# 1.0 INTRODUCTION

## 1.1 Brief Description of the Proposed Project and Massachusetts Environmental Policy Act Jurisdiction

### 1.1.1 Overview

The New England Power Company d/b/a National Grid ("NEP") and NSTAR Electric Company d/b/a Eversource Energy ("Eversource") (together, the "Companies") are proposing system upgrade projects to improve reliability in the southeastern Massachusetts area. The first project consists of an electric substation improvement project proposed by NEP at their existing Bell Rock Substation located at 181 Bell Rock Road in Fall River, Massachusetts (the "Bell Rock Substation Rebuild Project" or "Substation Project") (Figure 1-1 in Appendix A). The second project is a joint endeavor by the Companies and consists of the installation of a new electric transmission line extending from Eversource's Industrial Park Tap in Acushnet west to the Bell Rock Substation ( the "Acushnet to Fall River Reliability Project" or "AFRRP"). The AFRRP includes the installation of approximately 12.1 miles of new overhead electric transmission line traversing the municipalities of Acushnet, New Bedford, Dartmouth, and Fall River in Bristol County, Massachusetts (Figure 1-2 in Appendix A). The AFRRP will be located within existing rights-of-way ("ROW") currently occupied by several other electric transmission lines. Of the 12.1 miles, approximately 7.9 miles are in Eversource service territory traversing Acushnet, New Bedford and Dartmouth, and approximately 4.2 miles are in NEP service territory traversing Fall River.

While the Companies believe that the two projects are independent undertakings addressing separate needs, with separate schedules and distinct, separable environmental impacts, the Massachusetts Environmental Policy Act ("MEPA") Office has requested that the Companies include both projects in this joint Expanded Environmental Notification Form ("EENF"). The Companies are concerned that combining the review of two different projects with two different schedules could result in delays for these critical reliability projects. To address this concern, while ensuring the full and appropriate review of both projects under MEPA, the Companies are requesting a phase one waiver under 301 CMR 11.11(4) or, in the alternative, a Special Review Procedure under 301 CMR 11.09. The specifics of this Request for Waiver or Special Review Procedure are set forth in Section 1.2.

### 1.1.2 Bell Rock Substation Rebuild Project

NEP is planning substation upgrades at the existing Bell Rock Substation. The Bell Rock Substation lies within NEP's existing 2.75-acre substation easement (the "Substation Site"). Eversource holds a 1.06-acre easement adjacent (south) to the NEP easement. All substation improvements will be made within the existing substation and adjacent transmission line ROW easements. The purpose of the Bell Rock Substation Rebuild Project is to improve the reliability and operability of the substation, and to rebuild and expand the substation to accommodate the termination of the existing M13 Line at the substation. The Bell Rock Substation Rebuild Project involves the rebuild and expansion of certain facilities at the substation, and will primarily include the following elements (refer to Figure 2-2 in Appendix A):

1) Expand the existing substation footprint by approximately 0.51 acre (22,000 square feet).
2) Expand the existing substation perimeter security fence line.
3) Install a new control building to replace the existing control building.

4) Install new substation-related equipment.
5) Upgrade the stormwater management system.
6) Temporarily reroute the existing M13 transmission line to bypass the existing substation to the south for the purposes of facilitating the rebuild of the substation.
7) Complete additional minor transmission line reconfigurations to connect the lines back into the rebuilt substation.

The Bell Rock Substation Rebuild Project and related M13 transmission line bypass is subject to review under the MEPA as it requires one or more state permits and exceeds the review thresholds listed in Table 1-1 below. A summary of the anticipated Substation Project impacts is included in Table 1-2 and discussed further in Sections 4 through 8.

**TABLE 1-1 BELL ROCK SUBSTATION REBUILD PROJECT MEPA REVIEW THRESHOLDS**

| MEPA ENVIRONMENTAL NOTIFICATION FORM THRESHOLDS |
|---|
| **Wetlands, Waterways and Tidelands**: Alteration of 5,000 or more square feet of bordering or isolated vegetated wetlands. (301 CMR 11.03(3)(b)(1)(d)) |
| **Wetlands, Waterways and Tidelands**: Alteration of 1,000 or more square feet of outstanding resource waters. (301 CMR 11.03(3)(b)(1)(c)) |

**TABLE 1-2 BELL ROCK SUBSTATION REBUILD PROJECT ANTICIPATED PROJECT IMPACTS**

| RESOURCE AREA | TEMPORARY IMPACTS (IN SQUARE FEET) | PERMANENT IMPACTS (IN SQUARE FEET) |
|---|---|---|
| **New Land Altered (Substation)** | N/A[1] | 42,898 (0.98 acre) |
| **Bordering Vegetated Wetland (BVW) (Substation and Temporary M13 Line Bypass)[2]** | 6,611 sf (0.15 acre) – placement of temporary construction mats as a construction-phase mitigation measure | 3,599 (0.08 acre) – substation expansion |
| **Rare Species Impacts** | Two Natural Heritage and Endangered Species Program (NHESP) state-listed species are located within the vicinity of the substation based on information received from the NHESP (Refer to redacted versions of the Agency Correspondence in Appendix B-2). NEP will implement the Operations and Maintenance (O&M) procedures outlined in *National Grid's 2018 Operation and Maintenance Plan* for Project activities located in designated habitat in addition to implementing any additional conditions that the NHESP recommends for the substation rebuild and expansion. | |
| **Historical/Archaeological Impacts** | There is very low potential for impacts of construction-related activities within the substation footprint, based on archaeological testing completed on the substation easements. The Massachusetts Historical Commission (MHC) concurred with the recommendation of no further testing of this site (letter dated May 12, 2017). Additional archaeological testing was completed along the alignment of the M13 Line Bypass. The results of the field testing indicated a very low potential for impacts and the MHC's anticipated concurrence is pending (refer to Agency Correspondence in Appendix B-1). No adverse effects are anticipated. | |

Notes:
[1] Temporary impacts are not considered an alteration of land, but are included in the reported alterations to bordering vegetated wetlands. Area will be restored to pre-existing conditions after the construction activity is completed.
[2] All BVW impacts are located with Outstanding Resource Waters (ORW).

### 1.1.3 Acushnet to Fall River Reliability Project

The Companies are proposing to undertake the AFRRP to improve the electric transmission reliability in the southeastern Massachusetts area. The AFRRP is approximately 12.1 miles and traverses the municipalities of Acushnet, New Bedford, Dartmouth, and Fall River in Bristol County, Massachusetts (Figure 1-2 in Appendix A).[1] New transmission line structures and overhead conductors and wires will be installed along the southern portion of the ROWs parallel to the existing overhead transmission lines. Optical ground wire (OPGW) will be installed as part of the wire installation.

New capacitor banks will be installed at Eversource's Wing Lane and High Hill Substations in Acushnet and Dartmouth, respectively. The capacitor banks at Wing Lane will be located entirely within the existing fenced in substation site. A minor fence line expansion at High Hill Substation (approximately 2,285 square feet) within Eversource's existing transmission line ROW will be required to make room for the new capacitor bank. Since installation of the new capacitor banks at the Wing Lane and High Hill Substations will not impact resource areas as recognized by MEPA, they are not further discussed herein.

The AFRRP is subject to review under MEPA as it requires one or more state permits and exceeds the review thresholds listed in Table 1-3 below. A summary of the anticipated AFRRP impacts are included in Table 1-4.

**TABLE 1-3 ACUSHNET TO FALL RIVER RELIABILITY PROJECT MEPA REVIEW THRESHOLDS**

| **MEPA ENVIRONMENTAL IMPACT REPORT THRESHOLDS** |
|---|
| **Wetlands, Waterways and Tidelands**: Alteration of one or more acres of bordering vegetated wetlands. (301 CMR 11.03(3)(a)(1)(a)) |
| **MEPA ENVIRONMENTAL NOTIFICATION FORM THRESHOLDS** |
| **State-listed Species under M.G.L c. 131A**: Greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02, that results in a take of a state-listed endangered or threatened species or species of special concern. (301 CMR 11.03(2)(b)(2)) |
| **Wetlands, Waterways and Tidelands**: Alteration of 5,000 or more square feet of bordering or isolated vegetated wetlands. (301 CMR 11.03(3)(b)(1)(d)) |

[1] Two short sections of underground cable (limited to the installation of approximately 800 linear feet of underground cable) will be installed in upland areas to avoid utility congestion at High Hill Substation and the Industrial Park Tap.

**TABLE 1-4 ACUSHNET TO FALL RIVER RELIABILITY PROJECT ANTICIPATED PROJECT IMPACTS**

| RESOURCE AREA | TEMPORARY IMPACTS (IN SQUARE FEET) | PERMANENT IMPACTS (IN SQUARE FEET) |
|---|---|---|
| **New Land Altered** | N/A[1] | 1,108,861 (25.46 acres) of tree clearing in upland |
| **Bordering Vegetated Wetland (BVW)** | 306,817 (7.04 acres) – placement of temporary construction mats as a construction-phase mitigation measure | 37,352 (0.86 acre) of permanent fill<br>91,589 (2.10 acres) of tree clearing and conversion of forested wetland to scrub-shrub wetland |
| **Other Wetland Resource Areas** | | |
| **Riverfront Area (RFA)** | 49,309 (1.13 acre) of which 17,239 (0.40 acre) are accounted for in the BVW temporary impacts listed above. | 7,226 (0.17 acre) of which 2,304 (0.05 acre) are accounted for in the BVW permanent impacts listed above.<br><br>4,362 (0.10 acre) of tree clearing. |
| **Bordering Land Subject to Flooding (BLSF)** | 91,707 (2.11 acre) of which 28,208 (0.65 acre) are accounted for in the BVW temporary impacts listed above. The work involves placement of temporary construction mats as a construction-phase mitigation measure. | 285 (0.01 acre) of which 47 square feet are accounted for in the BVW permanent impacts listed above. The work involves structure installation where BLSF could not be avoided. |
| **Inland Bank (IB)** | 202 linear feet – placement of temporary construction mat bridge(s) | 625 square feet for the installation of one culvert in a stream |
| **Land Under Water (LUW)** | 0 | 0 |
| **Rare Species Impacts** | Seven NHESP state-listed species area located within the vicinity of the Project based upon letters from NHESP dated April 9, 2018 (Refer to redacted versions of the Agency Correspondence in Appendix B-2).<br>The Companies will adhere to Best Management Practices to avoid harm to state-listed species and their habitats. Project-specific mitigation measures will be determined through continued consultation with the NHESP Program. | |
| **Historical/ Archaeological Impacts** | The Companies are coordinating with both the USACE and MHC to avoid adverse effects to historic and archaeological resources eligible for listing in the National Register of Historic Places (NRHP). As part of its USACE Section 404 permit review, pursuant to Section 106, the USACE will also consult with Native American tribes and local municipal historical commissions that express an interest in the historic resources that may be affected by portions of the Project within USACE jurisdiction. | |

Notes:
[1] Temporary impacts are not considered an alteration of land, but are included in the reported alterations to bordering vegetated wetlands. Area will be restored to pre-existing conditions after the construction activity is completed.

## 1.2 Request for a Phase One Waiver or Special Review Procedure

Pursuant to 301 CMR 11.11, *Waivers*, which allows the Secretary to, among other things, grant phasing of a project, the Companies respectfully request a phase one waiver to allow the Bell Rock Substation Rebuild Project to proceed in advance of filing an Environmental Impact Report ("EIR") for the AFRRP in order to avoid delaying the Bell Rock Substation Rebuild Project, a critical reliability project.

301 CMR 11.11 provides that the Secretary may grant a waiver of MEPA requirements and impose appropriate conditions or restrictions, if the Secretary finds that strict compliance with MEPA would: "(a) result in an undue hardship for the Proponent," and "(b) not serve to avoid or minimize Damage to the Environment." 301 CMR 11.11(1). Specifically, in the case of a partial waiver of a mandatory EIR review threshold that will allow a proponent to proceed with an initial phase of a project before preparing an EIR, (a "phase one" waiver) the Secretary should base the finding on a determination that:

(a) The potential environmental impacts of phase one, taken alone, are insignificant;
(b) ample and unconstrained infrastructure facilities and services exist to support phase one;
(c) the Project is severable, such that phase one does not require the implementation of any other future phase of the Project or restrict the means by which potential environmental impacts from any other phase of the Project may be avoided, minimized or mitigated; and
(d) the Agency Action on phase one will contain terms such as a condition or restriction in a Permit, contract or other relevant document approving or allowing the Agency Action, or other evidence satisfactory to the Secretary, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to Commencement of any other phase of the Project.

301 CMR 11.11(4). The following summarizes the Bell Rock Substation Rebuild Project's and AFRRP's distinct purposes and needs and why requiring them to be reviewed without a phase one waiver could create an undue hardship without serving to avoid or minimize Damage to the Environment. It then addresses each of the specific criteria for a phase one waiver.

In the event that the Secretary determines that the requirements for a phase one waiver are not met, the Companies request that the Secretary grant a Special Review Procedure under 301 CMR 11.09 and treat the two projects as an Area-Wide Review or Other Special Review that will allow the Bell Rock Substation Rebuild Project to proceed after the EENF Certificate is issued. Granting the special review would avoid the undue hardship described below without compromising the review of either project. Since these projects are undertaken by a Person, and not an Agency, and the potential environmental impacts are not complex or unusual for these types of projects, a Citizens Advisory Committee would not be necessary or appropriate.

*Distinct Project Purposes and Needs*

The Bell Rock Substation Rebuild Project has a separate purpose and need distinct from that of the AFRRP. The main purpose of the Bell Rock Substation Rebuild Project is to accommodate two line connections from the existing M13 Line into the substation. The existing M13 Line currently crosses over, but does not electrically connect into, the substation. As determined by the Independent System Operator, New England ISO New England Inc. ("ISO-NE") the Bell Rock Substation Rebuild Project is needed in order to split the M13 Line into the M13N and M13S Lines, and terminate both lines at the substation. In order to accommodate the two M13N and M13S transmission line terminations, the Bell Rock Substation needs to be rebuilt and expanded into a breaker and a half configuration.

The AFFRP addresses certain critical transmission system needs identified in the ISO-NE Southeastern Massachusetts and Rhode Island Area 2026 Solutions Study, Revision 1 - March 2017, including: 1) certain N-1 and N-1-1 contingencies which result in voltage collapse and the loss of service to regional customer; and 2) certain N-1-1 contingencies which have the potential to result in consequential loss of service. The AFRRP eliminates the potential widespread voltage collapse and loss of load across 17 municipalities following a single (N-1) transmission contingency by providing an additional transmission source into the load pocket and additional voltage support at the existing NEP Bell Rock Substation and several of Eversource's existing substations including the Wing Lane and High Hill Substations. The

AFRRP ensures continued compliance with applicable federal and regional transmission reliability standards and criteria and maintains reliable electric service to the Southeastern Massachusetts and Rhode Island ("SEMA-RI") area.

*Undue Hardship: The Bell Rock Substation Work Must Be Completed Before the AFRRP*

Proceeding with the Bell Rock Substation Rebuild Project before the construction of the AFRRP is necessary to maintain a project schedule that requires the Bell Rock Substation construction to commence in 2020 – a year before the construction start date for the AFRRP. Allowing environmental permitting for the Bell Rock Substation Rebuild Project to proceed after the EENF Certificate will help to ensure that this schedule is met. Because the potential environmental impacts of each project is entirely distinct from the other and the impacts from the Bell Rock Substation Rebuild Project alone trigger an ENF and not a mandatory EIR, denying the phase one waiver will not serve to avoid or minimize Damage to the Environment. However, it could serve to delay critical reliability improvements.

The ability to separate the substation from the transmission line construction will provide the necessary construction clearances and work areas required for each of the two construction activities to occur, as opposed to having both construction activities occurring simultaneously in the same area. Temporarily repositioning the existing M13 Line will allow construction personnel to construct within the substation without risk of potentially encountering or fouling the existing overhead M13 transmission line. This transmission relocation will provide a safer work environment for all personnel. The Bell Rock Substation Rebuild Project schedule is also driven by planned outages, which must be approved by the ISO-NE months in advance of planned construction. Missing a scheduled outage can severely impact the project schedule because a "contingency" outage is not easily granted nor is it necessarily granted in a timely fashion, if it is not already placed into the ISO-NE outage queue.

Further, a waiver will facilitate quicker resolution of the public infrastructure reliability issues identified by the ISO-NE. Construction of the AFRRP will not commence until the EFSB issues a Final Decision allowing the construction of the transmission line to proceed. Because the Bell Rock Substation Rebuild Project has a separate purpose and need distinct from that of the AFRRP, and because the Rebuild Project, by itself, does not trigger the jurisdiction of the EFSB, the Rebuild Project will not be included in the Companies' petition to the EFSB seeking approval to construct the AFRRP. Thus, for MEPA to require that MEPA review for the two projects remain combined could hinder the resolution of the reliability issues identified by the ISO-NE.

If the Bell Rock Substation Rebuild Project is not constructed before other system reliability upgrades (i.e., construction of the AFRRP), then the in-service date as identified by the ISO-NE is at risk of not being met and the 17 communities serviced by the existing facilities will continue to remain vulnerable to transmission contingency voltage collapse. In order to meet the in-service date identified by the ISO-NE, construction activities for the Bell Rock Substation Rebuild Project need to commence in the first quarter 2020, while construction activities related to the AFRRP do not need to begin until the first quarter 2021.

*Consistency with the Phase One Waiver Standards*

A phase one waiver is appropriate for this project, as all of the criteria enumerated in 301 CMR 11.11(4) are met.

301 CMR 11.11(4)(a): The potential impacts of the Substation Project, taken alone, are insignificant.[2]

The anticipated environmental impacts from the Bell Rock Substation Rebuild Project exceed two ENF review thresholds provided in 301 CMR 11.03(3)(b)(1): alteration of 1,000 or more square feet of ORW and alteration of 5,000 or more square feet of BVW. They do not, however, trigger a mandatory EIR. Therefore, the impacts can be adequately evaluated through the ENF. Several substation design configurations have been evaluated in an attempt to minimize wetland impacts and reduce overall environmental impacts to the maximum extent possible, as described in Section 3.0 below. The majority of the impacts are temporary due to the use of swamp mats – a best management practice – that is used to minimize disturbances to the wetlands. Moreover, by working with the relevant state, local and federal agencies with jurisdiction over wetlands, the impacts will be mitigated. Thus, allowing the Bell Rock Substation Rebuild Project to proceed after the EENF Certificate will not result in any significant impacts that will not be adequately reviewed under MEPA.

301 CMR 11.11(4)(b): Ample and unconstrained infrastructure facilities and services exist to support the Substation Project

Existing infrastructure can support the expansion of the Bell Rock Substation Rebuild Project before the AFRRP. The Bell Rock Substation is an existing two-breaker substation located at the junction of the existing D21, L14, N12 and M13 transmission lines. The existing substation has been in operation since the 1960s. The Bell Rock Substation houses equipment for NEP and Eversource, as both companies hold easement rights for the station. The station is accessed from a public road in Fall River. NEP and Eversource are able to plan and schedule line outages or non-re-closure assurances, as necessary, to de-energize certain equipment at the station to allow for construction to proceed within the station yard.

301 CMR 11.11(4)(c) The Bell Rock Substation Rebuild Project is severable from the AFRRP, such that the Bell Rock Substation Rebuild Project does not require the implementation of the AFRRP or restrict the means by which potential environmental impacts from the AFRRP may be avoided, minimized or mitigated.

The Companies understand that the reason that the MEPA Office has requested a single filing for both of these projects is because the AFRRP will ultimately terminate at the Bell Rock Substation, which creates a geographic nexus between the projects. However, the Bell Rock Substation Rebuild Project is entirely severable from the AFRRP. From construction and facilities perspectives, the Bell Rock Substation Rebuild Project does not require the implementation of the AFRRP. If the AFRRP is not constructed, the purpose and need of the Bell Rock Substation Rebuild Project will be entirely achieved. The Bell Rock Substation Rebuild Project will be completed by NEP's Substation Construction Group and its contractor that will be solely contracted to complete the work at the substation. Separate NEP and Eversource Transmission Line Services teams and their contractors will perform the AFRRP construction.

The anticipated environmental impacts of the Bell Rock Substation Rebuild Project are entirely separate from the impacts anticipated for the AFRRP. They are geographically distinct and the feasible alternatives between the two projects are also separate and independent: The selection of any feasible Bell Rock Substation Rebuild Project alternative will have no bearing on the feasible alternatives for the AFRRP or the environmental impacts of the AFRRP. Mitigation for the Bell Rock Substation Rebuild Project impacts can be implemented separate from the mitigation and ROW restoration for the AFRRP. As a result, moving forward with the Bell Rock Substation Rebuild Project will not restrict the means by which the potential environmental impacts from the AFRRP may be avoided, minimized or mitigated.

[2] Each project is discussed in much greater detail throughout this EENF. For the purposes of this phase one waiver request, the Companies have included a high level summary here.

301 CMR 11.11(4)(d): The Agency Actions on the Bell Rock Substation Rebuild Project will contain terms such as a condition or restriction in a Permit, contract or other relevant document approving or allowing the Agency Action, or other evidence satisfactory to the Secretary, so as to ensure due compliance with MEPA and 301 CMR 11.00 prior to Commencement of the AFRRP.

The feedback received during the pre-application meetings that NEP held with the MassDEP, the Natural Heritage and Endangered Species Program ("NHESP"), the Massachusetts Department of Conservation and Recreation ("MA DCR"), the City of Fall River officials, and the United Sates Army Corps of Engineers ("USACE") indicate that the Bell Rock Substation Rebuild Project could be approved and separately permitted in advance of the review and approval of the AFRRP permits. Because the Companies will be seeking separate permits, there is no risk that the Companies would be able to start work on the AFRRP using permits issued for the Bell Rock Substation Rebuild Project prior to completing MEPA review for the AFRRP. Accordingly, NEP will accept conditions on permits issued for the Bell Rock Substation Rebuild Project stating that the permit cannot be used for any work on the AFRRP until MEPA review of the AFRRP is complete and the AFRRP is approved by the EFSB.

*Conclusion*

A phase one waiver for the Bell Rock Substation Rebuild Project is needed to avoid a hardship to NEP's customers, which could be negatively impacted if the Bell Rock Substation Rebuild Project is not advanced ahead of the review and construction of the new AFRRP. NEP's customers in the South Coast region could be faced with the continued risk of thermal overloading and transmission contingency voltage collapse affecting the reliable energy source on which many depend. As demonstrated above, the requirements for a waiver have been met. In the alternative, if the Secretary determines that the requirements for a waiver have not been met, the Secretary should grant the same relief under the special review procedures in 301 CMR 11.09, since allowing the Bell Rock Substation Rebuild Project to proceed to permitting after the issuance of the ENF is consistent with the scope of that project and its environmental impacts and it will have no impact on the review of the AFRRP. As noted above, for projects like these that do not have complex environmental issues, the use of a Citizens Advisory Committee in conjunction with the special review procedure would not be necessary.

## 1.3 Request for Single Environmental Impact Report (EIR)

This EENF is being filed in accordance with 301 CMR 11.05(7) in order to provide more extensive and detailed information as part of a request for approval for submission of a single EIR. As detailed in Table 1-3 above, the AFRRP exceeds the review thresholds provided in 301 CMR 11.03 requiring the filing of an EIR for the alteration of one or more acres of BVW.

The Companies respectfully request approval to prepare and submit a single EIR for the AFRRP. Based on the analysis of potential environmental impacts, the AFRRP will use all feasible means to avoid and minimize potential environmental impacts. Mitigation measures will address the remaining potential environmental impacts. Allowing a single EIR is considered appropriate for a number of reasons, including:

- The EENF meets all of the requirements in 301 CMR 11.06(8) to provide detailed information on the AFRRP, its environmental baseline, alternatives, and avoidance, minimization and mitigation measures.
- The Companies conducted an extensive alternatives analysis to review and compare environmental and human impacts, cost, and feasibility to determine the preferred Project.

- The AFRRP exceeds only one EIR threshold: alteration of one or more acres of BVW where a permit is required.
- The majority of wetland impacts are the result of the temporary placement of construction mats within existing transmission line ROWs. The construction mats will be removed after the Project is complete and the BVWs will be restored.
- The area converted from forested wetland to scrub-shrub wetland (approximately 2.10 acres) will remain BVW with no net loss of wetlands; and with a benefit to successional wildlife species from the habitat conversion.
- Permanent BVW impacts associated with the AFRRP, where they could not be avoided, are limited to approximately 0.86 acre.
- Mitigation will be implemented to address federal, state and local wetlands impacts.
- The AFRRP requires comprehensive federal, state, and local regulatory review by environmental agencies that will provide sufficient oversight and require implementation of appropriate mitigation measures (as described in Section 1.5 below).
- In addition to the extensive public review necessary for permitting, the Companies are also implementing a comprehensive public outreach program to establish and maintain communications with stakeholders.

The review period for the EENF requesting a phase one waiver and Single EIR lasts for 37 Days, and Notice of the Project will be published in the Environmental Monitor.

## 1.4 Purpose and Need

***Background: SEMA-RI Needs Assessment and Solutions Study***

In May 2016, the ISO-NE issued its final SEMA-RI 2026 Needs Assessment Report ("Needs Assessment"), which studied and identified transmission system needs across a broad geographic area encompassing those parts of Massachusetts located south of Boston as well as the entire state of Rhode Island. The Report's objective was to document identified reliability-based transmission needs in the SEMA-RI area for 2026 projected system conditions (10-year, 2026 planning horizon), based on the 2015 Capacity, Energy, Loads and Transmission ("CELT") Report[3] while considering the following:

- Future load growth in the SEMA-RI area through 2026.
- Reliability over a range of generation patterns and transfer levels.
- Limited short-circuit margin in the SEMA-RI area.
- Coordination with plans for 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, Inc. ("NPCC") and ISO-NE transmission planning reliability standards.

[3] Since the time of the 2016 Needs Assessment, additional CELT forecasts have been published, including, most recently, the 2018 CELT forecast. In general, the newer forecasts project lower load growth and greater energy efficiency and distributed generation than did the 2015 CELT Report. However, even in consideration of the 2018 CELT Report forecast, the need for the Project remains.

The Needs Assessment included the evaluation of the long-term reliability of the transmission system serving the SEMA-RI study area for the projected system conditions in 2026. The system was tested under N-0 (all-facilities-in service), N-1[4] (all-facilities-in service, first contingency), and N-1-1[5] (first contingency after a facility is out-of-service) conditions for a number of possible operating scenarios with respect to related interface transfer levels and generating unit unavailability conditions.

The Needs Assessment identified numerous operating risks on the existing network in the SEMA-RI area, a number of which would result in thermal overloads and low voltage to potential voltage collapse and significant loss of customer load. Thermal overloads and low voltages could result in a power outage and/or loss of service for the Companies' customers. Other violations occurred due to lack of sufficient transmission capacity to serve load under multiple line and critical unit outage scenarios.

After the Needs Assessment was completed, ISO-NE formed a SEMA-RI solution study working group that included participating transmission owners, NEP, and Eversource, resulting in the March 2017 *Southeastern Massachusetts and Rhode Island Area 2026 Solutions Study Report* (Solutions Study). The purpose of the Solutions Study was to investigate system reinforcement options to determine feasible long-range transmission alternative solutions to remedy the time-sensitive SEMA-RI study area criteria violations. The study engaged in a variety of analyses and was based on 2026 system conditions that included planned system upgrades expected to be in-service by December 31, 2021. The Solutions Study was conducted in accordance with the AFRRP and the Bell Rock Substation Rebuild Project among the projects identified in the Solutions Study as necessary to ensure the reliability of the transmission system serving SEMA-RI. After the Solution Study, the ISO-NE Second Addendum Analysis Report to the Southeastern Massachusetts and Rhode Island Area 2026 Needs Assessment was issued in June 2018 and confirmed that the system needs, which prompted the need for the AFRRP and the Bell Rock Substation Rebuild Project remain.

***Bell Rock Substation Rebuild Project***

The Bell Rock Substation Rebuild Project addresses the load growth served by the substation by increasing the substation's operability and reliability. Under existing conditions, three transmission lines loop into and out of the substation, including the D21, L14 and N12 transmission lines. The M13 Line crosses over the Bell Rock Substation but does not electrically connect into the substation. To solve operability and reliability concerns at the substation, the existing M13 Line will be split and designated in the future as the M13N and M13S Lines and both lines will be electrically connected into the substation. Splitting the M13 Line into the M13N and M13S Lines and terminating both lines at the Bell Rock Substation results in increased reliability, adds redundancy to the system and eliminates loop flows between the existing Bell Rock and Tiverton Substations.

With the addition of these two elements (the M13N and M13S Lines) into the substation, the Bell Rock Substation needs to be reconfigured and expanded into breaker-and-a-half configuration. [6] This rebuild and expansion to the Bell Rock Substation on account of the M13 Line has the added benefit of partially preparing it to connect the new AFRRP transmission line. This is because some of the equipment installed for the M13 Line is also needed for the adjacent line position. Although one of the benefits of the rebuild

[4] N-1 Single Contingencies includes: Loss of one transmission circuit, transformer, generator, bus section or shunt device, opening of a line section without a fault, loss of two transmission components (circuit, transformer or generator) sharing a common circuit breaker, and loss of two transmission circuits on a multiple circuit transmission tower.
[5] N-1-1 Double Contingencies includes the loss of one major generating unit, transmission circuit or transformer followed by an N-1 contingency as defined above.
[6] As configured, any new substation bay will contain at least three breakers and two lines. The name originates from how the breakers are associated within the bay. Each line has its own breaker (between the line tap and the bus) and each line shares a breaker with the other line. Thusly, the configuration allows a line to have a breaker and a half of a breaker to perform any necessary switching.

of the Bell Rock Substation is to create space and install an underground duct bank that is also needed to connect the new AFRRP, the rebuild of the station addresses other separate and distinct needs within the system, as summarized above. It is identified in the SEMA-RI Solutions Study as a necessary project regardless of the choice of solution to the voltage collapse and consequential load loss needs.

***Acushnet to Fall River Reliability Project***

The AFRRP addresses certain critical transmission system needs identified in a subarea designated "Group 2" which includes portions of Industrial Park in Acushnet, the Somerset area and Newport, Rhode Island subareas, as defined in the ISO-NE Southeastern Massachusetts and Rhode Island Area 2026 Solutions Study, Revision 1 – March 2017.

Within this subarea:

- Certain N-1 and N-1-1 contingencies would result in voltage collapse and the loss of service to approximately 144,000 customers and more than 500 megawatt ("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.
- Additionally, certain N-1-1 contingencies have the potential to result in consequential loss of service to approximately 102,000 customers and 360 MW of load in 12 Massachusetts and Rhode Island municipalities.

As part of the SEMA-RI Solutions Study, alternative solutions were developed to address these issues. A description of the alternative solutions is found in Section 3.0 *Alternatives Analysis* of this EENF. All of the alternative solutions were evaluated to ensure that the solution components resolve the identified time-sensitive criteria violations identified in the Needs Assessment, and compared based on cost, constructability, environmental impacts, delivery timeframe and several other system performance criteria.

The AFRRP eliminates the potential widespread voltage collapse and loss of load across 17 municipalities following a single (N-1) transmission contingency by providing an additional transmission source into the load pocket and additional voltage support at the existing NEP Bell Rock Substation and several of Eversource's existing substations including the Wing Lane and High Hill Substations. The AFRRP thereby ensures continued compliance with applicable federal and regional transmission reliability standards and criteria and maintains reliable electric service to the SEMA-RI area.

## 1.5 Permitting and Regulatory Approvals

Table 1-5 below provides a listing of anticipated state agency environmental permits and approvals for both the Bell Rock Substation Rebuild Project and the AFRRP.

**TABLE 1-5 STATE AGENCY PERMITS, REVIEWS, AND APPROVALS**

| PROJECT | AGENCY/ REGULATORY AUTHORITY | PERMIT AND/OR PURPOSE OF APPROVAL |
|---|---|---|
| **Bell Rock Substation Rebuild Project** | Massachusetts Department of Environmental Protection (MassDEP) | Individual Section 401 Water Quality Certification |
| | MassDEP | Massachusetts Wetlands Protection Act (WPA) – Superseding Order of Conditions (potential) |

| PROJECT | AGENCY/ REGULATORY AUTHORITY | PERMIT AND/OR PURPOSE OF APPROVAL |
|---|---|---|
| | MA Natural Heritage and Endangered Species Program (NHESP) | Massachusetts Endangered Species Act (MESA) Review |
| | Massachusetts Historical Commission (MHC) | Massachusetts Historical Commission and Protection of Properties Included in the State Register of Historic Places (950 CMR 70 and 71) – Project Notification Form (PNF) |
| | Massachusetts Department of Conservation and Recreation (MA DCR) | Construction and Access Permit (potential) |
| **Acushnet to Fall River Reliability Project** | Massachusetts Energy Facilities Siting Board (EFSB) | Approval to construct and operate the project pursuant to G.L. c. 164, § 69J |
| | Massachusetts Department of Public Utilities (DPU) | Approval to construct and operate the project pursuant to G.L. c. 164, § 72 |
| | MassDEP | Individual Section 401 Water Quality Certification |
| | MassDEP | Massachusetts WPA – Superseding Order of Conditions (potential) |
| | NHESP | MESA Review and approval of a Conservation Management Plan |
| | MHC | MHC and Protection of Properties Included in the State Register of Historic Places (950 CMR 70 and 71) –PNF |
| | MA DCR | Construction and Access Permit (potential) |
| | Massachusetts Department of Transportation (MassDOT) | State and Interstate Highway Right-of-Way Encroachment Permit and Crossing Permit |

## 1.6 Outreach

The Companies have established community and public outreach processes for both the Bell Rock Substation Rebuild Project and the AFRRP to maintain communications with stakeholders (e.g., abutting property owners, residents, community groups and local and state officials). This process includes opportunities for public education and input regarding the need for the projects, the permitting process, the dissemination of construction updates and outreach during construction, and follow-up outreach after project completion. The process is designed to engage the communities, facilitate transparency throughout the projects, foster public participation, and solicit feedback from stakeholders.