Nonetheless, the dimensions and layout of a given pull pad within resource areas will not exceed the dimensions stated here. All mats will be removed after construction and impacted areas will be restored and stabilized.

Proposed structures have been sited outside of wetlands and other sensitive areas to the maximum extent practicable. However, unavoidable permanent fill in BVW M8 will be required for the installation of four new structures. New structures that are to be installed within these wetlands will replace existing transmission structures, and the existing structures will be removed from the wetlands. Depending on the structure type, the pole diameter can range from 5.5 feet per pole (for a direct embedment H-frame structure) to 10 feet (for a monopole with concrete caisson foundation) with a total of 48- to 150-square-foot impact area.

The majority of the existing N12 and M13 transmission ROW has been cleared of trees and maintained in accordance with FERC and industry standards. However, selective tree removal within BVW M8 and BVW M9 in Fall River will be required to facilitate safe construction and to meet horizontal and clearance requirements to the overhead lines and wires. Tree removal will result in the conversion of some forested wetlands to either scrub-shrub or emergent BVW in these locations. Once the trees are removed, these areas will be maintained as scrub-shrub or emergent wetlands. A section of tree canopy over the banks of perennial stream (SM9) will be removed. Tree pruning and selective removal of danger and hazards trees may be performed, as necessary, as well as mowing of low-growth vegetation within the ROW.

## 5.3 Wetland Impact Minimization and Best Management Practices

Throughout the planning and design process for the Project, wetland impacts have been avoided and minimized to the greatest extent practicable by proposing to reconfigure the transmission line assets within the existing ROW, utilizing existing access routes, minimizing the placement structures and access roads in wetlands and watercourses, and minimizing the footprint of the Project. However, given the scale and landscape setting of the Project, certain wetland and watercourse resource impacts associated with the development of the Project cannot be avoided.

BMPs, as detailed in National Grid's Environmental Guidance document EG-303NE, will be employed to minimize disturbances to wetlands during construction of the Project. The boundaries of the wetlands and watercourses along the ROW will be clearly demarcated by a qualified wetland scientist prior to the commencement of work. Boundaries of other sensitive environmental resources will also be flagged, or fenced-off, as necessary. Prior to site preparation on the ROW, the limit of disturbance will be surveyed and staked in the field.

NEP will comply with all applicable wetland regulatory permit requirements and conditions, as well as the associated Project plans and specifications submitted in support of these permit applications. EG-303NE describes typical BMPs for construction.

**Structures –** The Project is constrained by the limits of the existing easements and ROW. Relocating the transmission lines and structures outside of the existing ROW, reconfiguring the lines to underground or developing a new "greenfield" ROW were deemed less favorable by NEP, as detailed in Section 2.0. The Project maximizes the use of existing transmission line ROW, and the Project's design reflects NEP's commitment to minimizing impacts to the environment. Within the Project ROW, NEP has conducted detailed environmental field studies such as wetland and watercourse delineations to identify resource areas. In addition, constructability reviews of proposed Project activities were conducted in an effort to further minimize impacts to resource areas. Whenever feasible, and in accordance with engineering and safety requirements, structure foundations were moved to avoid or minimize impacts to resource areas.

Due to constraints posed by adjacent land uses or by transmission line design requirements, four new structures are proposed in wetland resource areas. Where permanent impacts are unavoidable, these impacts were minimized to the extent practicable based upon extensive field constructability reviews and careful attention to design. The following list describes the measures to be taken to minimize further wetland impacts:

- Temporary soil erosion and sedimentation controls will be installed around structure work sites in or near wetlands to minimize the potential for soil erosion and sedimentation.
- All soil erosion and sediment controls and other applicable construction BMPs will be inspected and maintained on a routine basis.
- Grading in wetlands will be limited for structure foundations.
- Excess soil will be spread in upland locations or removed from the site for proper disposal.

**Access Roads and Wire Pull Access** – Existing access roads will be used to the extent practicable during the construction phase of the Project to minimize access through wetlands. Existing access roads may be graded or improved as needed to allow for access to the ROW. Temporary construction matting for access roads across wetlands will be installed to provide safe passage through the wetlands. The type of stabilization measures to be used in wetlands will depend on soil saturation and depth of organic matter. All temporary access roads through wetlands will be restored following the completion of installation activities by removing the construction mats, re-grading the area to pre-construction elevations to the extent practicable and allowing the wetlands to re-vegetate.

When pulling or stringing new overhead conductors from transmission structure to transmission structure, a lead line or rope is maneuvered between the spans. Temporary assemblies and pullies are attached to the structures and the conductors are strung onto the structures and tensioned atop the structures. NEP and its contractor will require workspace for the wire pulling operation. Ideally, an area that extends to a 3:1 ratio beyond the structure is needed to attain the proper angle and length of transmission line to perform the wire pulling.

For stringing of the conductor across the Taunton River for the new M13 Line, NEP is carrying some options to complete this task. These options include aerial installation via a helicopter or use of a boat to gain access across the Taunton River. Should either of these crossing methods be used, the appropriate notifications to organizations would be made by NEP including, but not limited to, the Federal Aviation Administration (FAA), U.S. Coast Guard, and Somerset and Fall River Harbormasters. The final decision regarding helicopter use for any Project activity will be made based on site logistics, weather/wind conditions and safety considerations during the construction phase, when more detailed information is known, and in consultation with the selected contractor.

With respect to BVW, the temporary placement of construction mats is proposed within the NEP ROW between Route 24 and the Sykes Road Substation. The M13 Line will be constructed then the N12 Line will be built. Within this section of the NEP ROW, construction matting will remain in place for at least a period of six months, with the possibility of the mats remaining in-place for up to 12 months. Mats will be placed during the first phase of the Project and will be removed when all activities in a given area are completed. Well-established BMPs that have been approved by MassDEP and other environmental regulators will be employed to minimize and mitigate any impacts. A full-time environmental compliance monitor will be on-site during use of low ground pressure (LGP) equipment and during the temporary placement of construction mats. Once the construction mats are removed, any visible rutting would be lightly graded, and any exposed soils would be covered with straw mulch. A wetland scientist will make the determination if any corrective actions are needed within BVWs.

**Construction Areas** – The size, shape, location, and configuration of work pads were evaluated to minimize impacts to wetlands and watercourses to the extent practicable. Construction work zones are limited by the boundaries of the existing transmission line ROW and dense development surrounding the ROW. Where wetland impacts could not be avoided, temporary swamp matting for work pads will be placed on the existing wetland vegetation. Temporary swamp matting and other possible construction area materials will be removed upon completion of the Project. Wetlands will be restored to pre-construction configuration and elevations to the extent practicable and allowed to re-vegetate. If necessary, vegetation will also be restored within the wetland through native seeding.

Structure M13N-6 is found within the buffer zone of a vertical coastal bank. Activities in this area will be minimal to not exacerbate erosion or destabilize the bank. To provide stability to the bank, the work pad will be constructed with trap rock underlain by geotextile fabric. NEP will also anchor temporary construction matting within LSCSF and coastal bank at the time of construction.

The work area for M13N-6 is also within LSCSF. Soil augmentation will be implemented around the base of the structure to ensure stability and protect the upgradient areas from coastal flooding. Soil augmentation and proposed site grading is not expected to impact to the way in which flood water moves across the site. More details on this are provided in Section 4.4.3.

**Surface Water and Groundwater Resources** – NEP will require its contractor to adhere to EG-303NE regarding the storage and handling of oil and potentially hazardous materials and spill prevention and response during construction of the Project. Equipment refueling and oil and hazardous material storage will not be permitted within 100 feet of any wetland or waterbody, with the exception of equipment that cannot be feasibly moved from its working location (e.g., drilling equipment, dewatering pumps). Secondary containment devices will be used at these refueling locations. Contractor staging areas and contractor yards typically will be located at existing developed areas (parking lots, existing yards), where the storage of construction materials and equipment, including fuels and lubricants, would not conflict with the protection of water or wetland resources.

Dewatering will be necessary during excavations for structures adjacent to or within wetland areas. Dewatering discharge water will be pumped into settling basins which will be located in approved areas outside wetland resource areas. Other dewatering options would include pumping into a temporary frac tank or pumped into a container truck. The pump intake hose will be suspended above the bottom of the excavation throughout dewatering. The basin and all accumulated sediment will be removed following dewatering operations and the area will be seeded and mulched. Additionally, excess drilling muds from drill foundations will be properly contained until they can be transported to an approved disposal location or spread into an approved upland area.

**Soil Erosion and Sediment Control and Storm Water Pollution Prevention** – Soil erosion and sediment control devices will be installed along the perimeter of the identified wetland resource areas prior to the onset of soil disturbing activities to ensure that excess soil piles are confined and do not result in downslope sedimentation of sensitive areas. Soil erosion controls will be inspected on a regular basis and maintained or replaced as necessary.

The soil erosion and sediment control measures selected will be appropriate to minimize the potential for soil erosion and sedimentation in areas where soils are impacted. NEP will adhere to EG-303NE and will prepare a project-specific Stormwater Pollution Prevention Plan (SWPPP), in compliance with the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers, and Municipal Officials (MassDEP 2003). Typically, temporary soil erosion controls will be installed based on the specifications in the SWPPP.

NEP will prepare and submit a SWPPP for the Project in compliance with the United States Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Program under the 2022 Construction General Permit. Components of the SWPPP include: a construction contact list, a description of the proposed work, storm water controls identified, spill prevention, and inspection practices for the management of construction-related storm water discharges from the Project.

**Environmental Field Issue Document** – Per NEP policy, an Environmental Field Issue (EFI) document is developed for all complex construction and maintenance projects. An EFI serves as an environmental compliance document throughout the construction-phase of the Project. At a minimum, the EFI will include the location of sensitive areas to be avoided, a summary of all permit requirements, detailed erosion and sediment control plans, and training requirements/documentation. All contractors and environmental monitors will be required to participate in EFI training before beginning work on site. Regular construction progress meetings will provide the opportunity to reinforce the contractor's awareness of these matters.

**Wetland Invasive Species Control Plan** - NEP will implement a WISCP to minimize the spread and/or introduction of invasive species in wetlands in the Project Area during construction. This WISCP is applied to the use and transport of construction mats used on the ROW. Invasive plants are species that are not native or indigenous to a region and can thrive in areas beyond their natural dispersal range, often out-competing native plants for space, nutrients, sunlight, and water. The WISCP identifies the invasive wetland plant species that are of concern in the Project Area. The WISCP was filed with the EENF, and is again summarized below.

The overall objective of the WISCP is to define the procedures to be used during Project construction to preserve the functions and values of wetlands and to minimize the further spread of invasive plants within wetlands that already contain them. The specific objectives of this plan are as follows:

- List the invasive plant species known to occur in the wetlands in the Project Area that were identified based on the wetland delineations of the Project ROW.

- Identify as a baseline the wetlands in the Project Area in which such invasive species presently exist.
- Describe NEP's existing vegetation management programs, discuss how these existing programs contribute to minimizing the proliferation of invasive species within the Project Area, and explain the constraints to long-term invasive species management along portions of the Project.
- Summarize the procedures that NEP proposes to implement to minimize the potential for the spread of wetland invasive species during the construction of the Project.

**Supervision and Monitoring** - Throughout the construction process, NEP will retain the services of an environmental monitor. The primary responsibility of the monitor will be to observe construction activities including the installation and maintenance of soil erosion and sediment controls on a routine basis to ensure compliance with all federal, state, and local permit commitments. The environmental monitor will be a trained environmental scientist responsible for supervising construction activities relative to environmental issues. The environmental monitor will be experienced in soil erosion control techniques and will have an understanding of wetland resources to be protected.

During periods of prolonged precipitation, the monitor will inspect all locations to confirm that the environmental controls are functioning properly. In addition to retaining the services of an environmental monitor, NEP will require the contractor to designate an individual to be responsible for the daily inspection and upkeep of environmental controls. This person will also be responsible for providing direction to the other members of the construction crew regarding matters of wetland access and appropriate work methods. Additionally, all construction personnel will be briefed on Project environmental compliance issues and obligations prior to the start of construction. Regular construction progress/environmental training meetings will provide the opportunity to reinforce the contractor's awareness of these environmental requirements and commitments.

## 5.4 Compensatory Wetland Mitigation Plan

Wetland mitigation is being proposed and developed by NEP to address unavoidable loss of wetland by placement of permanent fill essential to the installation of select transmission line structures in BVW habitat. The net area of permanent fill in wetlands for this Project is approximately 400 square feet of BVW which is located entirely within the City of Fall River.

NEP currently favors on-site 1:1 wetland replication to mitigate for wetland loss. The compensation area, location yet to be determined, will most likely be located within the Project ROW in close proximity to where permanent wetland impact related to the Project must occur. Examples of potential wetland replication locations include areas close to Wetland M8, which is found to the west of Sykes Road Substation, or a location adjacent Wetland M9A located off Ashley Street (refer to Appendix B for the location of these wetlands). The compensation area will be selected based on its ability to address the attributes of the BVW General Performance Standards which require:

- Replacement area be equal to lost area.
- Similar ground water and surface water elevations in replacement and lost areas.
- Similar configurations between replacement and lost areas.
- Replacement area has unrestricted hydraulic connection to same waterbody/waterway as lost area.
- Replacement area shall be located in the same general area as the lost area.

- Greater than 75% of replacement area is established with indigenous wetland species within two growing seasons.

A wetland mitigation plan with be filed as an integral component of the Notice of Intent to be submitted to the City of Fall River Conservation Commission, as well as the Pre-Construction Notification to be submitted to the USACE. This mitigation plan will be designed to address the USACE and MassDEP requirements and performance standards. Specifically, the comprehensive wetland mitigation plan will address the:

- Wetlands Protection Act BVW Performance Standards (310 CMR 10.55(b) 1-7).
- Massachusetts Inland Wetland Replication Guidelines (Guidance No. BRP/DWM/WetG02-2).
- NED Compensatory Mitigation Guidance (September 7, 2016) established by the USACE.

To offset environmental impacts associated with the installation of transmission line structures, the compensation area (in collaborative consultation with local, state, and federal resource agencies and other stakeholders) will be provided, as a component of the appropriate wetland application packages to the United States Army Corps of Engineers (USACE), MassDEP, and Fall River and Somerset Conservation Commissions.[12]

## 5.5 Stormwater Management and Best Management Practices

The access roads to be constructed by NEP within the existing transmission line ROW will be constructed of a gravel surfaces, no paved surfaces are proposed. The design and construction of the access roads will incorporate storm water management features, such as grass-lined or stone swales, water bars and catchment areas to protect downgradient wetland resource areas. A soil erosion and sediment control plan will also be implemented during construction to control offsite discharge of stormwater and sedimentation. Construction-phase stormwater management features, such as water bars, swales, level spreaders, etc., will be designed and constructed to manage stormwater during construction.

Throughout construction on the Project, NEP and their contractors will follow the policies and procedures as outlined in National Grid's EG-303NE to identify, avoid, minimize and mitigate environmental impacts.

### 5.5.1 Best Management Practices

The boundaries of the wetlands and watercourses along the ROW will be clearly demarcated by a qualified wetland scientist prior to the commencement of work. In addition, boundaries of other sensitive environmental resources such as historical and archaeological resources sites will also be flagged, or fenced-off, as necessary. NEP will implement a WISCP during the construction of the new Project to minimize the spread of invasive plant species in wetland resource areas. This document was submitted with the EENF filing for this Project.

NEP will comply with all applicable wetland regulatory permit requirements and conditions, as well as the associated Project plans and specifications submitted in support of these permit applications.

[12] NEP will coordinate with the Somerset Conservation Commission, although no impacts to wetland resource areas are proposed within the Town of Somerset.

Typical BMPs during construction include:

- Installation of sediment control barriers in all work areas adjacent to wetlands which will be routinely inspected to insure they are functioning properly.
- Grading in wetlands will be limited.
- Upon removal of construction mats, wetlands will be allowed to revegetate naturally or will be seeded as needed.
- Equipment refueling and oil and hazardous material storage will not be permitted within 100 feet of any wetland or waterbody, with the exception of equipment that cannot be feasibly moved from its working location (e.g., drilling equipment, dewatering pumps). Secondary containment will be used at these refueling locations.
- Contractor staging areas and contractor yards typically will be located at existing developed areas (parking lots, existing yards).
- Dewatering discharge water will be pumped into an approved basin or filter bag which will be located in approved areas outside of biological wetland resource areas.
- Excavated soil which will not be reused on site will be properly contained until it can be transported to an approved disposal location or spread into an approved upland area.
- Along the ROW, woody species with a mature height greater than 10 feet will be removed. Low growing tree species, shrubs, and grasses will only be removed/mowed along access roads and at work pad locations.
- An EFI will be developed for the project. At a minimum, the EFI will include the location of sensitive areas to be avoided, a summary of all permit requirements, detailed erosion and sediment control plans, and training requirements/documentation. All contractors and environmental monitors will be required to participate in EFI training before beginning work on site. Regular construction progress meetings will provide the opportunity to reinforce the contractor's awareness of these environmental requirements.
- Throughout the construction process, NEP will retain the services of an environmental monitor. The primary responsibility of the monitor will be to oversee construction activities including the installation and maintenance of soil erosion and sediment controls on a routine basis to monitor and report compliance with all federal, state, and local permit commitments.

# 6.0 TRAFFIC AND TRANSPORTATION

## 6.1 Traffic Management

All traffic management of road crossings outside of the state's jurisdiction (local and county) roads will be completed by the construction contractor based on their construction means and methods in coordination with the Town of Somerset and the City of Fall River. NEP will coordinate with the Town of Somerset Police Department should traffic details be required on Riverside Avenue to accommodate materials delivery to Structures N12-5 and M13N-5 located on the Somerset side of the Taunton River. Two highway systems are located in the Fall River section of the Project ROW including State Route 79 and State Route 24. Both Routes generally run north to south within the central and eastern portions of the Project ROW.

Construction of the Project will not result in a significant increase in traffic or material impacts to existing traffic patterns. During construction, the main disruptions to traffic may occur when stringing transmission conductors over public road crossings. At the ROW access locations, construction equipment and personnel will enter and exit the ROW from public roads, which may cause some localized and temporary slowdowns in traffic. Since construction will occur sequentially with a series of tasks at different times and locations in the ROW, traffic at these entry roadways will be intermittent. Generally, larger construction equipment will enter the ROW to work in a specific area. Smaller vehicles such as pickup trucks carrying construction workers will access the ROW daily.

Additional impacts, including lane closures or temporary traffic stops, are anticipated when the new transmission lines need to be strung over public roadways. At such times, trucks may be set up in travel lanes, shoulders, or medians to serve as temporary guard structures to support the lines as they are attached to the newly installed structures. Traffic will be stopped for a short period of time to allow a rope to be manually pulled across the roadway. Conductors will then be attached to this rope and pulled above the roadway onto the temporary guard structures; traffic typically will be able to flow while the conductors are attached to the structures. Line/wire stringing will be required across five roadway crossings and one railroad crossing, as listed in Table 6-1. Permits from the MBTA and MassDOT will be required for crossing of the rail line and state highways, respectively. Traffic management plans and traffic control plans will be prepared by NEP to facilitate construction on and over public streets.

**TABLE 6-1 PUBLIC ROADWAY/RAILROAD CROSSINGS**

| ROADWAY/ RAILROAD | MUNICIPALITY | STATE OR LOCAL JURISDICTION |
|---|---|---|
| SouthCoast Rail | Fall River | State (MBTA) |
| North Main Street | Fall River | Local |
| State Route 79 | Fall River | State (MassDOT) |
| Highland Avenue | Fall River | Local |
| Wilson Road | Fall River | Bridge – State (MassDOT)<br>Roadway - Local |
| State Route 24 | Fall River | State (MBTA) |

### 6.1.1 Massachusetts Department of Transportation

The work over State Route 79 and State Route 24 will require a MassDOT access permit to work within the state highway roadways for crossing state highways with utility lines. NEP and its contractors will coordinate closely with MassDOT to develop acceptable traffic management plans for work within the state highway layout. The Project could temporarily affect traffic flow of the roadway but does not involve physical modifications to the roadway. “Rolling stops” along State Routes 79 and 24 may be required when installing the overhead wires over the highways. NEP will coordinate with the Fall River Police Department and the Massachusetts State Police to implement traffic management along the state highways. Traffic management plans will be developed and submitted to MassDOT for review and approval prior to the start of construction. Refer to Appendix D for a Draft Traffic Management Plan. NEP will comply with all required measures to ensure a safe environment for traffic flow and construction crews in and around the roadways and rail.

NEP will also coordinate with local authorities in the City of Fall River and Town of Somerset (as necessary) for work on local streets and roads. To the extent required, NEP will apply for new or amended Grants of Location for wire crossings across the municipally owned roads. At locations where construction equipment must be staged in a public way, the contractors will follow a pre-approved work zone traffic control plan with appropriate police details.

The Project will not have any permanent impacts on traffic or traffic patterns. Post-construction traffic impacts will be limited to those associated with occasional ROW and transmission line maintenance activities. Construction traffic impacts related to the Sykes Road Substation improvements are not expected to disrupt existing traffic patterns or significantly increase existing traffic levels on any public roadways. Traffic associated with the substation work will include intermittent material deliveries and the arrival and departure of construction personnel. The schedule for planned work and deliveries to the substation will be coordinated with the Fall River Industrial Park located on Sykes Road and potentially affected business owners in Fall River.

In advance of implementing traffic controls, NEP will communicate to Project abutters and residents of what they can expect for impacts to traffic. Advanced notification will be sent to Project abutters via mailings and provided on the Project website in English, European Portuguese, Spanish, and Cape Verdean.

### 6.1.2 Typical Construction Equipment

Typical construction equipment that will be used for the Project are identified in Table 6-2 by construction phase.

**TABLE 6-2 TYPICAL CONSTRUCTION EQUIPMENT**

| CONSTRUCTION PHASE | TYPICAL EQUIPMENT REQUIRED | |
|---|---|---|
| **Vegetation Removal and ROW Mowing** | • Grapple trucks<br>• Track-mounted mowers<br>• Chippers<br>• Log forwarders<br>• Brush hogs, skidders<br>• Bucket trucks | • Motorized tree shears<br>• Chain saws<br>• Box trailers<br>• Low-bed trailers, flatbed trucks<br>• Bulldozers, excavators<br>• Pickup trucks |
| **Soil Erosion/Sediment Controls** | • Stake body trucks<br>• Pickup and other small trucks | • Small excavators<br>• Trencher |
| **Access Roads Improvement and Maintenance** | • Dump trucks<br>• Bulldozers<br>• Excavators<br>• Backhoes<br>• Front end loaders<br>• Graders | • 10-wheel trucks with grapples<br>• Cranes<br>• Pick-up trucks<br>• Low-bed trailers<br>• Stake body trucks |

| CONSTRUCTION PHASE | TYPICAL EQUIPMENT REQUIRED | |
|---|---|---|
| **Removal and Disposal of Existing Components** | • Cranes<br>• Flatbed trucks<br>• Pullers with take-up reels<br>• Excavators<br>• Vacuum trucks | • Backhoes<br>• Bucket trucks<br>• Trucks with welding equipment<br>• Dump truck<br>• Storage containers |
| **Installation of Structures and Foundations** | • Backhoes<br>• Bulldozers<br>• Front-end loaders<br>• ATVs<br>• Tracked carriers or skidders<br>• Concrete trucks<br>• Excavators<br>• Rock drills mounted on excavators or tracked equipment<br>• Cranes | • Cluster drills with truck mounted compressors<br>• Aerial lift equipment<br>• Tractor trailers<br>• Bucket trucks<br>• Large-bore foundation drill rigs<br>• Hand-held equipment such as shovels, pumps, and vibratory tampers<br>• Dump trucks<br>• Generators, air compressors |
| **Conductor and Shield Wire Installation and Bussing and Insulator Assembly** | • Bucket trucks<br>• Puller-tensioners<br>• Conductor reel stands | • Cranes<br>• Flatbed trucks<br>• Pickup trucks<br>• Tracked carriers or skidders |
| **Restoration** | • Pickup and other small trucks<br>• Excavators<br>• Backhoes<br>• Bulldozers | • Dump trucks<br>• Tractor-mounted York rakes<br>• Straw blowers<br>• Hydro-seeders |

### 6.1.3 Construction Work Hours

NEP will coordinate with local authorities on approved work hours in advance of construction; however, construction will generally take place Monday through Saturday during daylight hours (7:00 a.m. to 5:00 p.m.). Certain work activities, including work requiring scheduled transmission line outages, may need to be performed on a limited basis outside of normal working hours, including night shifts, Sundays, and holidays. Some activities such as concrete pours and transmission line stringing, once started, must be continued through to completion, and may go beyond normal work hours. In addition, the nature of transmission line construction requires line outages for certain procedures such as transmission line connections, equipment cutovers, or stringing under or over other transmission lines. These outages are dictated by the system operator, ISO-NE, and can be very limited based on regional system load and weather conditions. Work requiring scheduled outages and crossings of certain transportation and utility corridors may need to be performed on a limited basis outside of normal work hours, including night shifts, Sundays, and holidays.

Work on and adjacent to the MBTA railroad ROW and over MassDOT state routes may also involve work during non-standard work hours, including nights and weekends. In instances where work is to occur outside of normal work hours, NEP will notify the affected municipalities.

Prior to the start of construction, NEP will notify (via updates to the project website and emails), municipal officials, the Town of Somerset Public Works Department, the City of Fall River Public Works Department, the Somerset Police and Fire Chiefs, and the Fall River Police and Fire Chiefs, with details of planned construction including the normal work hours and extended work hours and NEP will obtain approval from relevant municipal officials for extended work hours, if needed.

### 6.1.4 Communication with the Massachusetts Bay Transportation Authority and Massachusetts Department of Transportation

According to the MassDOT Rail Inventory,[13] one rail corridor is located within the proposed Project route. The rail corridor is owned by MassDOT and is part of the South Coast Rail Project that will be under the control of the MBTA, which will restore commuter rail service between Boston and Southeastern Massachusetts. This rail corridor is part of Phase 1 of the South Coast Rail Project which is scheduled to be operational in late 2023.[14] Within the Study Area, Phase 1 of the South Coast Rail Project includes the construction of a new train layover facility (Weavers Cove) in Fall River which will include storage tracks, crew quarters, a maintenance shed and parking facilities.[15] The rail has been used as a freight rail by Massachusetts Coastal Rail.

The rail yard is found off of North Main Street, directly abutting the Project route in Fall River. NEP has worked with the MBTA and MassDOT since 2018 on this rail Project. The new rail yard will include an access road for NEP to use on a temporary basis to cross the railroad tracks in order to construct proposed structure M13N-6 and to perform the bussing at existing structure N12-6. NEP will be communicating regularly with the MBTA in terms of construction access across the South Coast rail yard and the active railroad trunk line in Fall River. NEP will provide the necessary advance notice to the MBTA to facilitate the temporary track crossings and use of railroad flaggers.

Representatives from NEP and POWER Engineers Consulting, PC (POWER) have met with representatives of the MBTA and MassDOT on a routine basis to discuss the construction of the South Coast Rail Project in Fall River and for NEP to construct the transmission line. NEP, MBTA, and MassDOT have conducted a series of meetings to review and coordinate the overlap of the two project's construction. Meetings between NEP and the MBTA began in 2018 and have continued through present day. Most recently, NEP met with representatives from the MBTA on April 13, 2022, to review Project access and progress and the MBTA provided updates about their current construction progress and upcoming construction related work. Should the N12/M13 DCT Separation Project be approved, NEP will provide an updated construction schedule to the MBTA and notify the MBTA of the dates required to cross the tracks or to work within the MBTA ROW. Safety is of the utmost importance to NEP and the MBTA, as well as ensuring uninterrupted service by the MBTA.

# 7.0 ENVIRONMENTAL JUSTICE AND PUBLIC HEALTH

On September 30, 2021, NEP filed the EENF for the Project and on November 29, 2021, the Secretary issued the Certificate. This Project was in review by MEPA prior to the department's adoption of the existing Environmental Justice Protocols. However, NEP is committed to the principles as outlined in the MEPA Environmental Justice Protocols. As such, NEP is providing this analysis and information on

[13] Massachusetts Department of Transportation Rail Inventory. 2014. Available at https://geo-massdot.opendata.arcgis.com/datasets/rail-inventory. Accessed on November 21, 2019.
[14] Commonwealth of Massachusetts. South Coast Rail Project Routes & Service Details. 2019. Available at https://www.mass.gov/service-details/route-service-details-south-coast-rail. Accessed on November 21, 2019.
[15] Ibid.

public outreach to ensure that the issues are addressed, and that Environmental Justice Populations and community groups are given an opportunity to participate in the environmental review of the Project.

## 7.1 Identification of Environmental Justice Populations

Based on a review of the EEA's Massachusetts EJ Populations Mapping Tool, updated with census data from 2020,[16] there are eight EJ Census Block Groups (CBGs) located within one mile of the Project Route. These disadvantaged communities are all found within the City of Fall River and are mapped based on income and/or minority and income criteria, as indicated on the attached map (Appendix B) generated by the Massachusetts EJ Populations Mapping Tool. There are none found within one mile of the Project Route in the Town of Somerset. Of the eight EJ CBGs in the City of Fall River, two census tracts are directly crossed by the proposed Project. These EJ neighborhoods are in Block Group 2, Census Tract 6421 and Block Group 1, Census Tract 6422.

**TABLE 7-1 CENSUS BLOCK GROUP AND EJ CHARACTERISTICS**

| CENSUS BLOCK GROUP (CBG) | MUNICIPALITY | POPULATION | MINORITY POPULATION (%) | HOUSEHOLDS WITH LANGUAGE ISOLATION (%) | MEDIAN HOUSEHOLD INCOME ($) | MEDIAN HOUSEHOLD INCOME (% of the MA median) | EJ POPULATION AS DEFINED BY THE COMMONWEALTH OF MA |
|---|---|---|---|---|---|---|---|
| Within 1.0 mile of the Project Route | | | | | | | |
| Block Group 1, Census Tract 6421 | Fall River | 2,673 | 26.2% | 0.0% | $58,151 | 68.9% | Minority |
| Block Group 2, Census Tract 6421* | Fall River | 1,678 | 24.9% | 8.1% | $43,784 | 51.9% | Minority and Income |
| Block Group 1, Census Tract 6422* | Fall River | 1,040 | 17.0% | 0.0% | $54,095 | 64.1% | Income |
| Block Group 2, Census Tract 6422 | Fall River | 1,008 | 46.4% | 4.0% | $48,848 | 57.9% | Minority and Income |
| Block Group 3, Census Tract 6422 | Fall River | 1,048 | 20.9% | 11.2% | $36,971 | 43.8% | Income |
| Block Group 1, Census Tract 6420 | Fall River | 610 | 29.2% | 0.0% | $64,306 | 76.2% | Minority |
| Block Group 4, Census Tract 6422 | Fall River | 762 | 26.0% | 7.1% | $65,335 | 77.4% | Minority |
| Block Group 1, Census Tract 6424 | Fall River | 1,030 | 21.2% | 10.5% | $39,853 | 47.2% | Income |

* CBG crossed by Project Centerline.
Source: Environmental Justice Criteria dataset obtained from MA Executive Office of Energy and Environmental Affairs 2020 Environmental Justice Populations in Massachusetts. US Census Bureau data released in November 2022 (https://mass-eoeea.maps.arcgis.com and https://www.mass.gov/info-details/massgis-data-2020-us-census-environmental-justice-populations)

As part of the stakeholder outreach plan, NEP has promoted public involvement within the communities located within one mile of the Project through the use and dissemination of multi-lingual project fact sheets, website content, and meeting invitations, as well as translation services for presentations.

[16] Census Block Groups as noted by the EEA's Massachusetts Environmental Justice Populations Mapping Tool were updated in November of 2022. Data presented herein depicted the most up-to-date information from this Mapping Tool, this Census Block Group characteristics differ from what was filed in the EENF for this Project.

### 7.1.1 Languages Spoken

There are two different datasets identified in the "Languages Spoken in Massachusetts" tab of the EJ Maps Viewer. The 2015 American Community Survey (ACS): Languages as spoken by 5% or more of the EJ population who also identify as not speaking English "very well" is the most current data available through the Census Bureau at the census tract level.

The second dataset is from the Massachusetts Department of Elementary and Secondary Education (MA DESE) where data was collected through an October 2022 survey. This data, gathered by zip code, includes the primary language spoken in 1% or more of the homes of public-school students.

Table 7-2 below lists all current and available information within one mile of the Project Route.

**TABLE 7-2 2015 ACS: LANGUAGES SPOKEN BY AT LEAST 5% OF POPULATION IN THE CENSUS TRACT WHO DO NOT SPEAK ENGLISH VERY WELL**

| CENSUS TRACT | MUNICIPALITY | LANGUAGE | POPULATION WHO IDENTIFY AS NOT SPEAKING ENGLISH VERY WELL (%) |
|---|---|---|---|
| Census Tract 6421 | Fall River | Portuguese or Portuguese Creole<br>Spanish or Spanish Creole | 1.7%<br>1.2% |
| Census Tract 6422 | Fall River | Portuguese or Portuguese Creole | 7% |
| Census Tract 6441.01 | Somerset | Portuguese or Portuguese Creole | 5.4% |

Source: Environmental Justice Criteria dataset obtained from EEA 2020 Environmental Justice Populations in Massachusetts Languages Spoken in Massachusetts ( https://mass-eoeea.maps.arcgis.com) and Table B16001, 2015: ACS 5-Year Estimates (www.census.gov).

Data by zip codes encompass more than one census tract boundary. Table 7-3 reflects languages spoken in several neighborhoods in Fall River.

**TABLE 7-3 MA DESE: LANGUAGES SPOKEN IN HOMES OF PUBLIC-SCHOOL STUDENTS**

| ZIP CODE | MUNICIPALITY | NUMBER OF STUDENTS | HOUSEHOLDS SPEAKING A LANGUAGE OTHER THAN ENGLISH (%) | LANGUAGES SPOKEN IN 1% OR MORE OF HOUSEHOLDS | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Crioulo (%) | Haitian Creole (%) | Portuguese (%) | Spanish (%) | Chinese (%) |
| 02720 | Fall River | 3,981 | 19.6% | 1.8% | 1.2% | 6.8% | 9.8% | 0.0% |

Source: Environmental Justice Criteria dataset obtained from MA Executive Office of Energy and Environmental Affairs 2020 Environmental Justice Populations in Massachusetts Languages Spoken in Massachusetts (https://mass-eoeea.maps.arcgis.com)

The information related to languages spoken presented in Table 7-2 was found through the EJ Mapper Tool. This tool is limited in that it only shows languages spoken at 5% or more within each census tract group. The 2022 MA DESE survey by zip code is more current and comprehensive, as it captures languages spoken in 1% or more of households. However, data by zip code captures neighborhoods outside of the one-mile Project Route.

To supplement this data, NEP reached out to local community organizations, local health centers, city officials, and school systems to determine what, if any, languages are spoken at less than 5% frequency. Through these interactions it was noted that the Portuguese creole languages spoken within Fall River include European and Cape Verdean dialects of Portuguese. These additional dialects will continue to be used during community outreach to encourage public involvement opportunities for all abutters during MEPA review and throughout the duration of the Project.

### 7.1.2 Community Health

The DPH's EJ Tool compares community health indicators to 110% of the state level. The indicators represent populations that have higher-than-average rates of environmentally related community health outcomes. This data is only available at the municipality level.

#### City of Fall River

See Table 7-4 below for vulnerable health EJ criteria within each municipality of the Project. NEP identified four environmentally related health indicators within the City of Fall River. There are no EJ communities within one mile of the Project Route in the Town of Somerset, and community health factors within the Town of Somerset are non-significant when compared to the state rate.

**TABLE 7-4 COMMUNITY HEALTH**

| MUNICIPALITY | EJ AND VULNERABLE HEALTH EJ CRITERIA | VULNERABLE HEALTH TOPIC EJ CRITERIA MET | RATE (MOST CURRENT DATA) |
|---|---|---|---|
| Fall River | EJ Criteria met and meets at least one Vulnerable Health EJ Criteria | Heart Attack (2009–2017) | 47 age-adjusted per 10,000 (2013–2017) |
| | | Lead Poisoning: Blood Lead Level (BLL) >5 ug/dL (2013–2020) | 20 per 1,000 (2016–2020) |
| | | Low Birth Weight (2009–2017) | 352 per 10,000 (2011–2015) |
| | | Pediatric Asthma Emergency Department Visits (2009–2017) | 176 per 10,000 (2013–2017) |

Source: Environmental Justice Criteria dataset obtained from MA Executive Office of Energy and Environmental Affairs MA DPH Environmental Justice Tool (https://dphanalytics.hhs.mass.gov/)

EJ Vulnerable health impacts in the City of Fall River are statistically higher than 110% of the statewide rate. Figure 7-1 illustrates this comparison.

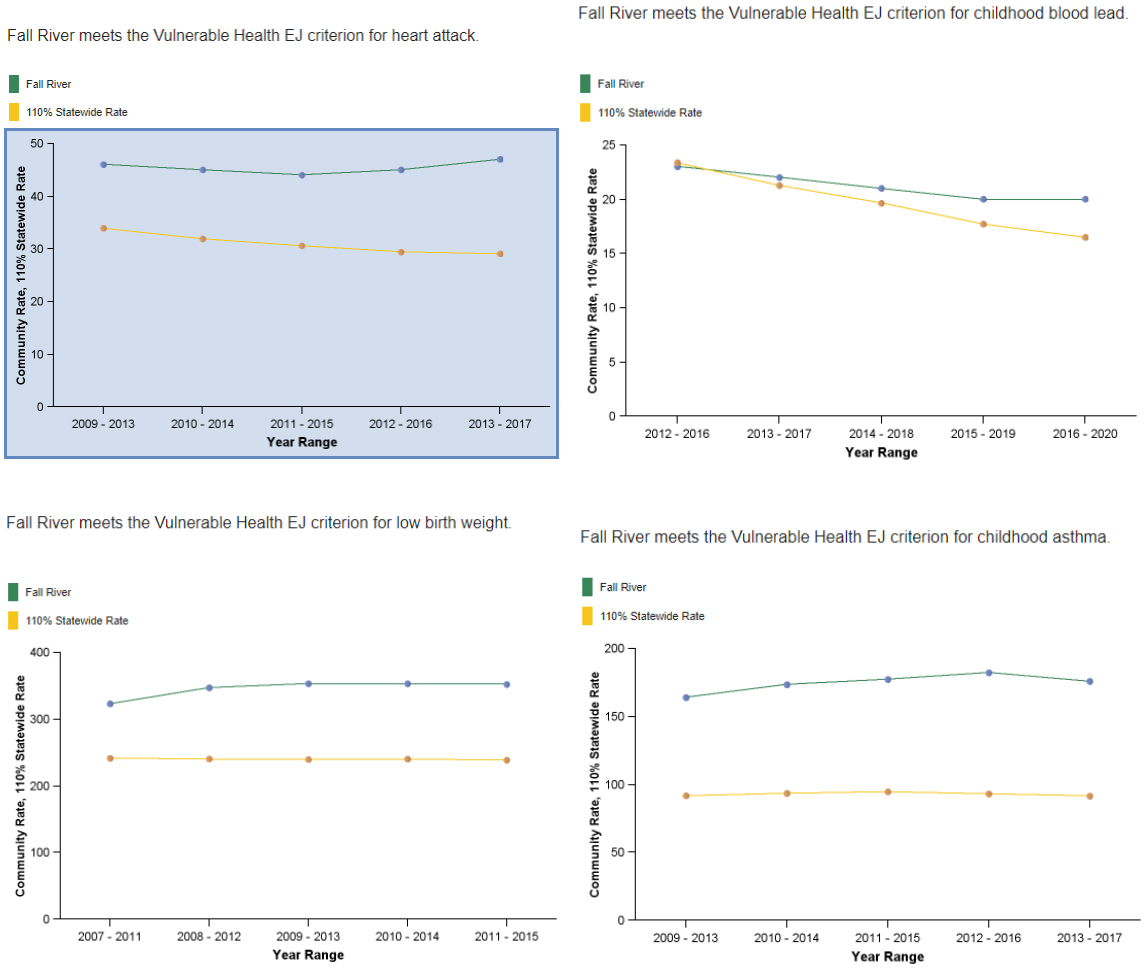


**FIGURE 7-1 COMMUNITY HEALTH RATE FOR THE CITY OF FALL RIVER COMPARED TO THE STATE RATE**

**Heart Attack Rate** – Heart disease, stroke, and other heart- and blood vessel-related diseases are responsible for 35% of deaths in Massachusetts annually.[17] Heart attack risk is related to health, lifestyle, and environmental factors including exposure to air pollutants, such as particulate matter. The DPH reports that exposure to particulate matter has been shown to increase the rate of heart attack, arrhythmias, and premature death.[18]

**Elevated Blood Lead Prevalence** – According to the Massachusetts State Health Assessment from 2017, high rates of childhood lead exposure are related to old housing stock. The greatest risk is observed among low-income residents and populations of color.[19]

Massachusetts has the fourth-oldest housing stock in the country. Lead-based paints were banned for residential use in 1978. Approximately 71% of housing in Massachusetts was built prior to 1978 and is likely to contain lead-based paint. Lead exposure often occurs by ingestion of dust or soil contaminated

[17] MA DPH. 2022c. Massachusetts Environmental Public Health Tracking, Heart Attack Hospitalization. October 19, 2022. https://matracking.ehs.state.ma.us/Health-Data/Heart_Attack_Hospitalization.html
[18] MA DPH, 2022c.
[19] Massachusetts Department of Public Health (MA DPH). 2017. 2017 Massachusetts State Health Assessment. November 3, 2017. https://www.mass.gov/files/documents/2017/10/06/MA%20SHA_Chapter%203%20Alt%20Text%20Inserted.docx

by lead paint debris, which can be exacerbated through the disturbance of lead-based paint during unsafe renovations.[20]

Elevated blood lead levels have a higher prevalence among environmental justice populations, including low-income, Black, Asian, American Indian, and Hispanic communities. The Massachusetts State Health Assessment reported that communities with a higher-than-average percentage of low-to moderate-income families have more than twice the percentage of blood lead levels at or above 5 µg/dL, compared to communities with a lower percentage of low- to moderate-income families.[21] See Census Tract Level Health Data for more detailed information.

**Low Birth Weight Rate** – The Commonwealth of Massachusetts is ranked 20th in the country for percentage of babies born at low birth weight, defined as babies born weighing less than 5.5 pounds.[22] Low birth weight has been associated with environmental factors including exposure to lead, solvents, pesticides, and polycyclic aromatic hydrocarbons during pregnancy.[23] Polycyclic aromatic hydrocarbons are a class of chemicals that occur naturally and are released by burning materials such as coal, crude oil, and gasoline. Non-environmental risk factors for low birth weight include exposure to cigarette smoking and lack of prenatal care.[24] See Census Tract Level Health Data for more detailed information.

**Childhood Asthma Rate** – The rate of asthma in Massachusetts (10.2%) is higher than the national prevalence (9.2%). As of 2015, the rate of pediatric asthma in Massachusetts was 12.9%.[25] Asthma can be triggered by and has been linked to exposure to air pollution. Exposure to air pollution can be associated with environmental justice due to proximity to traffic, lack of air conditioning during summer months, and working outside.[26]

## Census Tract Level Health Data

Additional data from the DPH is available for lead poisoning and low birth weight at the census tract level. Census tracts 6421 and 6422, in the City of Fall River have EJ communities within one mile of the Project Route where EJ Vulnerable Health issues are a concern. That said, the data shows there is no statistical significance or concern for these two health factors. See Table 7-5. Census level data was not available for the prevalence of heart attack and childhood asthma.

[20] MA DPH, 2017.
[21] MA DPH, 2017.
[22] Children's Defense Fund. 2013.
[23] MA DPH. 2022a. Massachusetts Environmental Public Health Tracking, Low Birth Weight (Growth Retardation). October 19, 2022. https://matracking.ehs.state.ma.us/Health-Data/Reproductive
[24] MA DPH, 2022a.
[25] MA DPH. 2022b. Massachusetts Environmental Public Health Tracking, Pediatric Asthma. December 8, 2022. https://matracking.ehs.state.ma.us/Health-Data/Asthma/pediatric.html
[26] MA DPH, 2022b.

**TABLE 7-5 COMMUNITY HEALTH FOR THE CITY OF FALL RIVER (BY CENSUS TRACT)**

| REPORT TOPIC | CENSUS TRACT | YEAR RANGE | COMMUNITY RATE | COMMUNITY LOWER CI | COMMUNITY UPPER CI | STATISTICAL SIGNIFICANCE | STABILITY | 110% OF STATEWIDE | >110% OF STATEWIDE |
|---|---|---|---|---|---|---|---|---|---|
| Lead Poisoning | 6421 | 2012 - 2016 | 12.7 | 2.5 | 22.8 | Not statistically different | Unstable | 23.4 | No |
| | | 2013 - 2017 | NS | NS | NS | NS | NS | 21.3 | No |
| | | 2014 - 2018 | NS | NS | NS | NS | NS | 19.6 | No |
| | | 2015 - 2019 | 10.8 | 2.2 | 19.4 | Not statistically different | Unstable | 17.7 | No |
| | | 2016 - 2020 | 10.8 | 2.2 | 19.5 | Not statistically different | Unstable | 16.5 | No |
| | 6422 | 2012 - 2016 | 25.6 | 11.1 | 40.1 | Not statistically different | Stable | 23.4 | Yes |
| | | 2013 - 2017 | 23.7 | 9.7 | 37.7 | Not statistically different | Unstable | 21.3 | Yes |
| | | 2014 - 2018 | 20.5 | 7.8 | 33.3 | Not statistically different | Unstable | 19.6 | Yes |
| | | 2015 - 2019 | 14.4 | 3.7 | 25.1 | Not statistically different | Unstable | 17.7 | No |
| | | 2016 - 2020 | 12.5 | 2.5 | 22.5 | Not statistically different | Unstable | 16.5 | No |
| Low Birth Weight | 6421 | 2010 - 2014 | 373.8 | 114.8 | 632.9 | Not statistically significantly different | Unstable | 240.1 | Yes |
| | | 2011 - 2015 | 229.4 | 28.3 | 430.4 | Not statistically significantly different | Unstable | 238.5 | No |
| | 6422 | 2010 - 2014 | NS | NS | NS | NS | NS | 240.1 | No |
| | | 2011 - 2015 | NS | NS | NS | NS | NS | 238.5 | No |

NS: not shown due to small numbers; Source: Massachusetts Center for Health Information and Analysis.

### 7.1.3 Other Environmental Justice Indicators

The USEPA developed an EJ mapping and screening tool, EJScreen (Version 2.1), which shows both demographic and environmental indicators.

EJ indexes are based on the combination of demographic factors by averaging low income and minority populations with a single environmental factor. EJScreen tracks 12 environmental indicators. Note: the EJ index is higher in block groups with large numbers of mainly low-income residents and/or people of color, with a higher environmental indicator value. See Appendix G for the complete USEPA EJScreen Report. This report includes all CBGs within one mile of the Project Route.

Table 7-6 details EJ indexes relative to the Commonwealth of Massachusetts for CBGs within one mile of the Project Route. The CBGs identified below are in the 80th percentile or higher of the state for one or more environmental justice indexes, as shown in EJScreen, as of February 15, 2023. All CBGs are in EJ neighborhoods in the City of Fall River, Bristol County, within one mile of the Project Route.

Note, Ozone level, traffic proximity and Risk Management Plan (RMP) facility proximity are over the 90th percentile in the state. This means less than 10% of the Commonwealth of Massachusetts is exposed to higher values. The centerline of the Project Route crosses two CBGs in this range, Block Group 2, Census Tract 6421 and Block Group 1, Census Tract 6422.

**TABLE 7-6 EJ INDEXES RELATIVE TO THE COMMONWEALTH OF MASSACHUSETTS FOR ALL CBGS WITHIN ONE MILE OF THE PROJECT ROUTE**

| POLLUTION SOURCE | CENSUS BLOCK GROUPS | MUNICIPALITY | STATE PERCENTILE |
|---|---|---|---|
| Particulate Matter 2.5 | Block Group 2, Census Tract 6422 | Fall River | 80 – 90 percentile |
| Ozone | Block Group 1, Census Tract 6421 | Fall River | 80 – 90 percentile |
| | Block Group 2, Census Tract 6421*<br>Block Group 1, Census Tract 6422*<br>Block Group 3, Census Tract 6422 | Fall River<br>Fall River<br>Fall River | 90 – 95 percentile |
| | Block Group 2, Census Tract 6422 | Fall River | 95 – 100 percentile |
| Air Respiratory HI | Block Group 2, Census Tract 6422 | Fall River | 80 – 90 percentile |
| Traffic Proximity | Block Group 2, Census Tract 6421* | Fall River | 80 – 90 percentile |
| | Block Group 2, Census Tract 6422 | Fall River | 90 – 95 percentile |
| Lead Paint | Block Group 1, Census Tract 6420<br>Block Group 2, Census Tract 6421*<br>Block Group 2, Census Tract 6422 | Fall River<br>Fall River<br>Fall River | 80 – 90 percentile |
| Superfund Proximity | Block Group 1, Census Tract 6422<br>Block Group 2, Census Tract 6422 | Fall River<br>Fall River | 80 – 90 percentile |
| RMP Facility Proximity | Block Group 2, Census Tract 6421*<br>Block Group 1, Census Tract 6422*<br>Block Group 3, Census Tract 6422 | Fall River<br>Fall River<br>Fall River | 80 – 90 percentile |
| | Block Group 2, Census Tract 6422 | Fall River | 90 – 95 percentile |
| Wastewater Discharge | Block Group 2, Census Tract 6421*<br>Block Group 2, Census Tract 6422 | Fall River<br>Fall River | 80 – 90 percentile |

* CBG crossed by Project Centerline.
Source: USEPA EJScreen (Version 2.1)

Table 7-7 details pollution and sources relative to the State. This data does not take into account demographic factors. The CBGs identified below are all within one mile of the Project Route and in the 80th percentile or higher of the statewide average for that pollution and source, as shown the USEPA's EJScreen, as of February 15, 2023.

**TABLE 7-7 POLLUTION AND SOURCES RELATIVE TO THE COMMONWEALTH OF MASSACHUSETTS FOR ALL CBGS WITHIN ONE MILE OF THE PROJECT ROUTE**

| POLLUTION AND SOURCE | CENSUS BLOCK GROUPS | MUNICIPALITY | STATE PERCENTILE |
|---|---|---|---|
| Ozone | All CBGs | Fall River and Somerset | 95 – 100 percentile |
| Traffic Proximity | Block Group 2, Census Tract 6421*** | Fall River | 80 – 90 percentile |
| Lead Paint | Block Group 2, Census Tract 6421***<br>Block Group 2, Census Tract 6442<br>Block Group 5, Census Tract 6442 | Fall River<br>Somerset<br>Somerset | 80 – 90 percentile |
| RMP Facility Proximity | Block Group 1, Census Tract 6441.01<br>Block Group 2, Census Tract 6441.01<br>Block Group 4, Census Tract 6441.01<br>Block Group 1, Census Tract 6442* | Somerset<br>Somerset<br>Somerset<br>Somerset | 80 – 90 percentile |

| POLLUTION AND SOURCE | CENSUS BLOCK GROUPS | MUNICIPALITY | STATE PERCENTILE |
|---|---|---|---|
| | Block Group 2, Census Tract 6442 | Somerset | |
| | Block Group 5, Census Tract 6442 | Somerset | |
| | Block Group 2, Census Tract 6441.01 | Somerset | 90 – 95 percentile |
| | Block Group 2, Census Tract 6421*** | Fall River | |
| | Block Group 3, Census Tract 6422** | Fall River | |
| | Block Group 1, Census Tract 6423 | Fall River | |
| | Block Group 1, Census Tract 6421** | Fall River | 95 – 100 percentile |
| | Block Group 1, Census Tract 6425 | Fall River | |

* CBG crossed by Project Centerline.
** EJ Neighborhoods
Source: USEPA EJScreen (Version 2.1), Pollution and Source data from various agencies dating from 2016–2022.

## 7.2 Project Impacts on Environmental Justice Populations and Mitigation Measures

Within one mile of the Project Route, eight census block groups have been identified as EJ populations due to the prevalence of minorities, low-income population, and a combination of both minority and low-income population. Two of the eight census tracts are directly crossed by the proposed Project Route. Block Group 2, Census Tract 6421 has been identified for both minority and low-income populations; and Block Group 1, Census Tract 6422 has been identified for low-income population. EJ populations are all in the City of Fall River.

This Project is not expected to adversely or disproportionately affect EJ populations. Refer to Appendix G for the EJ Screen Report to understand potential environmental concerns within one mile of the Project Route. The Project does not exceed MEPA thresholds for Air (301 CMR 11.03(4)) and meets the greenhouse gas *de minimis* exemption. There are no facilities proposed that would result in long-term air emissions. The Project does not exceed MEPA thresholds for Land (301 CMR 11.03(1)) and there will be no reduction in or conversion of public open space since the Project will be located within NEP's existing ROW. The Project does not exceed MEPA thresholds for Water (301 CMR 11.03(8)) and there are no long-term water withdrawals or discharges proposed. NEP will be applying to the MassDEP to obtain a Section 401 Water Quality Certificate for the construction-phase of the Project (i.e., temporary installation of construction mats in jurisdictional wetlands and 400 square feet of permanent fill in BVW). NEP does not anticipate that this Project will cause water quality degradation that would impact the public health of neighboring communities, including EJ populations.

During the construction-phase of the Project there may be intermittent and localized increases in noise, dust, and emissions from construction vehicles and related equipment. NEP will be implementing measures to minimize and mitigate these temporary impacts as discussed in the mitigation section herein. Solid waste will be generated during the construction of the Project; however, all construction-related debris and refuse will be removed from the ROW and disposed of at an appropriate receiving facility in accordance with applicable laws and regulations.

With predicted climate change projections, and the associated sea level rise estimates the structures being installed will be able to withstand sea level rise and mean higher high level scenarios anticipated during the Project's lifetime. The Project does not propose impacts to soil stability; therefore, the landscape's ability to protect against flooding, hurricane surges, and sea level rise should not be affected by construction. See Section 4.4.1 of this SEIR for relevant data and analysis of predicted sea level rise and flooding conditions.

The Project addresses the issues identified in ISO-NE's 2020 CELT Report and ISO-NE studies by resolving the double circuit tower configuration of the two existing transmission lines and separating the double circuits onto separate transmission structures address the contingencies identified by ISO-NE, to support future growth, including the injection of renewable energy into the grid, and to prepare for the forecasted demand within the SEMA-RI area. The Project will result in a stronger more reliable and robust electrical transmission system that is vital to the area's safety, security and economic prosperity for all communities in Southern Massachusetts and Rhode Island.

### 7.2.1 Health Impacts and Mitigation Measures

As summarized within this SEIR environmental impacts will be minimal and all impacts will be mitigated for. Environmental impacts are not anticipated to cause public health impacts.

**Air Quality** – Construction-period activities, such as grading, roadbuilding, vehicle travel, and other earth-disturbing work may result in a temporary increase in airborne dust and will be localized to areas adjacent to active construction. Dust Control measures outlined in the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers, and Municipal Officials shall be followed for soil stockpile management. Impacts to air quality will be minimized by implementing dust control measures such as spreading wood mulch or straw on exposed soils, and using water trucks to suppress dust. Water will not be excessively spread so erosive forces occur. The potential for dust generation is only anticipated during the construction period. Following construction, disturbed soil areas will be stabilized and re-vegetated.

The state's anti-idling law will be adhered to during the construction. The Project will also comply with the state's requirements of the Clean Construction Equipment Initiative, where reasonable and feasible, which is aimed at reducing air emissions from diesel-powered construction equipment. Ultra-low sulfur diesel fuel will be required for all diesel-powered equipment. Additionally, any diesel-powered non-road construction equipment rated 50-horsepower or more that will be used on the Project for 30 days or more will be required to install emission control devices to the extent feasible. The impacts from these emissions will be minimal and are not anticipated to cause or worsen public health impacts. Refer to Section 8.5 of this SEIR for more details on anticipated impacts to air quality.

**Water Quality** – The project will incorporate protective and preventative measures to minimize and avoid impacts to water quality. The ROW crosses wetland areas, streams, and rivers. To protect water quality and these sensitive areas, temporary access routes will be installed by temporarily placing timber construction mats. Timber mats are comprised of wooden beams, bolted together and are laid temporarily on top of the ground and vegetation. These mats allow heavy machines and vehicles to cross sensitive areas without damaging the soil or roots of vegetation and are also placed in a manner that do not affect the flow of water in streams. These mats will be removed when construction is completed, and the wetlands will be restored. In addition, Best Management Practices, such as the use of straw wattles, silt fencing, stormwater management features, and other control measures will be used to prevent soil and other material from being transported into wetlands and streams. Using these Best Management Practices, impacts to water quality will be minimized and avoided and are not anticipated to cause impacts to public health. Refer to Section 8.0 of this SEIR for details on Best Management Practices and construction environmental standards.

**Noise** – Noise impacts associated with construction-period activities are temporary in nature and expected to be minimal. Noise generated by construction equipment, such as generators or air compressors, will be temporary and generally intermittent. All construction equipment will be kept in good working condition

with appropriate mufflers to minimize noise impacts. Where construction will occur adjacent to residences, NEP will update the Project website to notify landowners. Noise-generating activities are not anticipated to cause impacts to public health. Refer to Section 8.4 of this SEIR for more details on noise, proposed hours of operation and mitigation measures.

**Traffic** – Impacts to traffic during the construction of the project will be minor and intermittent and are not anticipated to cause impacts to public health. The work areas will be accessed primarily from existing ROW access routes which are accessed off minor town roadways. NEP will obtain the necessary approvals from MassDOT for access from state roadways, and implement Traffic Management Plans as applicable. Refer to Section 6.0 of this SEIR for more information on traffic and transportation impacts and Appendix D for the Draft Traffic Management Plan.

### 7.2.2 Social Impacts and Mitigation Measures

Through previously conducted community interactions abutters to the Project have voiced opinions and concerns regarding the Project, including:

- Impacts on noise through the construction-phase of the Project.
- Proposed structure impacts on community visual aesthetics.
- Construction impacts to abutting residential homes (such as noise, dust, work hours, storm water and traffic).

The existing NEP ROW runs perpendicular and adjacent to the Taunton River. The communities in this area enjoy the views of the river and estuary habitats, some of which include developed waterfront and ports. Multiple landowners abutting the NEP ROW off of North Main Street in Fall River have voiced concerns related to how their view of the river may change as a result of the proposed Project. The Project is to occur within an existing transmission ROW that has been occupied by steel lattice structures for decades. To the maximum extent possible, NEP is proposing to rebuild and reconfigure the two transmission lines (N12 and M13) and associated transmission line structures within the limits of the existing ROW. NEP proposes to remove the existing steel lattice towers (except for the two existing river crossing towers) and replace the steel lattice structures predominantly with galvanized monopole structures. Visual effects and views to the Taunton River are not expected to significantly change compared to existing conditions.

The MBTA South Coast Rail Project also abuts this same community off of North Main Street in Fall River. Since 2021, the MBTA has been making improvements to this railroad and establishing a new rail yard adjacent to these homes. Community members have expressed concerns about NEP's work hours and noise that will be produced through these activities NEP will work within the allowed working hours identified in the Somerset and Fall River local ordinances, to the maximum extent possible. To reiterate, some construction activities and timelines will be dictated by permit and license conditions, such as off-hour work required by the MBTA to cross the railroad tracks, or MassDOT performing work during non-peak traffic hours. Additionally, some construction tasks need to be completed once started, such as deliveries of concrete to pour and form transmission structure foundations and wire stringing over the railroad and over local and state roadways. The construction schedule will be posted on NEP's project website, and work activities that are to occur outside of normal work hours will be communicated to the municipalities of Somerset and Fall River.

NEP will coordinate with the landowners in terms of encroachments that have been made onto NEP fee-owned property or easements under the control of NEP. Some encroachments, such as garden beds and

sprinkler systems, may need to be removed to complete the Project safely in accordance with the engineering design drawings.

NEP has interacted with many landowners directly abutting the ROW. NEP has made reasonable attempts to acknowledge landowner concerns and to maintain positive relationships with the communities. Changes made to the Project based on landowner's requests include:

- Offsetting Structure N12-9 thirty feet to the west and Structure N12-7 ten feet to the north.
- Adding visual barriers (i.e., landscaping) between properties and the ROW to minimize visual disturbance, specifically for abutters locations on North Main Street in Fall River.
- Eliminating the need to construct proposed structures N12-13 and M13N-13.
- Adjusting proposed work areas to reduce impacts on landowner properties on Highland Ave and North Main Street in Fall River.

The provided list of changes to the Project based on landowner requests is subject to expand through the planning and permitting on this Project. NEP will be offering visual mitigation to other ROW abutters and may shift additional work pads as necessary. NEP is committed to addressing landowner needs and concerns through all stages of this Project.

Please see Section 8.4 for noise mitigation measures proposed.

## 7.3 Public Involvement Activities

### 7.3.1 Completed Public Involvement

NEP has established a community and public outreach program for the Project to initiate and maintain communications with stakeholders (e.g., abutting property owners, residents, community groups and local and state officials). This program includes opportunities for public education and input regarding the need for the Project, the permitting process, the dissemination of construction updates and outreach during construction, and follow-up outreach after Project completion. The program is designed to engage the communities, facilitate transparency throughout the Project, foster public participation, and solicit feedback from stakeholders.

Public outreach and involvement programs are designed to be accessible and comprehensive by all community members, including those identified as disproportionately burdened. NEP provides verbal translation services for all methods of outreach including, door-to-door interactions, all Project notifications are provided in relative languages, and public Project information on the website is provided in multiple languages. NEP also strives to enable all individuals to access Project specific information. Information is provided on virtual platforms and mailed directly to one's home. NEP attempts to establish outreach programs which enable all community members to understand the Project no matter an individual's circumstances.

NEP has taken several proactive steps to promote general community involvement during the planning of the Project. These steps have included – and will continue to include – the translation of Project materials and translation services for the Project-specific toll-free hotline and email in Spanish, European Portuguese, and Cape Verdean. These translation services will enhance community involvement generally and the involvement of EJ populations in particular. In coordination with the MEPA Office and the City of Fall River, NEP identified Community Based Organizations (CBOs) and reached out to these

organizations via email and phone. CBOs were informed of ways to request a community meeting; how to contact the Project Team; and were invited to Project Open Houses.

## Project Mailings

All abutters within a 300-foot radius of the Projects' edge of ROW, some of whom reside in the census tracts identified as EJ communities, received a Project introduction letter through the mail in September 2021. This letter provided an overview of the Project's purpose, need, location, and how to contact National Grid for additional information. A Project specific 24-hour toll-free hotline and email was included on all collateral so that community members can contact Project staff directly. Translation services were available through email and phone for those whose primary language is not English. A website containing Project related information was created and included on all collateral. The website includes information regarding the Project overview, safety, virtual simulations, map of the Project, open house dates, environmental concerns, timeline of the Project, fact sheets, and the Project's benefits. All information on the website is available in English, Spanish and European Portuguese. Updates will be made to the website as the Project progresses, this may include links to additional virtual open houses, changes to the Project route (not expected at this time), or changes to the Project's projected timeline.

## In-person Outreach

Door-to-door outreach was conducted in September 2021 after the informational letter was sent to abutters. This form of outreach was conducted to notify the landowners of upcoming activities and to address any questions or concerns they may have. Door hangers were also distributed to notify the public of the pending project, in advance of construction. In-person meetings have been conducted with concerned abutters. Additionally, outreach specialists continue to regularly update abutters who have voiced concerns to ensure all their questions and concerns are addressed.

## Open Houses

NEP held two Open Houses to introduce the Project. Both Open Houses were held in virtual settings that provided the public with opportunities to speak with subject matter experts, ask questions, and share concerns about the Project. The Open Houses were held on June 21, 2022, and July 14, 2022, using the Zoom virtual platform. At each Open House, NEP provided a Project overview with a focus on the need, the benefits, the permitting process, location, design, schedule, anticipated construction activities, as well as a summary of participation opportunities for all interested persons. Live translators were available in Spanish and European Portuguese. A recording of both Open Houses is posted on the Project website and may be viewed in the languages listed above and in Cape Verdean Portuguese.

In preparation for the virtual Open Houses, NEP actively sought meaningful conversations with all interested stakeholders, including residents of EJ populations, by creating and mailing invitations in multiple languages (featuring, in equal parts: English, Spanish, Cape Verdean and European Portuguese) to all property owners along the Project route and to municipal officials. The invitation included a QR code that provided instant access to each virtual Open House via a simple scan using any smartphone/device. NEP's outreach team subsequently conducted door-to-door visits with abutters to remind them of the upcoming Open House and gather any input. The handouts distributed during the door-to-door outreach were printed in English, European Portuguese, Cape Verdean, and Spanish. CBOs and community groups in Fall River and Somerset, as recommended by city employees, were contacted with information on how to attend the event. These organizations sent invitations to their members. The Open Houses were also advertised online at the City of Fall River's website and social media account. NEP ran multiple newspaper advertisements in the Herald News and The Reporter prior to the second

Open House. Posts were made on local Fall River social media accounts including Facebook pages like "Fall River," "Growing up in Fall River," "Grew up in Fall River," and "Growing up in New Bedford." Flyers for the event were posted in community centers including the Town Hall and the Public Library.

During each virtual Open House, the presentation material was narrated in English with live, simultaneous European Portuguese and Spanish interpretation. This was made possible by having experienced professional interpreters at the virtual Open House – one interpreter for each language in different breakout rooms – to provide smooth, continuous coverage of the Open House. The interpretation was bi-directional with the dominant amount from English into European Portuguese, Cape Verdean, and Spanish. To achieve the best possible experience for the virtual Open House attendees, NEP sent a prepared presentation to all interpreters a week prior to the event so that they had sufficient opportunity to familiarize themselves with the content and resolve any questions/concerns prior to the virtual Open Houses.

## Project Website

NEP hosts a Project website, https://www.southcoastreliabilityprojects.com/N12M13-Upgrade/. The website provides basic Project information, maps, regular updates, a construction process animation video, and contact information. The website can be viewed in English, Spanish and European Portuguese. The website will be maintained and updated for the duration of the Project.

## Project Hotline

NEP has a dedicated toll-free hotline number (1-833-233-7277) for the Project. The Project toll-free hotline is included in all Project outreach materials, including fact sheets, subsequent mailings, the websites, and at all community events. NEP commits to responding promptly to all inquiries received via the Project hotline. To date all inquiries received through the hotline have been answered within a few days.

## Project Email

NEP has designated info@southcoastreliabilityprojects.com as its Project email address. The email address is included in all Project outreach materials, including fact sheets, mailings, Project website, and at all community events. As with the toll-free hotline, NEP commits to responding promptly to all inquiries received via the Project email.

## Multilingual Materials and Translations

All collateral and Project related materials, including a fact sheet and a map, are available in English, European Portuguese, Cape Verdean, and Spanish. The Project website provides content in English, European Portuguese, and Spanish. Additionally, the virtual Open Houses, held in June and July 2022, included translators who interpreted the presentation content in English, European Portuguese, Cape Verdean, and Spanish along with a chat option.

## Municipal and Stakeholder Briefings

NEP met with City of Fall River officials during the initial launch of the Project in April 2018 to provide a project briefing. Project status updates were provided in subsequent meetings in 2019, 2020, 2021 and 2022.

A fact sheet to explain the Project details, estimated Project timeline, and means for obtaining additional information, was sent to all Project abutters in September 2021. The fact sheet can be found on the website and is available in three languages (English, Spanish and European Portuguese). In response to this letter several Project abutters reached out to the Project toll-free hotline and email. Stakeholder Outreach representatives responded to all inquiries in a timely manner (within 48 hours). Additionally, on multiple occasions an in-person meeting was held on an abutter's property to discuss potential visual impacts to the abutter's property.

### 7.3.2 Communication with Community-Based Organizations

Advance notification of the SEIR Filing was provided via email on April 8, 2023 to CBOs and Tribes, contact information was provided by MEPA with a few organizations provided by the City of Fall River Mayor's office. CBOs and Tribes were informed of ways to request a community meeting, and how to contact the project team through the MEPA Environmental Justice Screening Form. The EJ Screening Form was provided to CBOs and Tribes in English, Spanish, European Portuguese, and Cape Verdean Creole. No CBOs or Tribal representatives requested meetings or responded to the notification.

Table 7-8 is a distribution list of CBOs, Tribes and other individuals or entities NEP intends to maintain for notice during the course of the MEPA review. Advance notification of the SEIR Filing to tribal organizations was in additional to notification requirements and procedures NEP is obligated to fulfill under Section 106. United Way, United Neighbors of Fall River, Youth Services were CBOs recommended by the City of Fall River. The remaining organizations listed below were provided by the EEA's EJ office.

**TABLE 7-8 CBOS AND NATIVE AMERICAN TRIBES CONTACTED BY NEP**

| AFFILIATION | SERVICE AREA |
|---|---|
| Coalition for Social Justice | Fall River |
| Coalition for Social Justice | Fall River |
| United Neighbors of Fall River | Fall River |
| United Way | Fall River |
| Youth Services | Fall River |
| Groundwork South Coast | Fall River and Somerset |
| Wampanoag Tribe of Gay Head (Aquinnah) | Federally Recognized Tribe |
| Appalachian Mountain Club | Massachusetts |
| Browning the GreenSpace | Massachusetts |
| Chappaquiddick Tribe of the Wampanoag Nation | Massachusetts |
| Chappaquiddick Tribe of the Wampanoag Nation, Whale Clan | Massachusetts |
| Chaubunagungamaug Nipmuck Indian Council | Massachusetts |
| Clean Water Action | Massachusetts |
| Community Action Works | Massachusetts |
| Conservation Law Foundation | Massachusetts |
| E4TheFuture | Massachusetts |
| Environment Massachusetts | Massachusetts |
| Environmental League of MA | Massachusetts |
| Healthcare without Harm | Massachusetts |
| Herring Pond Wampanoag Tribe | Massachusetts |

| AFFILIATION | SERVICE AREA |
|---|---|
| Mass Audubon | Massachusetts |
| Mass Climate Action Network | Massachusetts |
| Mass Land Trust Coalition | Massachusetts |
| Mass Rivers Alliance | Massachusetts |
| Massachusetts Commission on Indian Affairs (MCIA) | Massachusetts |
| Neighbor to Neighbor | Massachusetts |
| Nipmuc Nation (Hassanamisco Nipmucs) | Massachusetts |
| North American Indian Center of Boston | Massachusetts |
| Ocean River Institute | Massachusetts |
| Sierra Club MA | Massachusetts |
| The Trust for Public Land | Massachusetts |
| Unitarian Universalist Mass Action Network | Massachusetts |
| Stockbridge-Munsee Tribe | Federally Recognized Tribe |
| Mashpee Wampanoag Tribe | Federally Recognized Tribe |

### 7.3.3 Continued and On-going Stakeholder Outreach

NEP's implementation of its stakeholder outreach communication plan will continue to provide interested parties with periodic Project updates during construction and will offer a consistent point of contact for the public. NEP plans to conduct the following outreach activities to solicit input from community members:

- Door-to-door outreach will continue to be conducted in communities abutting the ROW in which the Project is occurring. This includes all direct abutters to the ROW and ROW access roads and landowners within 300 feet of the Project ROW and substations. This form of outreach may be conducted on multiple occasions to notify the landowners of upcoming activities and/or to address any questions or concerns they may have. Translation services will be accessible through this form of outreach.
- Touch point mailings will be sent to announce updates to the Project or to make abutters aware of upcoming activities. All collateral will be sent in English, Spanish, European Portuguese, and Cape Verdean.
- Updates will be made to the website as the Project progresses. This may include links to any virtual open houses, changes to the Project route, or changes to the Project's projected timeline.
- Project specific 24-hour toll-free hotline number and email will remain active for the duration of the Project. This number, email address, and website URL will be included on all collateral so that community members can contact Project staff directly. Translation services will be available for those who lack English proficiency.
- Additional Open Houses will be held for this Project. Translation services will be provided at these events. Open houses will occur outside of typical work hours and will occur at locations which are easily accessible by public transportation. Any virtual aspect of the Open House(s) will be recorded and posted on the Project website. This way, anyone who was unable to attend can still access the information.

- Meetings, emails, and calls with concerned landowners and Project personnel will be held on a case-by-case basis.

Recognizing the varying needs of its stakeholders, NEP is developing various communication methods to inform stakeholders throughout construction, including as needed: work area signage; advance notification of scheduled construction; personal contact with residents, community groups and businesses; and regular e-mail updates to residents (upon request) and local officials that will include information on upcoming construction activity.

NEP will assign dedicated personnel to the Project who will be responsible for continuing outreach responses during construction and who will provide a consistent point of contact for the public. As noted above, the Project website will be updated during the construction phase, and once a construction commencement date has been selected.

# 8.0 CONSTRUCTION PERIOD CONSIDERATIONS

## 8.1 Construction Environmental Standards

NEP has long established policies and procedures for minimizing construction related disturbances throughout all phases of construction. NEP and their respective contractors will follow these procedures for the proposed system upgrades. These policies and procedures are described below.

- National Grid's ROW Access, Maintenance and Construction Best Management Practices (EG-303NE).
- National Grid's Excess Soil Management from Construction Projects on Rights-of-Way (EG-1707MA), Appendix C.
- National Grid's Spill Release Notification Procedures (EG-501MA and EG-502MA), Appendix C.

### 8.1.1 Environmental Compliance and Monitoring

NEP will develop and implement a SWPPP for the Project that will identify controls to mitigate the potential for erosion and sedimentation from soil disturbance during construction. The SWPPP will include a construction personnel contact list, a description of the proposed work, stormwater controls and spill prevention measures, and inspection practices to be implemented for the management of construction-related storm water discharges from the Project. The SWPPP will be adhered to by the contractors during all phases of Project construction in accordance with the general conditions prescribed in the Project's USEPA Stormwater Construction General Permit.

NEP will require that the construction contractors designate a construction supervisor or equivalent to be responsible for coordinating with the environmental monitor and for regular inspections and compliance with permit requirements. This person or persons will be responsible for providing appropriate training and direction to the other members of the construction crew regarding work methods as they relate to permit compliance and construction mitigation commitments. Additionally, construction personnel will undergo pre-construction training on appropriate environmental protection and compliance obligations prior to the start of construction of the Project. Training topics will include environmental compliance, stormwater management, cultural resources, and safety considerations. Prior to construction activities, all workers will be presented with the spill contingency plan, as described in National Grid's EG-501 and

502. The spill contingency plan addresses prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities, including refueling of machinery and setbacks from resource areas, use of secondary containment devices, storage of fuels and oils, and potential on-site activity releases and response plans. Daily tailboard meetings will include a review of the day's environmental requirements and considerations. Regular construction progress meetings will be held to reinforce contractor awareness of these mitigation measures and as new crew members join the work force.

NEP will also retain the services of one or more environmental compliance monitors to observe construction activities including the installation and maintenance of soil erosion and sediment control BMPs on a routine basis to monitor and report on compliance with all federal, state, and local permit commitments. The environmental monitor(s) will also ensure that refueling and storage of fuels occurs in compliance with all applicable agency standards. The environmental monitor(s) will be experienced in soil erosion control techniques and will have knowledge of wetland resource areas protection.

If necessary, documentation identifying deficiencies of erosion control measures and other permit compliance matters will be immediately brought to the attention of the Site Contractor's construction supervisor for implementation of corrective measures.

A copy of all permits and approvals issued for the Project will be provided to and reviewed by NEP project managers and construction supervisors. These documents will also be provided to the contractor's project manager and construction supervisor prior to construction. Contractors are required, through their contracts with NEP, to understand and comply with all conditions or requirements for any applicable Project permits and approvals. NEP also requires contractors to keep copies of these documents on site and available to all personnel during construction. These documents and applicable conditions will also be reviewed during the construction kick-off meeting in the field between NEP representatives and contractor personnel.

In addition to the measures discussed above, the applicable conditions and provisions of all permits and approvals will be reviewed during project meetings and will be discussed as needed during tailboard meetings, where construction personnel are briefed by their construction supervisor on the upcoming day's work and at that time will be reminded of any related specific compliance conditions.

Given the proximity to the former Shell Oil Terminal located on the Fall River side of the Taunton River, there are previous reports of light non-aqueous phase liquid on the terminal property. NEP may encounter known contaminants associated with previous oil terminal operations during construction of the transmission tower foundations at structure M13N-6. NEP has retained a Massachusetts Licensed Site Professional to support Massachusetts Contingency Plan compliance associated with the construction of the Project, including work conducted under a Project-specific Utility Related Abatement Measures plan. The Massachusetts Licensed Site Professional will facilitate regulatory notifications and reporting required under the Massachusetts Contingency Plan and assist with planning and proper management and disposal of impacted soil and groundwater.

Lead paint will be encountered during lattice tower removal. NEP will follow National Grid's Safety and Environmental Guidance Documents for handling and containment of lead paint chip debris during the tower removal process to protect the health and safety of work personnel and the general public. Specialized work practices will be followed to dismantle the towers and to contain and control the potential to create dust, fumes, or vapors. Paint chip debris will be contained, collected and managed as hazardous waste.

## 8.2 Safety and Public Health Considerations

The Project will be designed, built, and maintained so that the health and safety of the public and construction personnel are protected. This will be accomplished through adherence to federal, state, and local regulations, and industry standards and guidelines established for protection of the public. Specifically, the Project will be designed, built, and maintained in accordance with the NESC and other applicable electrical safety codes. The facilities will be designed in accordance with sound engineering practices using established design codes and guides published by, among others, the Institute of Electrical and Electronic Engineers, the American Society of Civil Engineers, the American Concrete Institute, and the American National Standards Institute.

Practices that will be used to protect the public during construction will include, but not be limited to, contractor safety training, establishing traffic control plans for construction traffic to maintain safe driving conditions, restricting public access to work areas, and using temporary guard structures at road, railroad and electric line crossings to prevent accidental contact with the conductor during installation.

Following construction, all transmission structures will be clearly marked with warning signs to alert the public to potential hazards if climbed. Trespassing on the ROW will be prohibited by the installation of gates and/or barriers at entrances from public roads, where approved by owners of properties upon which easements are located.

## 8.3 Construction Period Best Management Practices

### 8.3.1 Construction Mats

Construction mats are used to distribute the weight of equipment and vehicles, to minimize disturbance to the underlying wetland soil and vegetation. The temporary installation of construction mats will be required to gain access to and across wetlands, to minimize wetland disturbance, and to provide a stable platform for safe equipment operation.

### 8.3.2 Low Ground Pressure Equipment

The use of a LGP vehicle that meets the regulatory requirement of less than 3.0 pounds per square inch (psi) when loaded, may be a feasible alternative to mats. The use of such a LGP vehicle through wetlands requires approval from the NEP Environmental Scientist on a case-by-case basis. This approval is dependent upon several criteria including:

- **Time of year**. LGP equipment use may be allowed if weather and field conditions at the time of construction are suitable to eliminate/minimize the concern of rutting or other impacts. Frozen ground, frozen snowpack, low flow, or drought conditions are typically acceptable conditions. Spring and fall construction, due to the typical higher precipitation, are not suitable times of the year for LGP equipment use.

- **Number of trips**. Multiple trips through a wetland have shown to increase the potential for damage and require matting. LGP equipment use shall only likely be approved if trips are limited to one trip in and one trip out.

- **Type of wetland system**. Some wetlands have harder soils/substrate and may be passable without causing significant damage. Some of the wetlands along NEP ROW have existing hard

bottom roads that have been vegetated over time and may be traversed with LGP equipment without construction mats.

- **Emergencies**. LGP equipment use may be allowed during emergency or storm conditions for outage restoration.

- **State-specific USACE General Permit Performance Standards**: This standard is for no impact to the wetland, which may be obtained by using LGP equipment (< 3.0 psi when loaded). "*Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (<3 psi), or shall not be located directly on wetland soils and vegetation; it shall be placed on swamp mats that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation*."

- **Local bylaws**. Municipal wetland bylaws, where applicable, shall be reviewed for prohibitive conditions or applicable performance standards.

LGP equipment approval is required at the time of construction for each wetland crossing and shall be dependent upon the above conditions. In addition, LGP equipment use, and approval shall be assessed by the NEP Environmental Scientist during construction on a continuing basis. LGP equipment use shall cease immediately if field conditions are found to be unsuitable. Also, if LGP vehicles are used, and wetland damage occurs, the use of the LGP equipment shall be suspended.

As noted in Section 1.3 and throughout this SEIR, the use of LGP equipment within the salt marsh near structure M13N-6 will not be permitted.

### Investment Recovery and Materials Recycling

NEP has an Investment Recovery Department that manages the recycling and disposal of company equipment and materials. The Investment Recovery Department will oversee the recycling and disposal activities associated with the Project, as many assets have value and can be incorporated into the recycling program. NEP is proposing to remove structures on the ROW, during the removal of existing transmission line structures, NEP proposes to recycle as much of the removed material as possible, such as steel members, copper wire, and conductor. Those components that are not salvageable and any debris that cannot be recycled will be removed from the ROW and substation site to an approved off-site facility. Such materials will be handled in compliance with applicable laws and regulations and in accordance with NEP's policy and procedures. The Project will maintain compliance with MassDEP's Solid Waste and Air Pollution Control Programs.

## 8.4 Noise and Mitigation Measures

The noise impacts associated with the Project are limited to temporary construction noise. No new noise generating equipment that would result in a significant continuous noise increase is proposed. NEP contracted the services of Exponent to analyze the potential for audible noise associated with the Project and concluded that the corona[27] discharge produced by the 115 kV transmission line will be minimal; therefore, audible noise and radio noise produced by the transmission line is negligible.

[27] When the electric field at a localized portion of the conductor surface exceeds the breakdown strength of air, a tiny amount of energy is released in the form of conductor vibration, light, audible noise (AN), and radio noise (RN) in a process known as "corona."

The potential for noise impacts from Project construction is a function of the specific receptors along the route as well as the equipment and proposed hours of operation. Project construction is anticipated to occur during typical work hours, though in specific instances, at some locations, or at the request of a municipality, NEP may seek municipal approval to work at night.

The Fall River and Somerset noise ordinances are shown in Table 8-1.

**TABLE 8-1 MUNICIPAL NOISE ORDINANCE SUMMARY**

| MUNICIPALITY CODE | ALLOWED CONSTRUCTION HOURS | | EXCEPTIONS |
|---|---|---|---|
| | Weekday | Weekend | |
| City of Fall River Municipal Code, Chapter 46: Offenses, Section 7 (46-7) | 7 a.m. – 10 p.m. | 8:00 a.m. – 10:00 p.m. (Sundays only) | N/A |
| Town of Somerset Noise Control Bylaw, Article 34 - ATM 5/17/21 | 7:00 a.m. – 10:00 p.m. | 8:00 am – 10:00 pm (weekends and legal holidays) | Construction outside of the allowed hours may be permitted by a permit issued by the Somerset Board of Health for such activity<br><br>Construction-related activity on days for which "Danger" or "Extreme Danger" heat conditions are forecast by the National Weather Service, activities may begin before 7:00 a.m., but not before 5:30 a.m. |

NEP will comply with Massachusetts Department of Environmental Protection's (MassDEP) noise regulation (310 CMR 7.10).[28]

Construction and demolition equipment, which characteristically emits sound, may be fitted with noise-suppressing equipment or may be operated in a manner to suppress and prevent industrial and commercial sources of sound, and reduce other man-made sources of sound.

NEP will mitigate construction noise impacts by:

- Requiring well-maintained equipment with functioning mufflers.
- Requiring muffling enclosures on continuously operating equipment such as air compressors and welding generators.
- Using a low-noise generator (e.g., WhisperWatt™ or equivalent) to reduce noise impacts for cable pulling and splicing.
- Requiring strict compliance with the Massachusetts Anti-Idling Law to prevent equipment from idling and producing unnecessary noise while not in productive use.
- If applicable, mitigating the impact of noisy equipment on sensitive locations by using shielding or buffering distance to the extent practicable.

Noise generated by construction is generally temporary and intermittent. Sound levels from construction activity typically are dominated by the loudest piece of equipment operating at the time. Therefore, at any

[28] MassDEP has a longstanding practice of not applying its Noise Policy to temporary construction sound for purposes of air permitting and, instead, MassDEP requires appropriate noise mitigation measures during the construction period. *Town of Weymouth v. Massachusetts Department of Environmental Protection*, 961 F.3d 34, 57 (1st Cir. 2020); http://www.airandnoise.com/MA310CMR710.html.

given point along the work corridor, the loudest piece of equipment will be the most representative of the expected sound levels in the area.

Table 8-2 identifies the types of equipment to be used for each phase of the construction sequence and provides a range of typical sound levels from the equipment. The typical sound levels are provided at a distance of 50 feet from the source and have also been extrapolated for noise levels at 100, 200, and 300 feet. The estimated noise levels range from 80 A-weighted decibels (dBA) to 98 dBA at a distance of 50 feet from the construction activity. The closest residence along the Project ROW is approximately 100 feet away from the separated transmission lines, resulting in intermittent noise of up to 92 dBA during vegetation removal and ROW mowing, with lower levels of noise during other phases of Project construction. Typical sound levels of construction noise experienced at any given residence will be sporadic and of limited duration.

**TABLE 8-2 TYPICAL CONSTRUCTION SOUND LEVELS**

| DESCRIPTION OF ACTIVITY | TYPES OF EQUIPMENT | TYPICAL SOUND LEVELS AT 50 FEET (dBA) | ESTIMATED SOUND LEVELS (dBA) AT VARIOUS DISTANCES FROM NOISE SOURCES | | |
|---|---|---|---|---|---|
| | | | 100 Feet | 200 Feet | 300 Feet |
| Vegetation Removal and ROW Mowing | • Grapple trucks<br>• Bulldozers<br>• Track-mounted mowers<br>• Motorized tree shears<br>• Log forwarders<br>• Chippers, Chain saws<br>• Box trailers | 84 to 98 | 78 to 92 | 72 to 86 | 69 to 83 |
| Erosion/Sediment Controls and Access Road Improvements and Maintenance | • Dump trucks<br>• Bulldozers, excavators, backhoes<br>• Graders, Forwarders<br>• 10-wheel trucks with grapples, Cranes | 80 to 93 | 74 to 87 | 68 to 81 | 65 to 78 |
| Removal and Disposal of Existing Transmission Line Components | • Cranes<br>• Flatbed trucks<br>• Pullers with take-up reel<br>• Excavators | 80 to 90 | 74 to 84 | 68 to 78 | 65 to 75 |
| Installation of Foundations and Structures | • Backhoes and excavators<br>• Rock drills mounted on excavators<br>• Cluster drills with truck mounted compressors<br>• Concrete trucks<br>• Cranes<br>• Aerial lift equipment<br>• Tractor trailers | 80 to 90 | 74 to 84 | 68 to 78 | 65 to 75 |
| Conductor and Shield Wire Installation | • Puller-tensioners<br>• Conductor reel stands<br>• Cranes<br>• Bucket trucks<br>• Flatbed trucks | 80 to 93 | 74 to 87 | 68 to 81 | 65 to 78 |

| DESCRIPTION OF ACTIVITY | TYPES OF EQUIPMENT | TYPICAL SOUND LEVELS AT 50 FEET (dBA) | ESTIMATED SOUND LEVELS (dBA) AT VARIOUS DISTANCES FROM NOISE SOURCES | | |
|---|---|---|---|---|---|
| | | | 100 Feet | 200 Feet | 300 Feet |
| Restoration of the ROW | • Bulldozers, Excavators<br>• Tractor-mounted York rakes<br>• Straw blowers<br>• Hydro-seeders | 80 to 90 | 74 to 84 | 68 to 78 | 65 to 75 |

Source: https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/handbook09.cfm

At Sykes Road Substation, in the City of Fall River, construction activities will be limited to the replacement of line taps, installation of two line disconnect switches, and connections to the station bus. No new noise generating equipment is proposed at the Sykes Road Substation under this Project submission. The substation is surrounded by utility corridors and commercial uses, including an industrial park with heavy truck traffic, with the nearest residence located approximately 300 feet south of the substation. Audible noise levels in residential areas are typically around 55 dBA during the day; the nearest resident to the substation may experience intermittent noise up to 75 dBA during construction activities.

NEP expects construction to occur over a period of approximately 12 months, depending upon the availability of outage windows and other possible restricted work hours. NEP will require that construction comply with the town noise ordinances. Temporary noise impacts from construction equipment will be mitigated by maintaining equipment in good working condition and by use of appropriate mufflers. Noise sources that may operate continually during the day, such as generators or air compressors, will be located away from populated areas to the extent possible. NEP and its contractors will also comply with state law (G.L. c. 90, § 161A) and MassDEP regulations (310 CMR 7.11(1)(b)), which limit vehicle idling to no more than five minutes, to the greatest extent feasible based upon the construction task, type of equipment/vehicle and weather conditions. Only necessary equipment will run during construction to minimize engine noise. With the implementation of these measures, noise impacts associated with the Project will be minimized.

## 8.5 Air Quality and Greenhouse Gas Emissions

### 8.5.1 Greenhouse Gas

As explained in the EENF and summarized in the EENF Certificate, the Project will have little or no greenhouse gas (GHG) emissions once construction is complete. Temporary GHG emissions are anticipated only during the construction phase of the Project and are not expected to be ongoing. As such, the Project falls under the *de minimus* exemption of the Greenhouse Gas Emission Policy and Protocol and the EENF Certificate did not require any additional GHG emissions analysis.

NEP acknowledges the requirement to use construction equipment with engines manufactured to Tier 4 federal emission standards and will require Project contractor(s) to adhere to these standards. NEP has committed that any diesel-powered non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of Project construction will either be USEPA Tier 4-compliant or will be retrofitted with USEPA-verified (or equivalent) post-combustion emission control devices such as oxidation catalysts or other comparable best available control technology to the extent that they are commercially available and feasible.

### 8.5.2 Air Quality

Once the transmission lines are operational, they will not produce emissions. There is no anticipated long-term impact on air quality associated with the operation of the transmission lines.

During construction of this Project, NEP will take measures to limit vehicle idling times and to reduce air emissions. NEP will also implement construction best management practices to suppress dust generation and fugitive dust emissions. Due to the transitory nature of construction activities, air quality in the Fall River and Somerset area will not be significantly affected by construction along the ROW.

Typical construction equipment will be used for construction of the Project. NEP will take measures to reduce construction period impacts and limit vehicle idling times and to reduce air emissions, including the following: limit vehicle idling times and to reduce air emissions, including the following:

- Comply with all applicable MassDEP regulation regarding Air Pollution Control (310 CMR 7.01, 7.09-10), and Solid Waste Facilities (310 CMR 16.00 and 310 CMR 19.00).
- Any diesel-powered non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of construction will either be USEPA Tier 4-compliant or will be retrofitted with USEPA-verified (or equivalent) emission control devices such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available) installed on the exhaust system side of the diesel combustion engine.
- NEP requires the use of ultra-low sulfur diesel fuel in its diesel-powered construction equipment and limits idling time to five minutes except when engine power is necessary for the delivery of materials or to operate accessories to the vehicle such as power lifts.
- Vehicle idling is to be minimized during construction activities, in compliance with the Massachusetts Anti-idling Law, G.L. c. 90, § 16A, c. 111 §§ 142A – 142M, and 310 CMR 7.11.
- Additionally, exposed soils on access roads or soil stockpiles will be wetted and stabilized as necessary to suppress dust generation during construction (see Section 8.3).

# 9.0 STATUTORY AND REGULATORY STANDARDS

The Secretary of EEA requested that NEP provide information regarding applicable statutory and regulatory standards and requirements, and a description of how the project will meet those standards. NEP will coordinate all non-environmental permitting with the applicable jurisdictional agencies, as appropriate. The major permits and approvals and regulatory compliance required for the Project are discussed below.

## 9.1 Permit Requirements and Status

NEP will obtain all required approvals and permits required by federal, state, and local agencies applicable to the Project activities, and the Project will be constructed and operated to comply fully with state and local environmental performance standards. Table 9-1 below provides a listing of anticipated permits and approvals for the Project.

## TABLE 9-1 ANTICIPATED ENVIRONMENTAL PERMITS AND APPROVALS

| AGENCY/ REGULATORY AUTHORITY | PERMIT AND/OR PURPOSE OF APPROVAL | STATUS |
|---|---|---|
| **Federal Approvals** | | |
| U.S. Army Corps of Engineers, New England District (USACE-NED) | Section 404 Permit (Pre-Construction Notification)<br>Section 10 Permit Modification<br>National Historic Preservation Act - Section 106 Consultation | Anticipated Q3 2023 |
| U.S. Fish & Wildlife Service (USFWS) | Section 7 Endangered Species Act Consultation, information for Planning and Consultation (IPaC) review | Submitted April 26, 2022 |
| U.S. Environmental Protection Agency (USEPA) | National Pollutant Discharge Elimination System (NPDES) – Construction General Permit | Q4 2023 |
| **State Approvals** | | |
| Massachusetts Department of Public Utilities (DPU) | Petition for authority to construct a new transmission line pursuant to G.L. c. 164 § 72 | Submitted August 5, 2022 |
| Massachusetts Department of Environmental Protection (MassDEP), Waterways Division | Chapter 91 License (new license) | Anticipated Q3 2023 |
| MassDEP | Individual Section 401 Water Quality Certification | Anticipated Q3 2023 |
| MassDEP | Massachusetts WPA – Superseding Order of Conditions (potential) | Q3 2023 |
| Massachusetts Historical Commission (MHC) | Review under National Historic Preservation Act (NHPA) of 1966 and G.L. c. 9 § 27C | Q1 2023 |
| Massachusetts Office of Coastal Zone Management | Federal Consistency Review | Q2 2023 |
| Massachusetts Natural Heritage & Endangered SpeciesProgram | MESA Checklist | Submitted April 26, 2022 |
| Massachusetts Department of Transportation (MassDOT) | State and Interstate Highway Right-of-Way Encroachment<br>State highway Access Permit | Q3 2023 |
| **Municipal Approvals** | | |
| City of Fall River City Council/Town of Somerset Board of Selectmen | New or amended Grants of Location under G.L. c. 166, Sec. 22 | TBD Once DPU approval is received |
| Somerset Conservation Commission | Massachusetts Wetlands Protection Act - Order of Conditions | Q3 2023 |
| Fall River Conservation Commission | Massachusetts Wetlands Protection Act - Order of Conditions | Q3 2023 |

## 9.2 Federal Permits

### 9.2.1 United States Army Corps of Engineers General Permit

NEP will file with the USACE New England District for coverage under the Department of the Army General Permits for the Commonwealth of Massachusetts for work in coastal and freshwater wetlands covered under Section 404 of the Clean Water Act. NEP will also file with the USACE under Section 10 of the Rivers and Harbors Act for the aerial crossing of the Taunton River, which is listed as a navigable waterway by the USACE.

### 9.2.2 United States Environmental Protection Agency

NEP will prepare and submit a Notice of Intent with the USEPA in compliance with the NPDES Program for coverage under the Stormwater Construction General Permit, under Section 402 of the Clean Water Act. As part of this submittal NEP will prepare a SWPPP for the Project. Components of the SWPPP will include: a construction contact list; a description of the proposed work; storm water controls; spill prevention; and inspection practices for the management of construction-related stormwater discharges from the Project.

## 9.3 State Permits

### 9.3.1 Massachusetts Department of Environmental Protection

**Section 401 State Water Quality Certification**

The following provides applicable Water Quality Certification Regulatory criteria (314 CMR 9.06) and the Project's compliance with each:

*(1) No discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.*

**Response:** NEP conducted a comprehensive alternatives analysis in response to ISO-NE identifying thermal and voltage needs. The Project alternatives included:

- A No-Action Alternative.
- An Undersea Cable Alternative based on Alternative 1 in the ISO-NE 2026 Solutions Study.
- Hybrid Solution involving a variety of upgrades, including the reconductoring of 34.6 miles of 115 kV transmission lines, the installation of two 75 megavolt amperes reactive (MVAR) synchronous condensers at Eversource's High Hill Substation, and two 15 MVAR synchronous condensers at RIE's Dexter Substation.
- NTAs such as energy efficiency/demand response, energy storage and solar PV, and conventional and renewable generation.

Through this SEIR, the Company demonstrates that the Project – the separation of the double-circuited N12 and M13 Lines between the Pottersville Switching Station and Sykes Road Substation – is the

preferred alternative because it is the best solution when balancing considerations of reliability, cost, and environmental impacts. The Project:

- Maximizes use of existing transmission lines and ROW.
- Minimizes environmental and social impacts.
- Provides the lowest cost solution to meet the identified need.

NEP is of the opinion that the Project as proposed will best address the identified need and will improve transmission system reliability. The preferred project route is the best solution when balancing considerations of system reliability, costs to customers, potential environmental impacts, and engineering and construction feasibility. This choice is also consistent with ISO-NE's recommendation of the Project as the preferred solution to meet the identified need.

*(2) No discharge of dredge or fill material shall be permitted unless appropriate and practicable steps have been taken which will avoid and minimize potential adverse impacts to the bordering or isolated vegetated wetland.*

**Response:** Despite the extensive avoidance and minimization measures described in this SEIR, construction of the Project will result in limited unavoidable impacts to wetlands and water resources within the Project ROW. These impacts will include secondary, temporary, and permanent impacts, depending on the specific construction activity. Secondary impacts on wetlands and water resources will occur where tree removal results in a conversion of habitat type from forested to scrub-shrub and or emergent wetland within an existing transmission line ROW. Temporary impacts will result from the placement of construction mats as work pads in wetlands, as necessary for construction. Permanent impacts will result from the placement of fill required for structure installation.

Environmental resource areas temporarily disturbed by construction will be restored in accordance with applicable permit conditions. Additionally, the construction, operation and maintenance of the Project will have a minimal impact on waterbodies and water quality. The design of the overhead transmission lines inherently avoids most direct adverse impacts to such resources.

*(3) No discharge of dredge or fill material shall be permitted to Outstanding Resource Waters, except for the activities specified in 314 CMR 9.06 (3)(a) through (k)….(f) Construction of utilities…*

**Response:** There are no ORWs in the Project ROW.

*(4) The discharge of dredged or fill material into wetlands or waters of the Commonwealth within 400 feet of the high-water mark of a Class A surface water (exclusive of tributaries) requires a variance issued by the Department pursuant to 314 CMR 9.08 unless the discharge of dredge or fill material is associated with an activity conducted by a public water system under 310 CRM 22.00 or by a public agency or authority for the maintenance or repair of existing public roads or railways.*

**Response**: There are no ORWs in the Project ROW. No work will occur within 400 feet of a surface water supply.

*(5) No discharge of dredge or fill material is permitted for the impoundment or detention of stormwater for purposes of controlling sedimentation or other pollutant attenuation.*

**Response:** No discharge of dredged or fill material is proposed for the impoundment or detention of storm water for purposes of controlling sedimentation or other pollutant attenuation.

*(6) Except as otherwise provided in 314 CMR 9.06, storm water discharges shall be provided with best management practices to attenuate pollutants and to provide a setback from the receiving water or wetlands in accordance with the following Storm Water Management Standards as further defined and specified in the Massachusetts Storm Water Handbook….*

**Response:** During construction, BMPs including but not limited to soil erosion and sediment control will be used to minimize and mitigate for permanent, temporary, and secondary impacts. In addition, NEP is considering mitigation of the temporarily affected areas along the Project ROW which may include restoration of temporarily disturbed areas and possibly wetland replication to mitigate for permanent impact to BVW, in consultation with the municipal conservation commission and MassDEP.

*(7) No discharge of dredge or fill material shall be permitted in the rare circumstances where the activity meets the criteria for evaluation but will result in substantial adverse impacts to the physical, chemical, or biological integrity of surface Waters of the Commonwealth.*

**Response:** The Project has been designed to meet the criteria for evaluation through impact avoidance and minimization measures and the implementation of construction BMPs, including the use of temporary construction mats versus permanent fill in wetland. In addition, during the construction process, NEP will assign an environmental monitor(s) to report on compliance with all federal, state and local, permit requirements and relevant NEP company policies and procedures. As such, the Project is not expected to result in substantial adverse impacts to the physical, chemical, or biological integrity of surface waters of the Commonwealth. A detailed description of Construction Methods and Potential Project Impacts and Mitigation Measures are provided in Section 10.0 of this SEIR.

## Massachusetts Wetland Protection Act Order of Conditions

The Project has been designed to meet the general performance standards for wetland resource areas protected by the Massachusetts Wetland Protection Act (MA WPA) and associated Regulations, whenever feasible. However, due to the linear nature of the Project, it is not feasible to avoid all resource areas.

The Project will require approvals under the MA WPA and the implementing regulations at 310 CMR 10.00 which assert jurisdiction over state-wetland resource areas that have been identified in the Project area, including LSCSF, Coastal Bank (CB), Inland Bank (IB), BVW, LUWW, RFA, Salt Marsh (SM), Project-related impacts to these resource areas require the issuance of an Order of Conditions by the Somerset and Fall River Conservation Commissions.

A Notice of Intent will be filed with each Conservation Commission detailing the proposed work, the short-term and long-term impacts, and the proposed mitigation for those impacts. The wetlands review process is focused on how the Project and proposed mitigation conform to the performance standards for each affected resource area. The Project qualifies for limited project status under the MA WPA as specified at 310 CMR 10.24(7)(b) and 310 CMR 10.53(3)(d), which extends such status to projects which consist of "construction, reconstruction, operation, and maintenance of underground overhead public utilities . . .", as outlined below. The City of Fall River Planning Board adopted a "Notice of Adoption of Policies Regarding Buffer Zones" to further protect wetland resource areas with a 25-foot No Disturb Zone. Both Somerset and Fall River administer the MA WPA regulations.

The MA WPA Regulations (310 CMR 10.04) define LSCSF as "land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is greater." Though LSCSF is not provided with presumptions of significance in the Preamble or performance standards in Part II of the MA WPA, it is identified as an area subject to protection under

MA WPA Section 10.02(1)(d) and can be protected if it is determined significant to the interests of the Act - storm damage prevention, flood control, the protection of wildlife habitat, and the prevention of pollution.

## Limited Project Provisions

Under the Limited Project provisions of the MA WPA regulations, the permit issuing authority may approve a project that exceeds the performance standards for the affected resource areas. The applicable Limited Project provisions for 310 CMR 10.24(7)(b) and 310 CMR 10.53(3)(d) are described below:

### 310 CMR 10.24(7)(b)

*For local distribution or connecting lines not reviewed by the Energy Facilities Siting Council, the Issuing Authority determines that alternative routes with fewer adverse effects are not physically or legally feasible.*

**Response:** The Project will be reviewed by the DPU under a separate Section 72 Petition filed August 5, 2022, including a review of feasible alternatives to the Project.

*Adverse effects during construction are minimized using the best available measures, which may include such equipment as Bailey bridges and helicopters;*

**Response:** The Project construction means and methods incorporate BMPs to avoid and minimize impacts to coastal wetlands including LSCSF.

*The surface vegetation and contours of the area are substantially restored;*

**Response:** The Project has been designed to meet the criteria for evaluation through impact avoidance and minimization measures and the implementation of construction BMPs. Impacts to vegetation and soil will be mitigated for at the completion of the Project. Native seed mix shall be spread, observed rutting shall be smoothed, and soil will be stabilized. A detailed description of Construction Methods and Potential Project Impacts and Mitigation Measures are provided in Section 8.0.

*No permanent access roads shall be permitted except in Designated Port Areas;*

**Response:** Existing access roads are to be utilized within the Mount Hope Bay Designated Port Areas near Weavers Cove in Fall River. As described herein, construction of new access roads within the ROW will be performed, but no permanent access roads will be constructed through bordering vegetated wetlands or streams. New access roads will be established in compliance with the conditions and approvals of the appropriate federal, state and local regulatory agencies. NEP plans to improve existing ROW access roads and to construct new access roads in two locations:

- Upgrades to an approximately 885-foot-long road within NEP's existing ROW to provide access, in Fall River, to proposed Structures N12-7, M13N-7, N12-8 and M13N-8 (adjacent to the railroad ROW) from North Main Street and will have a travelled width of approximately 14 to 16 feet to accommodate construction vehicles and equipment deliveries, including concrete and pole deliveries.
- Construction of an approximately 670-foot-long road adjacent to the MBTA-owned railroad facilities and the existing rail line operated by Mass Coastal Rail, in Fall River, to access Structures N12-6 and M13N-6 ("Y-frame" structure). NEP's facilities on this parcel are currently

landlocked by private property and MBTA rail tracks. The new access road will be constructed with trap rock underlain by geotextile fabric and will have a travelled width of approximately 14 to 16 feet to accommodate construction vehicles and equipment deliveries.

*The conduits or structures shall be designed to minimize, using the best available measures, adverse effects on the relevant interests of M.G.L. c. 131, § 40 due to changes in wave action or sediment transport or adjacent coastal banks, coastal beaches, coastal dunes, salt marshes or barrier beaches.*

**Response:** Proposed transmission structure number M13N-6 to be located on the Fall River side of the Taunton River will be engineered and constructed using best available measures to include the following:

- The 12.5-foot diameter steel monopole structure will be centered on a pile cap supported by a total of 36 micro-piles and each micro-pile will be socketed at least 15 feet into bedrock.
- The circular pile cap is 42 feet in diameter and ranges from 8 to 10 feet in thickness with a 4-foot-tall pedestal at the center of the pile cap for the tower connection.
- Ground improvement consists of an approximately 52-foot diameter ring of jet grout columns with vibro-compaction within the interior of the ring around the base of the structure.
- The jet grout ring is to consist of a single row of approximately 4-foot diameter overlapping jet grout columns to confine the vibrations and ground settlement that will occur from the vibro-compaction.
- The proposed structure was designed to be located above the existing 10-year storm level plus a 4-foot reveal on the new foundation. We anticipate approximately 2.5 feet of buffer between the project MHW mark and the bottom of the steel structure.
- There will be 5- to 6-foot-tall bollards installed around the base of the structure to mitigate the potential impact of floating debris.

To resist the potential scour and erosion a rip rap apron around the structure foundation is proposed. The apron will extend out from the pile cap in an approximate 20-foot radius around the perimeter of the foundation. The proposed apron will be a 30-inch layer of rip rap, 6.0 inches of bedding, and a bottom layer of geotextile fabric. The rip rap will be at least 13 inches in size to resist uplift. At the pedestal of the structure, the rock will be ramped up on a 5:1 slope for added protection of the pedestal. More details on this armoring is provided in Section 4.4.3.

## 310 CMR 10.53(3)(d)

*The issuing authority may require a reasonable alternative route with fewer adverse effects for a local distribution or connecting line not reviewed by the Energy Facilities Siting Council;*

**Response:** The Project is not being reviewed by the Energy Facilities Siting Board (EFSB) because it does not exceed any of the EFSB review thresholds. The Project is however to be reviewed by the Massachusetts Department of Public Utilities which will review the alternatives analyzed by NEP. NEP conducted a comprehensive alternatives analysis in response to ISO-NE identifying large load losses and voltage collapse issues.

The Project was determined to be the preferred alternative based on consideration of engineering requirements, construction feasibility, minimizing real estate acquisition requirements, minimization of environmental impacts facility reliability and security, and overall project costs, all while addressing the ISO-NE identified need.

*Best available measures shall be used to minimize adverse effects during construction;*

**Response:** NEP will implement construction BMPs as detailed in National Grid's Environmental Guidance document EG-303NE, including soil and erosion control measures and storm water management practices. Section 5.0 of this document addresses minimization and avoidance measures NEP will use to reduce overall impacts. NEP is committed to working with federal, state, and local regulatory agencies and providing an appropriate range of mitigation measures.

*The surface vegetation and contours of the area shall be substantially restored; and*

**Response:** Where access across BVW within the Project ROW is required construction mats will be temporarily placed to facilitate safe access. Should a stream channel need to be crossed, a temporary air-bridge consisting of construction mats will be temporarily installed to avoid impacts to the stream banks and stream channel. Some structure work pads extend into adjacent BVW and will include the temporary installation of construction mats to gain access to the structures. At the conclusion of construction, all of the construction matting will be removed from the Project ROW. The affected areas of vegetated wetlands will be inspected and monitored. Should the Environmental Compliance Monitor(s) report the need for corrective actions, such as surface grading, removal of stone or replanting, NEP is prepared to implement the appropriate mitigation measures, including restoring the surface vegetation and contours of the areas to pre-existing conditions to the extent practicable following the Project activities. More details on environmental monitoring is provided in Section 5.0 of this SEIR.

Wetlands that are temporarily impacted by the placement of temporary swamp mats will be restored in-situ. This will involve the removal of the swamp mats, light grading of any ruts that may have been created and applying straw mulch to allow natural revegetation. Supplemental seeding of these temporarily impacted wetlands may occur if natural revegetation is in any way hindered. Where tree removal is required along transmission line ROW, routine vegetation maintenance will continue within the transmission line corridor, as is the current practice. Vegetation will be maintained as low-growth shrubs or grasses and herbs.

*All sewer lines shall be constructed to minimize inflow and leakage.*

**Response:** This stipulation is not applicable to the Project as no sewer lines are proposed. The City of Fall River does maintain a sewer main that is partially located within the NEP ROW. The Project has been designed to avoid impacts to the city sewer main.

The sections below summarize compliance with the MA WPA's general performance standards for resource areas impacted by the Project.

## Coastal Banks (310 CMR 10.30)

**Response:** Where CB is encountered, the following MA WPA general performance standards apply.

*[310 CMR 10.30 (6)] - Any project on such a coastal bank or within 100 feet landward of the top of such coastal bank shall have no adverse effects on the stability of the coastal bank.*

**Response:** The CB delineated by POWER (as documented in Section 4.0 and Appendix B) is not composed of a predominance of unconsolidated sediment nor exposed to vigorous wave action, and therefore does not serve as a major continuous source of sediment for the adjacent Coastal Beach. The CB, because of their height and stability, does act to serve as a vertical buffer to protect upland areas from storm damage and flooding.

No long-term impacts are proposed on the stability of the coastal bank. NEP is proposing the installation of a permanent access road to M13N-6, the river crossing structure found on the east side of the Taunton River. This proposed access road will impact a vertical CB. NEP will conduct minor grading within the access road and associated structure work pad to bring the topography to grade. Stone will be placed on top of the work pad and access road to restrict occurrences of soil erosion and to provide stability to the area when heavy construction vehicles traverse these locations. To ensure the access road does not impact stability of the CB, NEP is considering the installation of permeable grids which allow water penetration to the soil below without impacting the areas stability. Jute mesh will be installed on the vegetated edges of the access road to maintain stability. Within the CB buffer zone, native seed mix will be spread and topped with jute mesh to stabilize the area following construction activities.

NEP has incorporated measures in its design of the Project, namely proposed Structure M13N-6, to minimize impacts to the CB functions of storm damage prevention and flood control. To protect the integrity of the transmission structure and the Coastal Bank where the structure is sited, soil amendments will be added to the area surrounding structure M13N-6 consisting of a combination of: (i) physical vibro-compaction of the in-situ soils and sediments and (ii) injection grouting at least 50 feet beyond the structure foundation to reduce the potential of collapse or subsidence of the CB. Mitigation measures to further reduce impacts to CB are discussed in Sections 5.0 and 10.1 of this SEIR.

*[310 CMR 10.30 (7)] - Bulkheads, revetments, seawalls, groins or other coastal engineering structures may be permitted on such a coastal bank except when such bank is significant to storm damage prevention or flood control because it supplies sediment to coastal beaches, coastal dunes, and barrier beaches.*

**Response**: Storm bollards are proposed to be placed on the CB surrounding structure M13N-6 to prevent impacts of debris and storm damage to the base of the structure. The CB in this area is considered a vertical-buffer bank not a sediment source bank, enabling the permitting on the bollards.

*[310 CMR 10.30 (8)] - Notwithstanding the provisions of 310 CMR 10.30(3) through (7), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.37.*

**Response:** No impacts to rare species habitat are proposed.

## Inland Bank (310 CMR 10.54)

**Response:** Where IB is encountered, the following MA WPA general performance standards apply:

*[310 CMR 10.54 (4)(a)]- Where the presumption set forth in 310 CMR 10.54(3) is not overcome, any proposed work on an IB shall not impair the following:*

1. *the physical stability of the Bank;*
2. *the water carrying capacity of the existing channel within the Bank;*
3. *groundwater and surface water quality;*
4. *the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries;*
5. *the capacity of the Bank to provide important wildlife habitat function. A project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987, that*

*(cumulatively) alter(s) up to 10% or 50 feet (whichever is less) of the length of the bank found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. In the case of a bank of a river or stream. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures contained in 310 CMR 10.60.*

**Response:** Temporary alteration of IB will result from the placement of swamp mats across stream banks in construction work areas. The use of construction mats will minimize stream bank impacts by avoiding compaction, bank erosion, and loss of vegetation and will not result in permanent impact to the physical ability of the banks or the water carrying capacity of the existing channels. The use of construction mats will not impact groundwater or surface water or the capacity of the IBs to provide breeding habitat, escape cover, food for fisheries, or reduce the capacity of the IBs to provide important wildlife habitat functions, as these areas will be restored after construction is complete.

Tree removal is proposed which will result in a permanent conversion in cover type to scrub-shrub or emergent. There are no anticipated impacts to the stability of the IB due to the tree removal since tree stumps will remain in place. Despite tree removal it is anticipated that the IB will continue to function as wildlife habitat. There are no anticipated impacts to the water carrying capacity of the channel, or the groundwater and surface water quality.

*[310 CMR 10.54 (4)(b)] – Notwithstanding the provisions of 310 CMR 10.54(4)(a), structures may be permitted in or on a Bank when required to prevent flood damage to facilities, buildings and roads constructed prior to the effective date of 310 CMR 10.51 through 10.60 or constructed pursuant to a Notice of Intent filed prior to the effective date of 310 CMR 10.51 through 10.60 (April 1, 1983).*

**Response:** Not applicable; no structures are proposed in or on an IB.

*[310 CMR 10.54 (4)(c)] – Notwithstanding the provisions of 310 CMR 10.54(4)(a) or (b), no project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.59.*

**Response:** There are no anticipated impacts to the Taunton River from activities pertaining to the design, construction, and operation of the Project. On May 3, 2022, NHESP concluded that the project does not occur within Estimated Habitat of Rare Wildlife or Priority Habitat (see Appendix E).

## Bordering Vegetated Wetlands (310 CMR 10.55)

BVW is prevalent throughout the Project ROW. Where BVW is encountered, the following MA WPA general performance standards apply:

*[310 CMR 10.55 (4)(a)] – Where the presumption set forth in 310 CMR 10.55(3) is not overcome, any proposed work in a BVW shall not destroy or otherwise impair any portion of said area.*

**Response:** NEP has designed the Project to avoid or minimize wetland impacts to the greatest extent practicable. However, temporary, and permanent impacts to BVW will occur. Unavoidable temporary impacts to BVW will occur in work areas and along access routes during construction. These impacts are primarily associated with the use of stabilization techniques (e.g., swamp mats, stabilizing material) which minimize impacts while allowing necessary work within resource areas to occur. Secondary impacts consisting of woody tree removal will occur along the existing ROW. Removal of mature woody vegetation is necessary to safely accommodate the overhead M13N transmission Line. Where tree removal occurs within BVW, BVW will be converted from a forested vegetated wetland community

(PFO) to a scrub-shrub (PSS) or palustrine emergent (PEM) wetland community. Once the trees are removed, these once forested sections will be maintained as scrub-shrub or emergent wetlands. Permanent impacts to BVW are unavoidable and are limited to the footprint of foundations for four new structures. Minimal impacts will be offset through compensatory mitigation determined in consultation with the City of Fall River Conservation Commission, MassDEP and the USACE.

*[310 CMR 10.55 (4)(b)] – Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of up to 5,000 sf of BVW when said area is replaced in accordance with the following general conditions and any additional, specific conditions the issuing authority deems necessary to ensure that the replacement area will function in a manner similar to the area that will be lost:*

1. *the surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area");*
2. *the ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area;*
3. *the overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area;*
4. *the replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area;*
5. *the replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area;*
6. *at least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative reestablishment any exposed soil in the replacement area shall be temporary stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods; and*
7. *the replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00.*

**Response:** The proposed work in Fall River will result in the permanent loss of BVW due to structure foundations where BVW impacts could not be avoided. Project mitigation for permanent, temporary, and secondary impacts may include wetland enhancement and restoration along the transmission line ROW and on-ROW as described in Section 5.3.

*[310 CMR 10.55 (4)(d)] – Notwithstanding the provisions of 310 CMR 10.55(4)(a),(b), or (c), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.*

**Response:** There are no anticipated impacts to the Taunton River from activities pertaining to the design, construction, and operation of the Project.

*[310 CMR 10.55 (4)(e)] – Any proposed work shall not destroy or otherwise impair any portion or BVW that is within an Area of Critical Environmental Concern designated by the Secretary of Environmental Affairs under M.G.L. c.21A, § 2(7) and 301 CMR 12.00.*

**Response:** Not applicable; the Project ROW is not located within an Area of Critical Environmental Concern.

## Land Under Water Bodies and Waterways (310 CMR 10.56)

**Response:** Where Land Under Water Bodies and Waterways (LUWW) is encountered, the following MA WPA general performance standards apply:

*[310 CMR 10.56 (4)(a)] – Where the presumption set forth in 310 CMR 10.56(3) is not overcome, any proposed work within LUW shall not impair the following:*

1. *The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;*
2. *Ground and surface water quality;*
3. *The capacity of said land to provide breeding habitat, escape cover and food for fisheries;*
4. *The capacity of said land to provide important wildlife habitat functions. A project, or projects on a single lot, for which Notice(s) of intent is filed on or after November 1, 1987, that (cumulatively) alter(s) up to 10% of 5,000 sf (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions. Additional alterations beyond the above threshold may be permitted if they will have no adverse effects on wildlife habitat, as determined by procedures established under 310 CMR 10.60; and*
5. *Work on a stream crossing shall be presumed to meet the performance standard set forth in 310 CMR 10.56(4)(a).*

**Response:** Tree removal is proposed on the northern and southern edge of the ROW where Steep Brook enters and exits the ROW. It is anticipated that the IB will continue to function as wildlife habitat. There are no anticipated impacts to the water carrying capacity of the channel, or the groundwater and surface water quality.

Additional impacts to LUWW have been avoided through the use of swamp mats designed to span ephemeral tributaries during construction. The use of swamp mats will not impact groundwater or surface water or the capacity of the LUWWs to provide breeding habitat, escape cover, food for fisheries, or reduce the capacity of the LUWWs to provide important wildlife habitat functions, as these areas will be restored after construction is complete.

*[310 CMR 10.56 (4)(b)] – Notwithstanding the provisions of 310 CMR 10.56(4)(a), the issuing authority may issue an Order in accordance with M.G.L. c.131, § 40 to maintain or improve boat channels with Land Under Water Bodies and Waterways when said work is designed and carried out using the best practical measures so as to minimize adverse effects such as the suspension or transport of pollutants, increases in turbidity, the smothering of bottom organisms, the accumulation of pollutants by organisms* or the destruction of fisheries habitat or nutrient source areas.

**Response:** Not applicable because the Project is not maintaining or improving boat channels.

*[310 CMR 10.56 (4)(c)] – Notwithstanding the provisions of 310 CMR 10.56(4)(a) or (b), no project may be permitted which will have any adverse effect on specified habitat sites or rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.*

**Response:** Not applicable, no impacts are proposed to rare vertebrate or invertebrate species habitat.

## Riverfront Area (310 CMR 10.58)

**Response:** Where RFA is encountered, the following MA WPA general performance standards apply:

*[310 CMR 10.58 (4)(a)] – Protection of Other Resource Areas: The work shall meet the performance standards for all other resource areas within the riverfront area, as identified in 310 CMR 10.30 (coastal bank), 10.32 (salt marsh), 10.55 (BVW), and 10.57 (Land Subject to Flooding). When work in riverfront area is also within the buffer zone to another resource area, the performance standards for the riverfront area shall contribute to the protection of the interests of M.G.L. c. 131, § 40 in lieu of any additional requirements that might otherwise be imposed on work in the buffer zone within riverfront area.*

**Response:** The Project will result in temporary and permanent impacts to RFA. Permanent impacts in RFA are limited to construction of new Structure M13N-5 and M13N-6 located on the Taunton River. Temporary disturbance in RFA will result from the temporary placement of construction mats to establish stable work pads, pull pads, and access to the sites areas. NEP recognizes that maintaining/reestablishing the natural vegetation within the RFA is critical to protecting water supplies, providing flood control, preventing pollution, and protection wildlife and fisheries habitat. Impacts to RFA will be mitigated after the completion of the Project, impacted RFA will be loamed and seeded to allow vegetative cover to reestablish.

*[310 CMR 10.58 (4)(b)] – Protection of Rare Species. No project may be permitted within the riverfront area which will have any adverse effect on specified habitat sites of rare wetland or upland, vertebrate or invertebrate species, as identified by the procedures established under 310 CMR 10.59 or 10.37, or which will have any adverse effect on vernal pool habitat certified prior to the filing of the Notice of Intent.*

**Response:** No impacts are proposed to occur within specified habitat sites of rare species.

*[310 CMR 10.58 (4)(c)] – Practicable and Substantially Equivalent Economic Alternatives. There must be no practicable and substantially equivalent economic alternative to the proposed project with less adverse effects on the interests identified in M.G.L. c. 131, § 40.*

**Response:** NEP considered multiple alternatives for the Project, and developed the preferred alternative, which has been designed to avoid and minimize impacts to sensitive resource areas. The Project location offers the most feasible site for the separation of N12 and M13 Transmission Lines. Separation of these transmission lines is not anticipated to have long-term adverse impacts on this resource.

*[310 CMR 10.58 (4)(d)] – No Significant Adverse Impact. The work, including proposed mitigation measures, must have no significant adverse impact on the RFA to protect the interest identified in M.G.L. c. 131, § 40.*

**Response:** The existing vegetative cover will be preserved to the maximum extent feasible. In accordance with 301 CMR 10.58(4)(d) 1.a., temporary impacts where necessary for installation of linear site-related utilities are allowed, provided the area is restored to its natural conditions. The temporary disturbance to the RFA from the placement of swamp mats to establish work areas and access routes will be removed and restored back to vegetated areas. Stonework pads within the RFA will be removed and the areas stabilized and reseeded or, as an alternative, constructed with temporary swamp mats.

To offset construction impacts, protective measures and BMPs will be in place to avoid and minimize impacts. Though some of the habitat functions associated with forested wetland will be permanently altered as a result of the Project, they will be replaced by functions offered by scrub-shrub habitat. Scrub-shrub habitat is increasingly rare in Massachusetts and the change will provide a benefit to species that

rely on scrub-shrub/open canopy habitat. Consequently, in accordance with 310 CMR 10.58(4)(d)(1)(c), the Project is not anticipated to impair the capacity of RFA to provide wildlife habitat.

In accordance with 310 CMR 10.58(4)(d)(1)(d), the Project is not anticipated to impair groundwater or surface water quality by incorporating erosion and sedimentation controls.

*[310 CMR 10.58 (5)] – Redevelopment Within Previously Developed Riverfront Areas: Restoration and Mitigation. Notwithstanding the provisions of 310 CMR 10.58(4)(c) and (d), the issuing authority may allow work to redevelop a previously developed RFA, provided the proposed work improves existing conditions. Redevelopment means replacement, rehabilitation or expansion of existing structures, improvement of existing roads, or reuse of degraded or previously developed areas. A previously developed RFA contains areas degraded prior to August 7, 1996, by impervious surfaces from existing structures or pavement, absence of topsoil, junkyards, or abandoned dumping grounds. Work to redevelop previously developed RFAs shall conform to the following criteria.*

**Response:** Although Project activities will be occurring within an existing ROW, NEP is not filing this NOI under the redevelopment provisions at 310 CMR 10.58(5).

## Salt Marsh (310 CMR 10.32)

**Response:** Where a Salt Marsh is encountered, the following MA WPA general performance standards apply:

*[310 CMR 10.32 (3)] - A proposed project in a salt marsh, on lands within 100 feet of a salt marsh, or in a body of water adjacent to a salt marsh shall not destroy any portion of the salt marsh and shall not have an adverse effect on the productivity of the salt marsh. Alterations in growth, distribution and composition of salt marsh vegetation shall be considered in evaluating adverse effects on productivity. 310 CMR 10.32(3) shall not be construed to prohibit the harvesting of salt hay.*

**Response:** The Project construction means and methods incorporate BMPs to avoid and minimize impacts to coastal wetlands including salt marshes. Impacts to Salt Marsh are considered *de minimus* and negligible as NEP does not propose to cross through the marsh with vehicles or equipment and commits to only allowing for foot traffic to occur within the resource. If impacts to the salt marsh are to occur the area will be mitigated and restored to preexisting conditions after construction.

*[310 CMR 10.32 (4)] - Notwithstanding the provisions of 310 CMR 10.32(3), a small project within a salt marsh, such as an elevated walkway or other structure which has no adverse effects other than blocking sunlight from the underlying vegetation for a portion of each day, may be permitted if such a project complies with all other applicable requirements of 310 CMR 10.21 through 10.37.*

**Response:** Not applicable.

*[310 CMR 10.32 (5)] - Notwithstanding the provisions of 310 CMR 10.32(3), a project which will restore or rehabilitate a salt marsh, or create a salt marsh, may be permitted in accordance with 310 CMR 10.11 through 10.14, 10.24(8), and/or 10.53(4).*

**Response:** The Project does not propose restoring, rehabilitating, nor creating a salt marsh. Any impacts to the marsh by Project activities will be mitigated.

*[310 CMR 10.32 (6)] - Notwithstanding the provisions of 310 CMR 10.32(3) through (5), no project may be permitted which will have any adverse effect on specified habitat sites of Rare Species, as identified by procedures established under 310 CMR 10.37*

**Response:** No impacts are proposed to occur within specified habitat sites of rare species.

**Massachusetts Chapter 91 Waterways Program**

The placement of the new conductors associated with the relocated M13 Line will have no permanent impact on navigability or other public interests. The existing N12/M13 conductor height is 150 feet above MHW, and the replacement M13 conductor will be installed at an elevation of 155 feet above MHW (five feet above the existing conductor height). The conductor height is greater than the height of the downstream Veteran's Memorial Bridge, which has a clearance of approximately 60 feet above MHW, and greater than the upstream Berkley-Dighton Bridge which has a clearance of approximately 12 feet above MHW. Therefore, the overhead conductors of the N12 and M13 Lines will not adversely affect navigation or marine uses along this stretch of the Taunton River. To the extent NEP utilizes vessels to tow lead lines for the new M13 conductors across the Taunton River as part of the wire-stringing process, NEP will mitigate any temporary impacts through advance notification to the U.S. Coast Guard by means of Local Notice to Mariners, informing the applicable Harbormasters, and notifying nearby mariners of the proposed activity and schedule.

The existing aerial crossings of the Taunton River by the N12 and M13 Lines is authorized under two existing Chapter 91 Licenses. Although the Project will have no material impacts to navigation or other public trust interests, NEP has consulted with MassDEP Waterways Program and will submit an application for a new Chapter 91 license for a water-dependent infrastructure crossing facility or an amendment to the existing licenses to authorize the new set of conductors over the Taunton River.

### 9.3.2 Massachusetts Department of Public Transportation

NEP will need to acquire an access permit from MassDOT for the crossing over Route 24 with utility lines. The Project impacts relative to MassDOT are associated with the installation of overhead wires across state roadways by a non-municipal utility. The installation could temporarily affect traffic flow of the roadway but does not involve physical modifications to the roadway or state highway layout. NEP will work with MassDOT and develop a Traffic Management Plan with complete details of scope of work prior to the start of construction. NEP will comply with all required measures to ensure a safe environment for traffic flow and construction crews in and around the roadways. More details on traffic management is provided in Section 6.0.

### 9.3.3 Massachusetts Historical Commission and Section 106 Tribal Consultation

The Project requires authorizations from the USACE and is subject to review under Section 106 of the National Historic Preservation Act (Section 106). The Project is also subject to review by the MHC under G.L. c. 9 §§ 26–27C and the MHC's implementing regulations at 950 CMR 71.00 et seq.

As part of the Section 106 process, the USACE consults with federally recognized Tribes to seek comments regarding the Project's potential to affect identified cultural resources within the Project area that are subject to USACE jurisdiction. NEP will continue to communicate with the USACE, MHC and federally recognized Tribes during the Section 106 consultation and MHC review processes to identify

potentially significant historic, cultural, and archaeological resources and avoid, minimize, or mitigate potential Project impacts on those resources. As part of the consultation with the MHC, NEP has also proactively communicated with federally recognized Tribes during the archaeological field investigations for the Project. NEP will continue to communicate with the federally recognized Tribes that express an interest in the archaeologic resources that could be affected by the Project.

# 10.0 MITIGATION AND DRAFT SECTION 61 FINDINGS

## 10.1 Mitigation Cost Responsible Parties

NEP anticipates that the cost of mitigation will be included in the overall Project costs and that the responsible party is the Project Proponent in all cases. The current cost estimate for the Project is approximately $84.8M (2022 dollars) and is a +10% / -10% grade cost estimate.[29] This estimate is approximate and includes the cost of earthwork, seed mix, environmental monitoring during and after the work, and writing of monitoring reports. NEP is responsible for all costs associated with any Project-related compensatory wetland mitigation.

## 10.2 Section 61 Findings

The remainder of this chapter provides Draft Section 61 Findings in accordance with M.G.L. Chapter 30, § 61. Section 61 requirements that state agencies "review, evaluate and determine the impact on the natural environment of all works, projects or activities conducted by them and [to] use all practicable means and measures to minimize damage to the environment." It further requires that "any determination made by an agency…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." Revisions to the Section 61 Findings are expected to occur to reflect ongoing discussions.

[29] The cost estimate filed in the Application to Support the Petition before the Department of Public Utilities (DPU 22-95) varies from the cost estimate presented herein. The estimate filed in connection with the DPU Petition was a Conceptual Grade estimate with an expected accuracy of +/- 25%. The cost estimate presented herein is a Project Grade estimate with an expected accuracy of +/-10%. Further, the cost estimates vary between these filings due to impacts from the supply chain increasing the cost of materials needed to construct the Project (e.g., steel, conductor), heightened fuel charges for deliveries, financing rates, and projected work force costs. Finally, a more detailed analysis of anticipated project risk and associated dollar impacts was completed during this time which prompted an increased in anticipated contingency funds to cover these unknowns.

## 10.3 Massachusetts Department of Environmental Protection Findings

**DRAFT FINDINGS PURSUANT TO G.L. CHAPTER 30, SECTION 61**

**Project Name:** N12 and M13 Double-Circuit Tower Separation Project

**Project Location:** Somerset and Fall River

**Project Proponent:** New England Power Company

**EOEA Number:** 16467

**Agency Actions:** Massachusetts Department of Environmental Protection, Section 401 State Water Quality Certification

**Intent of These Section 61 Findings:** The Massachusetts Environmental Policy Act (MEPA) regulations 301 CMR 11.12(5) provide that in "accordance with M.G.L. c.30, §61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR [Environmental Impact Report] shall determine whether the Project is likely, directly or indirectly, to cause any Damage to the Environment and make a finding describing the Damage to the Environment and confirming that all feasible measures have been taken to avoid or minimize the Damage to the Environment." The Section 61 Findings are to be incorporated into the conditions or restrictions to the relevant permit or authorization. The following proposed Section 61 Findings have been prepared by New England Power Company (NEP or the "Company") and are intended to assist the Department of Environmental Protection (MassDEP) in fulfilling its obligations in accordance with G.L. c. 30, § 61. These Findings are limited to the subject matter jurisdiction of the Section 401 Water Quality Certification sought from the MassDEP.

**Project Description:** NEP proposes to separate approximately 1.85 miles of its existing N12 and M13 115 kV overhead transmission lines, currently installed on double-circuit steel lattice towers, and place the lines on two separate sets of structures. The existing double-circuit segment begins on the west shore of the Taunton River in Somerset, crosses the Taunton River into Fall River, and continues easterly within an existing NEP transmission corridor to the Sykes Road Substation in Fall River (Project Route).

To accomplish this separation, NEP will remove a total of seven existing steel lattice towers, one 3-pole structure, and one H-frame structure and replace these structures with 11 pairs of single-circuit steel monopole structures; four intermediate single-circuit steel monopole structures; and two steel H-frame structures. Existing structures range in height from approximately 50 to 110 feet and replacement structures will range in height from 65 to 130 feet. Additionally, at the Taunton River crossing, the two existing approximately 300-foot-tall steel lattice towers will remain in place (existing structures N12-1 and N12-2 to be renumbered as N12-5 and N12-6, respectively) and two new approximately 300-foot-tall, galvanized steel Y-frame monopole structures will be installed (proposed structures M13N-5 and M13N-6), one on each side of the river. The existing conductor between existing structures N12-5, N12-6 and N12-7 will be electrically connected (bussed) to become the N12 Line. Overhead conductors will be installed between proposed N12 structures N12-7 and N12-19, and between proposed structures M13N-5 and M13N-19 and from there, into the Sykes Road Substation where they will be terminated onto existing structures.

The new monopole structures will be constructed within NEP's existing ROW to replace the existing double-circuit tower (DCT) transmission structures. Construction of the Y-frame river crossing structure proposed on the Fall River side of the Taunton River (proposed structure M13N-6) will require additional temporary and permanent property rights from the adjacent landowner for installation of the structure and to maintain safe horizontal clearance from the existing towers. The Project will be constructed on NEP fee-owned property and within NEP's existing ROW.

**MEPA History:** Pursuant to M.G.L. c. 30, §§61- 62A-H, of MEPA and its implementing regulations at 301 CMR 11.00, NEP submitted an Expanded Environmental Notification Form (Expanded ENF) to the MEPA office on September 30, 2021. The Project is subject to MEPA review as it requires one or more state permits and exceeds thresholds requiring the filing of an ENF and an EIR for Wetlands, Waterways, and Tidelands for the requirement of a permit and an expected alteration of one or more acres of bordering vegetated wetlands (301 CMR 11.03(a)(1)(a)). The Project will require several state permits, including an approval from MEPA.

The Project received an extended public comment period pursuant to Section 11.06(1) of the MEPA regulations. The Secretary issued a Certificate on November 28, 2021, requiring the preparation of an EIR allowing NEP to prepare a Single EIR in fulfillment of the requirements of Section 11.03 of the MEPA regulations.

**Project Impacts:** Certain Project activities, such as structure installation, and using construction mats for temporary access and work/pull pad locations, will result in the discharge of fill material in the waters of the United States for which there are no practicable alternatives. Impacts relative to the Section 401 Water Quality Certificate include the permanent fill of approximately 388 square feet of bordering vegetated wetland, as well as the 120,996 square feet of BVW temporarily impacted of BVW by construction mats for work pads.

**Project Mitigation:** The NEP mitigation measures fall into three primary categories: (i) avoidance/ minimization, (ii) construction BMPs to be implemented in the field, and (iii) compensatory mitigation. Mitigation was built into the planning and design process as an overall approach to avoid impacts whenever possible. In terms of mitigation during construction, NEP has established BMPs that will be followed by all employees and its contractors for accessing sites and performing construction activities on the transmission ROW. These procedures ensure that the Project will be completed in accordance with applicable environmental laws and regulations as well as with Company policies and compliance objectives. Where permanent impacts cannot be avoided, appropriate compensatory mitigation will be provided in terms of wetland replication/restoration/enhancement.

NEP has completed field investigations and constructability reviews along the Project ROW throughout the planning and design period to determine access routes, clearing techniques, and construction techniques to be implemented during construction of the Project, in order to provide an accurate impact assessment and to design work to avoid and minimize impacts to wetlands and waterways to the greatest extent possible. The commitments listed in Table 10-1 will be carried out by NEP to ensure that proposed wetlands and waterways impacts are mitigated.

**Findings:** MassDEP finds that the foregoing describes environmental impacts associated with permanent fill of BVW due to construction of the Project and for structure installation and replacements, temporary impacts to BVW by construction mats for work pads during construction, and that, with the implementation of the mitigation measures described above, all feasible means will have been taken to avoid or minimize adverse environmental impacts subject to MassDEP's authority.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY DATE

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## TABLE 10-1 SUMMARY OF PROPOSED MITIGATION MEASURES

| ENVIRONMENTAL PARAMETER / ACTIVITY | SUMMARY OF MITIGATION MEASURES | IMPLEMENTATION SCHEDULE / PHASE | RESPONSIBLE PARTY |
|---|---|---|---|
| General | NEP will hire a qualified professional as an Environmental Monitor and require that the contractor designate a Construction Supervisor. These personnel will supervise construction and operations and will be responsible for site compliance with permit conditions; monitoring on-site conditions; and maintenance of mitigation measures. The Environmental Monitor will observe work within rare species habitat and conduct restoration/replication monitoring.<br>Per existing NEP Policy, Environmental Field Issue (EFI) guidelines are developed for all complex construction and maintenance projects. At a minimum, the EFI will include the locations of sensitive areas to be avoided, a summary of all permit requirements, detailed erosion and sediment control plans, and training requirements/documentation. All contractors and environmental monitors are required to participate in EFI training before beginning work on the Project. In accordance with a schedule specified in the EFI, regular construction progress meetings will provide the opportunity to reinforce the contractor's awareness of these matters. | Construction, Long-term | NEP |
| Vegetation Removal | NEP will follow its approved Five-Year Vegetation Management Plan (2019-2023), and its policies for ROW access, maintenance and construction BMPs outlined in National Grid's Environmental Guidance Document EG-303NE. | Construction, Long-term | NEP |
| | Creation of additional scrub-shrub wetland habitat along the maintained ROW will represent a long-term positive effect for wildlife. | Long-Term | NEP |
| Grading, Excavation and Soil Erosion Control | Ground disturbance and site grading will occur in accordance with Massachusetts Erosion Sediment Control Guidelines for Urban and Suburban Areas (MassDEP 2003). | Construction | NEP/Contractor |
| | Prior to filing any local, state or federal permits, a detailed erosion and sediment control plan will be developed in the field based on site-specific conditions with input from NEP, the designated contractor(s), and environmental consultants.<br>Appropriate erosion and sediment controls will be installed according to the mutually agreed upon plan. All controls will be installed in accordance with National Grid's Environmental Guidance Document EG-303NE, which outlines ROW access, maintenance and construction best management practices and provides examples of erosion and sediment controls commonly used for utility work include silt fence, straw bales, filter socks, mulch, water bars, temporary and/or permanent reseeding. | Construction | NEP/Contractor/ POWER Engineers |
| Access Road Improvements | Contractors to comply with National Grid's Environmental Guidance Document EG-303NE. | Construction | Contractor |
| | Install erosion controls, as identified in the erosion and sediment control plan and specified in National Grid's Environmental Guidance Document EG-303NE. | Construction | Contractor |

| ENVIRONMENTAL PARAMETER / ACTIVITY | SUMMARY OF MITIGATION MEASURES | IMPLEMENTATION SCHEDULE / PHASE | RESPONSIBLE PARTY |
|---|---|---|---|
| | Place suitable crushed stone aprons/ramps on geotextile fabric at ROW road entrances to minimize tracking soil onto public streets. | Construction | Contractor |
| | Use swamp mats for access through BVW, across intermittent or small streams (if bridge spans are not viable) and other sensitive areas to minimize compression of soils, rutting, and disturbance of vegetation. Remove swamp mats and restore areas, as appropriate, upon work completion. | Construction | Contractor |
| | Maintain adequate drainage patterns, if required, by installing temporary culverts and rip rap lined drainage swales to accommodate equipment crossings of wetlands and watercourses. Remove and restore to previous conditions upon work completion. | Construction | Contractor |
| Soils Handling/ Management | If necessary, preparation of a plan for handling potentially contaminated soils in accordance with National Grid's Environmental Guidance Documents (EG-1707) regarding excess soil management from construction projects on ROW. | Construction | NEP |
| Dewatering/ Stormwater | In accordance with dewatering and stormwater policies defined in National Grid Environmental Documents regarding protected waters as well as site inspections and monitoring reports. | Construction | Contractor |
| | Discharge and/or dispose of groundwater encountered during installation of structure supports in accordance with applicable local and state requirements, as necessary, and the USEPA Dewatering General Permit, as applicable. | Construction | Contractor |
| | NEP will submit a Stormwater Pollution Prevention Plan (SWPPP) for the Project for compliance with USEPA's NPDES program under the Stormwater Construction General Permit. The SWPPP establishes a construction contact list, presents a description of the proposed work, and identifies stormwater controls, spill prevention, and inspection practices to be implemented for the management of construction-related stormwater discharges from the Project. | Construction | NEP/ POWER Engineers |
| Spill Prevention | If a spill occurs, control and minimize the potential effects in accordance with National Grid Environmental Guidance Documents regarding release notification requirements and spill response procedures and notifications. | Construction | Contractor |
| Air Quality | Deploy dust mitigation measures as described in National Grid's Environmental Guidance Document EG-303NE, (e.g., track pads at access points and controls during dry periods). | Construction | Contractor |

| ENVIRONMENTAL PARAMETER / ACTIVITY | SUMMARY OF MITIGATION MEASURES | IMPLEMENTATION SCHEDULE / PHASE | RESPONSIBLE PARTY |
|---|---|---|---|
| | NEP requires the use of ultra-low sulfur diesel fuel exclusively in its diesel-powered construction equipment. Any diesel-powered non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of Project construction will either be USEPA Tier 4-compliant or will be retrofitted with USEPA-verified (or equivalent) emission control devices such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available) installed on the exhaust system side of the diesel combustion engine. | Construction | Contractor |
| | The Project will comply with MassDEP's Solid Waste and Air Pollution control regulations, pursuant to M.G.L. c.40, s.54. | Construction | Contractor |
| Streams and Rivers | Use of washed stone where existing access roads crossing stream beds must be improved, (e.g., clean rip rap or equivalent). | Construction | Contractor |
| | Bridge/span watercourses, as necessary, to allow equipment to cross without constraining water flow. | Construction | Contractor |
| | Maintain adequate separation from watercourse while mixing concrete for structure foundations to avoid impacts to waterbodies. | Construction | Contractor |
| Wetland Resource Areas | Contractors to comply with National Grid's Environmental Guidance Document EG-303NE for all work in or adjacent to wetland resource areas. | Construction | Contractor |
| | Temporary installation of swamp mats on top of existing vegetation within BVW to establish safe and stable construction work areas/crane pads where necessary.<br>Stabilization layer installed for work pads within BLSF and RFA will be removed upon completion of work. These areas will be loamed and seeded and will not create a barrier to wildlife traversing the ROW corridor.<br>Restrict vegetation clearing in Riverfront Area and BLSF to that required for construction. | Construction | Contractor |
| | Restore wetland resource areas to pre-construction configurations and contours to the extent practicable. | Construction | Contractor |
| | Compensatory mitigation for approximately 388 sf of permanent BVW impacts associated with the construction of the proposed Project. Final plans to be developed in consultation with local conservation commissions and USACE. | Construction, Long-Term | NEP |

| ENVIRONMENTAL PARAMETER / ACTIVITY | SUMMARY OF MITIGATION MEASURES | IMPLEMENTATION SCHEDULE / PHASE | RESPONSIBLE PARTY |
|---|---|---|---|
| | Compensatory mitigation which will be determined in consultation with agencies to offset conversion of forested wetlands associated with tree removal. | Long-Term | NEP |
| Rare Species | NEP completed the consultation process with the NHESP and USFWS. | Permitting, Construction | NEP |
| | Mitigation measures and BMPs to protect identified rare species will be implemented and maintained throughout the Project duration, as warranted per the NHESP. | Construction | NEP |
| Historical & Archaeological Resources | Mitigation to be determined in consultation with MHC, Tribal Historic Preservation Officers, and Advisory Council on Historic Preservation, and USACE, as appropriate. | Pre-Construction | NEP |
| Traffic | Consult with MassDOT District 5 to review proposed plans for overhead crossings (including the use of guard structures).<br>Develop a Transportation Management Plan that addresses impacts and MassDOT concerns to ensure a safe working environment as well as safe passage for highway traffic. | Construction | NEP/ POWER |
| Public /EJ Community Outreach | Continue to update Project website, submit news releases to local media and local public access channel, as available; maintain a toll-free Project hotline; email construction updates; implement email inquiry process; direct mail and "leave behinds" (e.g., fliers, brochures, CDs). Provide all materials in English, Spanish, and Portuguese. | Design & Construction | NEP/ POWER |
| | Abutter contact; Open House events; Municipal briefings; project website; toll-free project hotline; and dedicated project email. | Design & Construction | NEP/ POWER |
| | Implement Construction Communication Plan. | Construction | NEP/ POWER |

Note:
[1] MassDEP. 2023. Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers, and Municipal Officials. Retrieved November 14, 2023 from http://www.mass.gov/eea/docs/dep/water/essec1.pdf

## 10.4 Massachusetts Department of Environmental Protection Waterways Program, Chapter 91 Findings

DRAFT FINDINGS PURSUANT TO M.G.L. CHAPTER 30, SECTION 61

**Project Name:** N12/M13 Double-Circuit Tower Separation Project

**Project Location:** Somerset and Fall River

**Project Proponent:** New England Power Company

**EOEA Number:** 16467

**Agency Actions:** Massachusetts Department of Environmental Protection Waterways Program, Chapter 91, Massachusetts Public Waterfront Act

**Intent of These Section 61 Findings:** The Massachusetts Environmental Policy Act (MEPA) regulations 301 CMR 11.12(5) provide that in "accordance with M.G.L. c.30, §61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR [Environmental Impact Report] shall determine whether the Project is likely, directly or indirectly, to cause any Damage to the Environment and make a finding describing the Damage to the Environment and confirming that all feasible measures have been taken to avoid or minimize the Damage to the Environment." The Section 61 Findings are to be incorporated into the conditions or restrictions to the relevant permit or authorization. The following proposed Section 61 Findings have been prepared by New England Power Company (NEP or the "Company") and are intended to assist the Department of Environmental Protection (MassDEP) in fulfilling its obligations in accordance with G.L. c. 30, § 61. These Findings are limited to the subject matter jurisdiction of the Chapter 91 License sought from the MassDEP.

**Project Description:** NEP proposes to separate approximately 1.85 miles of its existing N12 and M13 115 kV overhead transmission lines, currently installed on double-circuit steel lattice towers, and place the lines on two separate sets of structures. The existing double-circuit segment begins on the west shore of the Taunton River in Somerset, crosses the Taunton River into Fall River, and continues easterly within an existing NEP transmission corridor to the Sykes Road Substation in Fall River ("Project Route").

To accomplish this separation, NEP will remove a total of seven existing steel lattice towers, one 3-pole structure, and one H-frame structure and replace these structures with 11 pairs of single-circuit steel monopole structures; four intermediate single-circuit steel monopole structures; and two steel H-frame structures. Existing structures range in height from approximately 50 to 110 feet and replacement structures will range in height from 65 to 130 feet. Additionally, at the Taunton River crossing, the two existing approximately 300-foot-tall steel lattice towers will remain in place (existing structures N12-1 and N12-2 to be renumbered as N12-5 and N12-6, respectively) and two new approximately 300-foot-tall, galvanized steel Y-frame monopole structures will be installed (proposed structures M13N-5 and M13N-6), one on each side of the river. The existing conductor between existing structures N12-5, N12-6 and N12-7 will be electrically connected (bussed) to become the N12 Line. Overhead conductor will be installed between proposed N12 structures N12-7 and N12-19, and between proposed structures M13N-5 and M13N-19 and from there, into the Sykes Road Substation where they will be terminated onto existing structures.

The new monopole structures will be constructed within NEP's existing ROW to replace the existing double-circuit tower (DCT) transmission structures. Construction of the Y-frame river crossing structure proposed on the Fall River side of the Taunton River (proposed structure M13N-6) will require additional

temporary and permanent property rights from the adjacent landowner for installation of the structure and to maintain safe horizontal clearance from the existing river crossing tower. The Project will be constructed on NEP fee-owned property and within NEP's existing ROW.

**Project Impacts**: Certain Project activities will be within areas designated as historically filled tidelands that were previously licensed by the Department. The separation of N12 and M13 will increase the number of conductors which cross the Taunton River but the height of the conductors installed will be equal to or great than the height of the existing lines. The Project will not result in new impacts to filled tidelands.

**Mitigation:** The Company will submit an application to MassDEP for a Chapter 91 License and will conform to the Chapter 91 Waterways Standards for the portions the Project that are subject to Chapter 91 jurisdiction. The Project is designed and constructed to avoid or minimize permanent impacts to flowed tidelands and historically filled tidelands, and any temporary disturbances will be stabilized and restored following construction. The DCT Separation will not impact nor hinder the public's rights to access the tidelands. The presence of the MBTA railroad and other industrial-related waterfront uses do restrict public access to the waterfront along the Taunton River.

**Findings**: The potential environmental impacts of the Project quantified herein through this Single Environmental Impact Report are incorporated by reference into this Section 61 Finding. Throughout the planning and environmental review processes, the Company has developed measures to mitigate impacts of the Project. With the mitigation proposed and carried out in cooperation with the state agencies, the Department of Environmental Protection Waterways Program finds that there are no significant unmitigated impacts.

For the reasons stated above, the Department of Environmental Protection Waterways Program hereby finds that pursuant to MGL c. 30, § 61, the construction of the Project as described above, and with the implementation by the Proponent of the noted mitigation measures, all practicable means and measures will be taken to avoid or minimize adverse environmental impacts related to the Project.

DEPARTMENT OF ENVIRONMENTAL PROTECTION – WATERWAYS PROGRAM

BY: DATE:

## 10.5 Department of Public Utilities Findings

**DRAFT FINDINGS PURSUANT TO G.L. CHAPTER 30, SECTION 61**

**Project Name:** N12/M13 Double-Circuit Tower Separation Project

**Project Location:** Somerset and Fall River

**Project Proponent:** New England Power Company

**EOEA Number:** 16467

**Agency Actions:** Department of Public Utilities, Certificate to Construct pursuant to Chapter 164, Section 72

**Intent of These Section 61 Findings:** The Massachusetts Environmental Policy Act (MEPA) regulations 301 CMR 11.12(5) provide that in "accordance with M.G.L. c.30, §61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR [Environmental Impact Report] shall determine whether the Project is likely, directly or indirectly, to cause any Damage to the Environment and make a finding describing the Damage to the Environment and confirming that all feasible measures have been taken to avoid or minimize the Damage to the Environment." The Section 61 Findings are to be incorporated into the conditions or restrictions to the relevant permit or authorization. The following proposed Section 61 Findings have been prepared by New England Power Company (NEP or the "Company") and are intended to assist the Department of Public Utilities (DPU) in fulfilling its obligations in accordance with G.L. c. 30, § 61. These Findings are limited to the subject matter jurisdiction of the Petition for Determination of Public Necessity and Convenience pursuant to G.L. c. 164 § 72.

Project Description: NEP proposes to separate approximately 1.85 miles of its existing N12 and M13 115 kV overhead transmission lines, currently installed on double-circuit steel lattice towers, and place the lines on two separate sets of structures. The existing double-circuit segment begins on the west shore of the Taunton River in Somerset, crosses the Taunton River into Fall River, and continues easterly within an existing NEP transmission corridor to the Sykes Road Substation in Fall River ("Project Route").

To accomplish this separation, NEP will remove a total of seven existing steel lattice towers, one 3-pole structure, and one H-frame structure and replace these structures with 11 pairs of single-circuit steel monopole structures; four intermediate single-circuit steel monopole structures; and two steel H-frame structures. Existing structures range in height from approximately 50 to 110 feet and replacement structures will range in height from 65 to 130 feet. Additionally, at the Taunton River crossing, the two existing approximately 300-foot-tall steel lattice towers will remain in place (existing structures N12-1 and N12-2 to be renumbered as N12-5 and N12-6, respectively) and two new approximately 300-foot-tall, galvanized steel Y-frame monopole structures will be installed (proposed structures M13N-5 and M13N-6), one on each side of the river. The existing conductor between existing structures N12-5, N12-6 and N12-7 will be electrically connected (bussed) to become the N12 Line. Overhead conductor will be installed between proposed N12 structures N12-7 and N12-19, and between proposed structures M13N-5 and M13N-19 and from there, into the Sykes Road Substation where they will be terminated onto existing structures.

The new monopole structures will be constructed within NEP's existing ROW to replace the existing double-circuit tower (DCT) transmission structures. Construction of the Y-frame river crossing structure

proposed on the Fall River side of the Taunton River (proposed structure M13N-6) will require additional temporary and permanent property rights from the adjacent landowner for installation of the structure and to maintain safe horizontal clearance from the existing river crossing tower. The Project will be constructed on NEP fee-owned property and within NEP's existing ROW.

**MEPA History:** Pursuant to M.G.L. c. 30, §§61- 62A-H, of MEPA and its implementing regulations at 301 CMR 11.00, NEP submitted an Expanded Environmental Notification Form ("Expanded ENF") to the MEPA office on September 30, 2021. The Project is subject to MEPA review as it requires one or more state permits and exceeds thresholds requiring the filing of an ENF and an EIR for Wetlands, Waterways, and Tidelands for the requirement of a permit and an expected alteration of one or more acres of bordering vegetated wetlands (301 CMR 11.03(a)(1)(a)). The Project will require several state permits, including an approval from the DPU.

The Project received an extended public comment period pursuant to Section 11.06(1) of the MEPA regulations. The Secretary issued a Certificate on November 28, 2021, requiring the preparation of an EIR allowing NEP to prepare a Single EIR in fulfillment of the requirements of Section 11.03 of the MEPA regulations.

**Project Impacts:** The DPU review will identify terms and conditions during the evaluation of the Project to determine public necessity and convenience and will review the environmental impacts that are to be assessed by MEPA and the other participating state agencies.

**Findings:** Based on its review of the MEPA documents and the permit applications, the DPU finds that the foregoing information adequately describes the environmental impacts associated with the proposed Project, and that with the implementation of the terms and conditions to be determined during the DPU's review processes, a reasonable consideration of alternatives and all feasible means will have been taken to avoid, minimize or mitigate adverse environmental impacts to the maximum extent practicable for those impacts subject to the DPU's authority. Implementation of the mitigation measures will occur in accordance with the terms and conditions set forth in the "Final Decision" on the Company's petition for the proposed transmission line reconfiguration to describe more fully and ensure implementation of said measures.

DEPARTMENT OF PUBLIC UTILITIES

BY DATE

## 10.6 Massachusetts Department of Transportation Findings

**DRAFT FINDINGS PURSUANT TO G.L. CHAPTER 30, SECTION 61**

**Project Name:** N12/M13 Double-Circuit Tower Separation Project

**Project Location:** Somerset and Fall River

**Project Proponent:** New England Power Company

**EOEA Number:** 16467

**Agency Actions:** Massachusetts Department of Transportation, Permit to Access State Highway

**Intent of These Section 61 Findings:** MEPA regulations 301 CMR 11.12(5) provide that in "accordance with M.G.L. c.30, §61, any Agency that takes Agency Action on a Project for which the Secretary required an EIR [Environmental Impact Report] shall determine whether the Project is likely, directly or indirectly, to cause any Damage to the Environment and make a finding describing the Damage to the Environment and confirming that all feasible measures have been taken to avoid or minimize the Damage to the Environment." The Section 61 Findings are to be incorporated into the conditions or restrictions to the relevant permit or authorization. The following proposed Section 61 Findings have been prepared by the Company and are intended to assist the state permit-issuing agency in fulfilling its obligations in accordance with G.L. c. 30, §61. These Findings are limited to the subject matter jurisdiction of the State Highway Access Permit sought from the Massachusetts Department of Transportation (MassDOT).

**Project Description:** NEP proposes to separate approximately 1.85 miles of its existing N12 and M13 115 kV overhead transmission lines, currently installed on double-circuit steel lattice towers, and place the lines on two separate sets of structures. The existing double-circuit segment begins on the west shore of the Taunton River in Somerset, crosses the Taunton River into Fall River, and continues easterly within an existing NEP transmission corridor to the Sykes Road Substation in Fall River ("Project Route").

To accomplish this separation, NEP will remove a total of seven existing steel lattice towers, one 3-pole structure, and one H-frame structure and replace these structures with 11 pairs of single-circuit steel monopole structures; four intermediate single-circuit steel monopole structures; and two steel H-frame structures. Existing structures range in height from approximately 50 to 110 feet and replacement structures will range in height from 65 to 130 feet. Additionally, at the Taunton River crossing, the two existing approximately 300-foot-tall steel lattice towers will remain in place (existing structures N12-1 and N12-2 to be renumbered as N12-5 and N12-6, respectively) and two new approximately 300-foot-tall, galvanized steel Y-frame monopole structures will be installed (proposed structures M13N-5 and M13N-6), one on each side of the river. The existing conductor between existing structures N12-5, N12-6 and N12-7 will be electrically connected (bussed) to become the N12 Line. Overhead conductor will be installed between proposed N12 structures N12-7 and N12-19, and between proposed structures M13N-5 and M13N-19 and from there, into the Sykes Road Substation where they will be terminated onto existing structures.

The new monopole structures will be constructed within NEP's existing ROW to replace the existing double-circuit tower (DCT) transmission structures. Construction of the Y-frame river crossing structure proposed on the Fall River side of the Taunton River (proposed structure M13N-6) will require additional temporary and permanent property rights from the adjacent landowner for installation of the structure and

to maintain safe horizontal clearance from the existing river crossing tower. The Project will be constructed on NEP fee-owned property and within NEP's existing ROW.

**MEPA History:** Pursuant to M.G.L. c. 30, §§61- 62A-H, of MEPA and its implementing regulations at 301 CMR 11.00, NEP submitted an Expanded Environmental Notification Form ("Expanded ENF") to the MEPA office on September 30, 2021. The Project is subject to MEPA review as it requires one or more state permits and exceeds thresholds requiring the filing of an ENF and an EIR for Wetlands, Waterways, and Tidelands for the requirement of a permit and an expected alteration of one or more acres of bordering vegetated wetlands (301 CMR 11.03(a)(1)(a)). The Project will require several state permits, including an approval from the MassDOT.

The Project received an extended public comment period pursuant to Section 11.06(1) of the MEPA regulations. The Secretary issued a Certificate on November 28, 2021, requiring the preparation of an EIR allowing NEP to prepare a Single EIR in fulfillment of the requirements of Section 11.03 of the MEPA regulations.

**Project Impacts:** The proposed Project's impacts relative to MassDOT are associated with the installation of overhead wires across state highways by a non-municipal utility. In some instances, temporary guard structures, situated on the side of the state roadways along the ROW, will be installed to ensure safe overhead wire crossing. The installation could temporarily affect traffic flow but will not permanently alter the roadway or MassDOT roadway ROW. Access to the NEP ROW from state roadways will occur via existing approved access points.

**Project Mitigation:** Mitigation was built into the planning and design process as an overall approach to avoid impacts wherever possible. NEP has established procedures that are to be followed by all employees and contractors for accessing sites and performing construction activities on the Company's ROW. NEP's procedures ensure that the Project will be completed in accordance with all applicable environmental rules and regulations as well as with Company policies and compliance objectives.

With MassDOT input, a final Traffic Management Plan (TMP) will be developed and submitted for review and approval prior to the start of construction. Enforceable commitments in the TMP will be carried out by NEP, as applicable, to ensure that all proposed traffic impacts are mitigated. Such strategies may include, as appropriate, traffic management procedures, construction time restrictions, signage, installation of tracking pads to minimize soil in roadways, and/or restoration of vegetation along soft shoulders after construction. A draft of the proposed Traffic Management Plan is included in this SEIR filing.

**Findings**: MassDOT finds that the foregoing describes impacts associated with the installation of realigned overhead wires across state highways by a non-municipal utility, and that, with the implementation of the mitigation measures to be described in the Traffic Management Plan, all feasible means will have been taken to avoid or minimize adverse impacts subject to MassDOT's authority.

DEPARTMENT OF TRANSPORTATION

BY DATE

# 11.0 RESPONSES TO COMMENTS RECEIVED ON THE EXPANDED ENVIRONMENTAL NOTIFICATION FORM

## 11.1 Massachusetts Coastal Zone Management

*Proposed new and reconducted tower structures at locations 5 & 6 are located within Land Subject to Coastal Storm Flowage (LSCSF) and FEMA's current Flood Hazard Area (VE Zone 17 ft) and can be expected to experience significant flooding and waves during severe coastal storm events under current sea level rise conditions. The current project designs do not factor in the expected sea level rise and increases in storm frequency and intensity that will be caused by climate change over the expected life span of the proposed tower structures. Tower structures at location 7 may also be impacted under future storm conditions. This infrastructure is considered critical and should be designed using the best available information regarding the likely future flood zone extents. The RMAT tool report indicates that this structure is at high risk to sea level rise and storm surge and recommends a target planning horizon of 2070 and that the project be designed to withstand the effects of a 200-year storm. NEP should use the results of the Massachusetts Coast Flood Risk Model (MC-FRM) to assess the frequency and depth of flooding, and overall vulnerability of the proposed new towers and reconducted towers within the utility corridor over the entire life span of the project, and discuss the measures proposed to protect the structures from storm damage, debris impacts, and potential erosions around the base of the structures. The proposed 42.5-foot diameter base is a concrete pile cap on top of 36 micro-piles. Engineering analysis of the scour likely to occur around the pilings and pile cap should be included as part of the resiliency analysis for this project. In addition, the EIR should identify how the wave reflection off the vertical concrete pile cap will affect the stability of the adjacent coastal bank.*

**Response:** NEP used the results of the Massachusetts Coast Flood Risk Model (MC-FRM) to assess the frequency and depth of flooding, and overall vulnerability of the proposed new towers and reconductored towers within the ROW utility corridor over the entire life span of the project. Results of the MC-FCM are described throughout Section 4.0 and included in Appendix F.

Measures proposed to protect the structures from storm damage, debris impacts, and potential erosions around the base of the structures are also described in Section 2.0. Measures to prevent scour and erosion includes the implementation of a rip rap apron around structure M13N-6. The apron will extend out from the pile cap in an approximate 20- foot radius around the perimeter of the foundation. The proposed apron will be a 30- inch layer of rip rap, 6.0 inches of bedding, and a bottom layer of geotextile fabric. The rip rap will be at least 13 inches in size to resist uplift. Additionally, the pedestal of the concrete foundation at M13N-6 has been specially designed to incorporate 12, 5- to 6-feet tall steel bollards filled with concrete to protect the structure from the potential impact of floating debris that could potentially be released and carried during extreme flooding and wave action.

*The project also proposes significant grading changes for an access road to towers located at location 6. The wetland resource area extents on the project plans appear to be based on the Massachusetts Department of Environmental Protection (DEP) Wetlands GIS layers. These layers were developed from interpretation of aerial photos and are only appropriate for general planning purposes. Resource delineations for site specific projects need to be conducted on the site. The access road is within LSCSF and it appears that a portion of the access road may alter a jurisdictional coastal bank per DEP policy 92-1. The EIR should include survey transects to determine the extent of the coastal bank. Guidance on the information that should be submitted to determine the extent of a coastal bank is available in Chapter 1 of Applying the Massachusetts Coastal Wetlands Regulations: A Practical Manual for Conservation Commissions to Protect the Storm Damage Prevention and Flood Control Functions of Coastal Resource Areas (aka the Coastal Manual). The EIR should describe how any work on or adjacent to the coastal*

*bank meets the performance standards for coastal banks. The EIR should also include information on how the proposed grading might change how flood water flows across the site, and an analysis of potential impacts to adjacent areas from increased velocities and volumes of floodwater, under existing and future conditions should be provided. Additional detail on the storm bollards and how their size and height were determined is also requested.*

**Response:** NEP conducted a coastal bank delineation per the standards of the "Applying the Massachusetts Coastal Wetlands Regulations: A Practical Manual for Conservation Commissions to Protect the Storm Damage Prevention and Flood Control Functions of Coastal Resource Area." Resource delineation found that the area near M13N-6 is a vertical coastal bank and is subject to 310 CMR 10.30 6-8 (refer to Appendix B for the Coastal Bank field delineation).

No long-term impacts are proposed that will impact the stability of the coastal bank. NEP is proposing the installation of a permanent access road to M13N-6, the river crossing structure found on the east side of the Taunton River. This proposed access road will traverse a vertical coastal bank. NEP will conduct minor grading within the access road and associated structure work pad to bring the topography to an appropriate grade necessary to conduct a safe assembly of the new structure. Stone will be placed on top of the work pad and access road to restrict occurrences of soil erosion and to provide stability to the area when heavy construction vehicles traverse these locations. For the coastal bank buffer zone native seed mix will be spread and topped with jute mesh to stabilize the area following construction activities.

In preparation for the installation of the river crossing Y-frame structure on the Fall River side of the Taunton River (structure M13N-6) soil amendments will be made to the area around proposed structure M13N-6. Soil amendments will consist of a combination of vibro-compaction and compaction grouting at least 50 feet beyond the foundation for the monopole. These soil amendments practices will aid in maintaining the soil structure and integrity of the coastal bank.

*The project includes potential impacts to salt marsh and land under the ocean to facilitate "Temporary crossing with low ground pressure (LGP) equipment to pull the lead line to facilitate wire pulling and installation of the overhead conductors and wires". The supplemental information states that the use of LGP equipment is preferred, and mats may be placed upon the saltmarsh for a period of 4-6 weeks. Mats on the saltmarsh during the growing season may cause alterations in growth, distribution, and composition of salt marsh vegetation. More detail should be provided in the EIR on the specific methods proposed to cross these coastal wetland resource areas, the potential impacts, strategies to mitigate impacts, and if necessary potential restoration of those coastal wetland resources.*

**Response:** NEP has eliminated the use of LGP equipment or temporary placement of construction mats within the salt marsh to facilitate wire pulling and installation of the overhead conductors and wires. Rather, the installation of these overhead conductors and wires will occur by hand, meaning that only foot traffic will be permitted within the salt marsh. To complete these activities by hand the lead-line will be walked up the access road, over the railroad and to structures N12-7 and M13N-7. The lead line will then be connected to the pulleys on the structure and the wire will then be pulled between Structures 6 and 7. Impacts to the salt marsh are limited to foot traffic and are herein considered *de minimus* and negligible.

*This project may be subject to CZM federal consistency review, which requires that the project be found to be consistent with CZM's enforceable program policies. For further information on this process, please contact Bob Boeri, Project Review Coordinator, at robert.boeri@mass.gov or visit the CZM web site at https://www.mass.gov/federal-consistency-review-program.*

**Response**: NEP acknowledges the Massachusetts Office of Coastal Zone Management's (CZM's) comment above and will consult with CZM on the applicability of Federal Consistency Review for the Project.

## 11.2 MassDEP Bureau of Water Resources

*The Project is not within or adjacent to an Area of Critical Environmental Concern or on or within a half mile radius of an Outstanding Resource Water. The Project is not located within Priority Habitat of State-Listed Rare Species and Estimated Habitat of Rare Wildlife. DEP SERO Wetlands program notes that the Proponent intends to submit Notices of Intent with the city of Fall River and town of Somerset under the Limited Project provisions of 310 CMR 10.24(7)(b) and 310 CMR 10.53(3)(d); and a Water Quality Certification in accordance with 314 CMR 9.04(1), respectively. The Notices of Intent shall include the information necessary to determine the Project's compliance with the performance standards to each of the resource areas affected. The Department will address the Project's compliance with the applicable performance standards during NOI review.*

**Response:** NEP acknowledges the proposed Project will require a local Order of Conditions from the Somerset and Fall River Conservation Commissions. NEP will submit Notices of Intent with these Conservation Commissions in 2023.

NEP also acknowledges that a 401 Water Quality Certification from MassDEP is required. A 401 Water Quality Certification will be submitted by NEP to the MassDEP Southeast Regional Office in 2023.

*DEP SERO notes that the Proponent identified several methods for crossing the salt marsh. The Proponent's preferred method is to use low ground pressure equipment approximately 8 feet wide with ground pressure less than or equal to 3 pounds per square inch. The second alternative is to place construction mats in the salt marsh for 4-6 weeks during the mobilization, wire stringing and demobilization of the wire stringing equipment phase of the Project. The temporary alteration to the salt marsh may be avoided altogether if the Project utilizes a helicopter for the wire stinging operations. The use of a helicopter was discussed at the MEPA Consultation on November 3, 2021 and included in the supplementary filing dated November 9, 2021.*

*The Department notes that a proposed Project shall maintain the existing elevation of the salt marsh, the low ground pressure equipment or matting shall not compact the salt marsh vegetation, lead to pooling in the marsh or cause marsh vegetation dieback. Furthermore, the Project should be performed during the non-growing season of the marsh grasses.*

**Response:** NEP eliminated the need to cross salt marsh with LGP vehicles and construction matting. During stringing of the overhead wires and conductors, NEP is to cross the salt marsh by foot to carry the lead rope across this section of the ROW located on the Fall River side of the Taunton River.

*After performing a review of its database, the Department concurs that authorizations identified by the Proponent, for properties at these sites, include but are not limited to License No. 4357 (1960) and 4781 (1964).*

*Installation of the overhead wires at the Taunton River and Steep Brook and any intermittent stream crossing in an area that is navigable will require a Waterways License in accordance with 310 CMR 9.05.*

*The Department will work with the Proponent to determine which waterbodies are jurisdictional.*

*This Project use has been determined to be Water-Dependent-Industrial in accordance with 310 CMR 9.12(2)(b) 10. Any additional concerns will be addressed during the permitting process.*

*Stormwater Management/National Pollutants Discharge Elimination System (NPDES) Permit. The Proponent has acknowledged the need to file a Notice of Intent for coverage under this permit.*

**Response:** NEP has consulted with MassDEP and will submit a new Chapter 91 license application to authorize the additional conductors over the Taunton River. Further information on compliance with these regulations this is provided in Section 9.0.

The Project as proposed will have impacts to jurisdictional waterbodies. These impacts include:

- Approximately 2.6 acres of temporary impact and approximately 1.0 acre of permanent impact to Land Subject to Coastal Storm Flowage for the purposes of creating access to and erecting the proposed 300-foot-tall river crossing structure along the east bank of the Taunton River.;

- Approximately 0.25 acre of permanent impact to coastal bank to establish access to the proposed river crossing structure in Fall River.; and

- Approximately 2.7 acres of temporary impact and approximately 400 square feet of permanent impact to bordering vegetated wetlands resulting from the temporary installation of construction mats and installation of new structure foundations, respectively.

Throughout Project planning and design, wetland impacts have been minimized to the greatest extent practicable by utilizing the existing transmission line corridors and access roads. However, given the scale and landscape setting of the Project, certain wetland impacts cannot be avoided. Construction will result in temporary, permanent, and secondary impacts to wetland resources and watercourses. These impacts are further described throughout Section 5.0 and in Table 5-1.

NEP will prepare and submit a Notice of Intent with the United States. Environmental Protection Agency (USEPA) in compliance with the National Pollutant Discharge Elimination System (NPDES) Program for coverage under the Storm Water Construction General Permit to include the preparation of a Stormwater Pollution Prevention Plan (SWPPP).

## 11.3 MassDEP Waste Site Cleanup

This discussion responds to the following comment from the MassDEP Bureau of Waste Site Cleanup:

*The Project involves installation of new foundations for an existing transmission line. The former Shell Terminal, 1 New Street, Fall River, Release Tracking Number 4-749, is immediately south of the proposed Project along the eastern bank of the Taunton River, but the transmission line is not part of the site where MCP response actions are occurring. There are no other listed MCP disposal sites located at or in the vicinity of the Project that would appear to impact the proposed Project area.*

*The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this Project, notification pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.*

**Response:** NEP has retained an LSP to assist in the planning and implementation of the Project. Given that the Project is in close proximity to open Release Tracking Numbers, NEP will be providing notification to MassDEP pursuant to the Massachusetts Contingency Plan (310 CMR 40.0000) and expects to work under a Utility Related Abatement Measure plan as necessary. NEP's LSP will remain available throughout the duration of the Project to render appropriate opinions as necessary. Additional information is provided in Section 8.1.

## 11.4 MassDEP Bureau of Air and Waste

This discussion responds to the following comment from the MassDEP Bureau of Waste and Air:

*Air Quality: Construction and operation activities shall not cause or contribute to a condition of air pollution due to dust, odor or noise. To determine the appropriate requirements please refer to: 310 CMR 7.09 Dust, Odor, Construction, and Demolition 310 CMR 7. 10 Noise*

**Response:** NEP has had multiple, recent projects reviewed by the MEPA Unit, and NEP has committed to the following measures to limit vehicle idling times and to reduce air emissions, including the following: in Massachusetts, any diesel-powered non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of Project construction will either be USEPA Tier 4-compliant or will be retrofitted with USEPA-verified (or equivalent) emission control devices such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available) installed on the exhaust system side of the diesel combustion engine.

NEP requires the use of ultra-low sulfur diesel fuel in its diesel-powered construction equipment and limits idling time to five minutes except when engine power is necessary for the delivery of materials or to operate accessories to the vehicle such as power lifts. Vehicle idling is to be minimized during the construction phase of the Project, in compliance with the following:

- Massachusetts Anti-idling Law, G.L. c. 90 § 16A, c. 111 §§ 142A – 142M, and 310 CMR 7.11.
- National Grid's Environmental Guidance (EG-802MA) Vehicle Idling – Massachusetts.

During all phases of construction, exposed soils will be wetted and stabilized as necessary to suppress dust generation, and crushed stone aprons will be used at all access road entrances to public roadways. Consequently, fugitive dust emissions are anticipated to be low. Due to the transitory nature of the construction, air quality in the Project area will not be significantly affected by construction along the ROW. Emissions produced by the operation of construction machinery are short-term and not generally considered significant.

There are no anticipated long-term impacts on air quality associated with the operation of the existing transmission line. NEP regularly monitors its equipment facilities to verify it is operating within the design tolerances. The following subsections respond to the below-noted comments from the MassDEP Bureau of Waste and Air:

*Construction-Related Measures: MassDEP requests that the Proponent use construction equipment with engines manufactured to Tier 4 federal emission standards, which are the most stringent emission standards currently available for off-road engines. If a piece of equipment is not available in the Tier 4 configuration, then the Proponent should use construction equipment that has been retrofitted with the best available after-engine emission control technology, such as oxidation catalysts or diesel particulate filters, to reduce exhaust emissions.*

*The Proponent should maintain a list of the engines, their emission tiers, and, if applicable, the best available control technology installed on each piece in the subsequent environmental filing.*

*Massachusetts Idling Regulation: In addition, to ensure compliance with this regulation once the Project is occupied, MassDEP requests that the Proponent establish permanent signage limiting idling to five minutes or less at the completed project.*

**Response:** During construction of the Project, NEP will make a reasonable attempt to maintain a list of the engines associated with the construction equipment, their emission tiers, and if applicable, the best available control technology installed on each engine.

NEP acknowledges the requirement to use construction equipment with engines manufactured to Tier 4 federal emission standards and will require Project contractors to adhere to these standards. NEP has committed that any diesel-powered non-road construction equipment with engine horsepower ratings of 50 and above to be used for 30 or more days over the course of Project construction will either be USEPA Tier 4-compliant or will be retrofitted with USEPA-verified (or equivalent) post-combustion emission control devices such as oxidation catalysts or other comparable technologies (to the extent that they are commercially available).

In addition, vehicle idling is to be minimized during the construction phase of the Project, in compliance with the following:

- Massachusetts Anti-idling Law, G.L. c. 90 § 16A, c. 111 §§ 142A – 142M, and 310 CMR 7.11.
- National Grid's Environmental Guidance (EG-802MA) Vehicle Idling – Massachusetts.

NEP requires the use of ultra-low sulfur diesel ("ULSD") fuel in its diesel-powered construction equipment and limits idling time to five minutes except when engine power is necessary for the delivery of materials or to operate accessories to the vehicle such as power lifts. NEP will require its contractors to follow these procedures. Although information about specific engines is not yet available, typical construction equipment will be used through this Project.

*A spills contingency plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and post-construction activities should be presented to workers at the site and enforced. The contingency plan should include but not be limited to, refueling of machinery, storage of fuels, and potential on-site activity releases.*

**Response:** Prior to construction activities occurring all workers will be presented with the spill contingency plan, as described in National Grid's EG-501 and 502, refer to Appendix C. The spill contingency plan addresses prevention and management of potential releases of oil and/or hazardous materials from pre- and post- construction activities, including refueling of machinery, storage of fuels, and potential on-site activity releases. All fuels will be stored with secondary containment, outside of resource areas. Equipment and machinery will be stored outside of resource areas and buffer zone and will be equipped with secondary containment.

*Waste materials discovered during construction that are determined to be solid waste (e.g., construction and demolition waste) and/or recyclable material (e.g., metal, asphalt, brick, and concrete) shall be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations including 310 CMR 19.017: Waste Bans. Waste Ban regulations prohibit the disposal, transfer for disposal, or contracting for disposal of certain hazardous, recyclable, or compostable items at solid waste facilities in Massachusetts, including, but not limited to, metal, wood, asphalt pavement, brick, concrete, and clean gypsum wallboard. The goals of the waste bans are to: promote reuse, waste reduction, or recycling;*

*reduce the adverse impacts of solid waste management on the environment; conserve capacity at existing solid waste disposal facilities; minimize the need for construction of new solid waste disposal facilities; and support the recycling industry by ensuring that large volumes of material are available on a consistent basis.*

*MassDEP recommends the Proponent consider source separation or separating different recyclable materials at the job site. Source separation may lead to higher recycling rates and lower recycling costs.*

**Response:** The Project will maintain compliance with MassDEP's Solid Waste and Air Pollution Control Programs. NEP has an Investment Recovery Department that manages the recycling and disposal of company equipment and materials. The Investment Recovery Department will oversee the recycling and disposal activities associated with the Project, as these assets have value and can be incorporated into the recycling program. NEP is proposing to remove structures on the ROW, during the removal of existing transmission line structures, NEP proposes to recycle as much of the removed material as possible, such as steel members, copper wire, and conductor. Those components that are not salvageable and any debris that cannot be recycled will be removed from the ROW and station site to an approved off-site facility. Such materials will be handled in compliance with applicable laws and regulations and in accordance with NEP's policy and procedures. Materials will be adequately separated for disposal and stored in compliance with MassDEP standards.

*As defined in 310 CMR 16.02, clean wood means "discarded material consisting of trees, stumps and brush, including but limited to sawdust, chips, shavings, bark, and new or used lumber" …etc. Clean wood does not include wood from commingled construction and demolition waste, engineered wood products, and wood containing or likely to contain asbestos, chemical preservatives, or paints, stains or other coatings, or adhesives. The Proponent should be aware that wood is not allowed to be buried or disposed of at the Site pursuant to 310 CMR 16.00 & 310 CMR 19.000 unless otherwise approved by MassDEP. Clean wood may be handled in accordance with 310 CMR 16.03(2)(c)7 which allows for the on-site processing (i.e., chipping) of wood for use at the Site (i.e., use as landscaping material) and/or the wood to be transported to a permitted facility (i.e., wood waste reclamation facility) or other facility that is permitted to accept and process wood.*

**Response:** Wood waste will be disposed of by means of chipping, mowing, and/or hauled off-site. Tree removal will take place at several locations along the ROW, mostly on the edge of the existing ROW with a bulk of tree removal occurring within the edge of the ROW to the west of Sykes Road Substation and within the proposed access road to structures M13N-6 and N12-6. All tall growing woody species within the targeted portions of the ROW and the station site will be removed. Tree pruning and removal activities will comply with 310 CMR 16.03(2)(c)(7) which allows for the on-site processing of wood and/or the wood to be transported to a permitted facility.

*Proponent will prepare Proposed Section 61 Findings to be included in the EIR in a separate chapter updating and summarizing proposed mitigation measures. In accordance with 301 CMR 11.07(6)(k), this chapter should also include separate updated draft Section 61 Findings for each State agency that will issue permits for the Project. The draft Section 61 Findings should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible for implementation, and contain a schedule for implementation.*

**Response:** Section 10.0 of this SEIR addresses Draft Section 61 Findings.

## 11.5 Massachusetts Division of Marine Fisheries

*The EIR developed for this project should outline proposed pre-and post-construction monitoring plans to determine whether any marsh impacts occur for either of the proposed temporary crossing methods. The temporary construction mat alternative should be further described as well, particularly proposed timing of this part of the project. Work on the marsh platform outside of the growing season would help to minimize potential impacts to this important habitat.*

**Response**: Pre- and post-construction monitoring will occur to ensure the marsh is not adversely affected and to determine if any post-construction corrective actions are necessary to restore these habitats to pre-existing conditions (refer to Section 5.3). Additionally, impacts to the salt marsh will be limited to foot traffic. Impacts are considered minimal and should not facilitate die-off of salt marsh vegetation. NEP's environmental compliance monitor(s) will inspect the nearby salt marsh habitats routinely during construction.

## 11.6 Massachusetts Department of Transportation

*MassDOT recommends that no further environmental review be required based on transportation-related issues. The Proponent should work with MassDOT to address the details of the permitting process and any traffic and construction management plans that may be required for temporary work within the state highway layout.*

**Response:** NEP will prepare and submit both a Traffic Management Plan and an application for a Crossing Permit for review and acceptance by the MassDOT (refer to Section 6.0). NEP recognizes that the overhead transmission lines cross multiple roadways under the jurisdiction of the MassDOT including State Route 79 and State Route 24. A draft of the Traffic Management Plan is included in this SEIR in Appendix D.

# 12.0 REFERENCES

Ballard, B.D., H.L. Whittier, and C.A. Nowak. 2004. *Northeastern Shrubs and Short Tree Identification, A Guide for Right-of-way Vegetation Management*. State University of New York-College of Environmental Science and Forestry.

Bramble, W.C., Yahner, R.H., and W.R. Byrnes. 1992. "Nesting of breeding birds on an electric utility line right-of-way." *Journal of Arboriculture*, 20(2).

Confer, J.L. 2003. "Management, vegetative structure and shrubland birds on rights-of-way." *Environmental Concerns in Rights-of-Way Management*, Seventh International Symposium (J.W. Goodrich-Mahoney, Ed.). Electric Power Research Institute, Washington, D.C.

Confer, J.L. and S.M. Pascoe. 2003. "Avian communities on utility rights-of-ways and other managed shrublands in the northeastern United States." *Forest Ecology and Management* 185:193-205.

Confer, J.L., T. Hauck, M.E. Silvia, and V. Fray. 2008. "Avian shrubland management and shrubland nesting success." In *Proceeding of the Eighth International Symposium on Environmental Concerns in Rights-of-Way Management.* (J. W. Goodrich, L. P. Abrahamson, J. L. Ballard, S.M. Tikalsky, Eds.). Electric Power Research Institute, Washington, D.C., pages 407-412.

King, D.I., R.B. Chandler, J. Collins, W.R. Peterson, and T.E. Lautzenheiser. 2009. "Effects of width edge and habitat on the abundance and nesting success of scrub-shrub birds on powerline corridors." *Biological Conservation* 142: 2672–2680.

Money, Nelsen, R. 2008. "Development of an Integrated Resource Management Strategy for Transmission Right-of-Way Corridors for Successful Implementation of Integrated Vegetation Management in California." In *Proceeding of the Eighth International Symposium on Environmental Concerns in Rights-of-Way Management*. (J. W. Goodrich, L. P. Abrahamson, J. L. Ballard, S. M. Tikalsky, Eds.). Electric Power Research Institute, Washington, D.C., pages 33-36.

Saucier, Laura. 2003. Shrubland habitat information from "Wildlife Habitat in Connecticut: Shrubland." Habitat Management Program, in *Connecticut Wildlife*. July/August 2003.

United States Fish and Wildlife Service (USFWS). 2016. Great Thicket National Wildlife Refuge. Final Land Protection Plan/Environmental Assessment. Retrieved November 28, 2016 from

Yahner, R.H., R.J. Hutnick, and R.J. Liscinsky. 2004. "Long-term trends in bird population on an electrical transmission right-of-way." *Journal of Arboriculture*. 29(3).